

Papers from the Thirty-Second Conference
November 8-9, 2014
and from
the Seventh International Spring Forum
April 19-20, 2014
of
The English Linguistic Society of Japan

JELS 32

日本英語学会第32回大会（学習院大学）・
第7回国際春季フォーラム（同志社大学今出川キャンパス）
研究発表論文集

The English Linguistic Society of Japan
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第32回大会運営委員長
丸田忠雄

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**Thirty-Second Conference
November 8-9, 2014**

様態・結果の相補性からみた動詞 move*
(The Verb Move and Manner/Result
Complementarity)

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キーワード：様態・結果の相補性、語彙事象
鋳型、移動様態動詞、目的動詞、尺度のある
変化とない変化

1. はじめに

語彙意味論研究者の間でよく知られているように、Levin と Rappaport Hovav は一連の論文で、動作動詞を様態動詞（＝「どのようにするのか」を表すもの）と結果動詞（＝「どのようになるのか」を表すもの）に二分し、その異同を論じてきた。

- (1) a. MANNER VERBS: *nibble, rub, scribble, sweep, flutter, laugh, run, swim...*
b. RESULT VERBS: *clean, cover, empty, fill, freeze, kill, melt, open, arrive, die, enter, faint...*
(Rappaport Hovav & Levin 2010: 21)

さらに、単一の動作動詞が様態と結果の両方を語彙化することはないとし、それを様態・結果の相補性という形で定式化している。

- (2) MANNER/RESULT COMPLEMENTARITY:
Manner and result meaning components are in complementary distribution: a verb lexicalizes only one.

このような相補性は、語彙事象鋳型で語根(<>で示された部分)が ACT、BECOME という基本述語の一方のみと組み合わせられることに由来するという。

- (3) The lexicalization constraint: A root can only be associated with one primitive predicate in an event schema, as either an argument or a modifier.

(Rappaport Hovav & Levin 2010: 26)

- (4) a. $\text{manner} \rightarrow [x \text{ ACT}_{\langle \text{MANNER} \rangle}]$
(e.g., *jog, run, creak, whistle, ...*)
(Rappaport Hovav & Levin 2010: 24)
b. $\text{result (inherently directed motion)} \rightarrow [y \text{ BECOME}_{\langle \text{STATE} \rangle}]$
(e.g. *arrive, enter, ...*)
(cf. Rappaport Hovav & Levin 2010: 24)

本稿で論じる動詞 move は移動動詞の一種だと考えられるが、様態・結果の相補性から移動動詞を見た場合、移動様態動詞（＝様態動詞）と有方向移動動詞（＝結果動詞）に下位区分される。

- (5) a. 移動様態動詞：どのように移動したかを表すが、移動してどこにいる結果となったのかは表さない。(e.g. *amble, crawl, hop, jog, limp, run, swim, walk, ...*)
b. 有方向移動動詞：ある場所にいるという結果が生じることだけを表し、どのようにそこに到達したのかは表さない。(e.g. *arrive, come, enter, exit, fall, go, rise, ...*)
(cf. Levin & Rappaport Hovav 2013: 52)

しかしながら、Beavers et al. (2010)は(7)の例文を挙げながら、動詞 move は様態も経路(＝

結果)も表さず、ただ移動の事実のみを表しており、表現上、第三の選択肢になるとしている。

- (6) Indeed, in addition to the options [i.e. *Path as Verb* and *Manner as Verb*], there is a seldom discussed third option: encoding NEITHER manner nor path in the main verb, but rather encoding BOTH as satellites. English instantiates this option as in [(7)].
- (7) John moved stealthily out of the bedroom.
(manner=adverb, path=adposition)
(Beavers et al. 2010: 361-362)

もし Beavers et al.の言うように、動詞 move が様態動詞・結果動詞のいずれとも異なる種類の動詞だとすれば、move の語根を語彙事象類型内で ACT、BECOME のいずれとも関連づけることができないことになり、語彙事象構造類型のあり方そのものに、疑問を投げかける事実となる。様態・結果の相補性の大枠を保持したままで、これをどう扱うのかを本稿では論じていく。

以下、まず2節で考察の対象である動詞 move が、従来の分析では様態動詞に含められてきたことを見ていく。次に3節で、様態・結果の相補性に替わる、尺度の有無による相補性という新たな視点を考えることで、動詞 move を尺度のない変化という、より大きな分類に自然な形で包摂できることを示す。それをふまえて、4節で動詞 move と従来の様態動詞が共通して関連づけられる事象構造類型を提示し、5節で結論をまとめる。

先取りして述べると、本稿では Levin と Rappaport Hovav による近年の研究に基づいて尺度という概念を導入することで、様態・結果の相補性を尺度 (=結果) の有無だと再分析する。それによって、動詞 move を、移動様態動詞を含む非結果動詞の一種だと分

類でき、上記の問題が解消されることを示す。また、結果的に、Levin と Rappaport Hovav の尺度に基づく新しい分類の優越性を示すことになると考えられる。

2. 移動様態動詞 move

2.1. 移動様態動詞に分類されてきた動詞 move

移動動詞について詳細な考察を行っている Levin & Rappaport Hovav (1992: 252-260) と Tenny (1995: 214-216) では、移動動詞を以下の3グループに分類し、動詞 move を roll 動詞に含めている。

- (8) a. *arrive* class: arrive, come, go, depart, fall, return, descend ...
(有方向移動動詞)
- b. *roll* class: roll, slide, move, swing, spin, rotate ...
(移動様態動詞; 動作主性が未指定)
- c. *run* class: run, walk, gallop, jump, hop, skip, swim ...
(移動様態動詞; 動作主的)

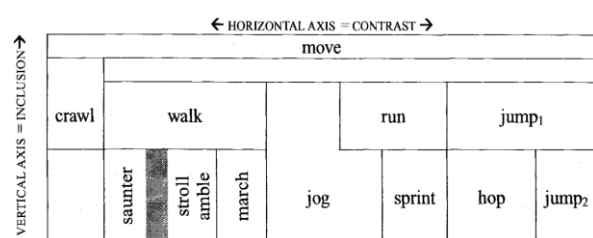
ここでは、移動様態動詞が、主語の動作主性の点で異なる、2つの下位類からなるとされている。一般的な移動様態動詞である run 動詞 (walk や run など) では、その主語が必然的に動作主となるが、roll 動詞の場合、動作主によるコントロールを必ずしも伴わず、外在的な力によって移動が起こりうる状況を表すと Levin & Rappaport Hovav (1992: 253) は述べている。それをさらに敷衍する形で、Tenny (1995: 214-215) は *Laura /The package rolled.* という例を挙げ、roll 動詞は主語が動作主である非能格的用法と、主語が主題である非対格的用法という、2通りの使い方ができることを指摘している。ただし、いずれの場合も、動詞自体は、移動の方向・結果ではなく様態を表すとしている。

つまり、roll 動詞は主語の動作主性、コントロール可能性に関して未指定ではあるものの、run 動詞同様に、様態動詞の一種だと考えられるということである。そして、Beavers et al.の挙げている動詞 move の例(7)は、主語が John なので前者の動作主的用法に相当することになる。

2.2. 動詞 move を移動様態動詞に分類すべき他の根拠

動詞 move を有方向移動動詞(=結果動詞)ではなく移動様態動詞(=様態動詞)の一種だと考えるべき根拠は他にもある。

たとえば、Murphy (2010: 126)は、移動様態動詞である crawl, walk, jog, run, jumpなどを動詞 move の下位語群とし、意味的上下関係を以下のように図示している。



また、Fellbaum (2013: 373)は、移動様態動詞である jog, swim, bike に関して、move/travel の様態である点と、必然的に移動事象(moving event)である点を指摘し、それぞれの根拠として(9a)(9b)を挙げている。

- (9) a. To jog/swim/bike is to move in some manner.
 b. *She jogged/swam/biked but did not move.¹

さらに、Kudrnáčová (2008: 105)が、移動様態動詞 walk の意味要素から、動詞 move の意味を引くと、もはや walk ではなくなることを指摘し、そこから、walk は move の特定のタイプであるとしているが、これは結局、Murphy と同じく、walk が move の下位語だ

という主張をしていることになる。

- (10) If “moving” were subtracted from, say, “walking”, there would be no “walking” (even if executed “in place”). “Walking” is a specific type of “moving”.

(Kudrnáčová 2008: 105)

上記の主張に対する傍証としてだが、小説で登場人物が歩き回っている場面において、動詞 walk を用いた記述を行った後、動詞に変化を付ける形で動詞 move を使用した例を挙げることができる。

- (11) He walked across the living room, turned right down a hall, past two closed doors. [...]

There were two more bedrooms in the house. The owners slept in one. Two other house guests occupied the other. As quietly as possible, the man opened the door to the first bedroom. There were two beds, each obviously containing only one person. He closed the door and moved to the next room.

(Peter Benchley. 1991. *Jaws*. New York: Ballantine Books)

以上から、動詞 move は、様態も結果も表さないという第三の選択肢ではなく、移動様態動詞と同じグループに入れるのが理にかなっていることが分かる。ではなぜ(6)で述べられているように、動詞 move には具体的な様態が含まれていないのだろうか。

3. 様態と結果の見直し

3.1. 尺度性という新たな視点

具体的様態をもたない動詞 move を、移動「様態」動詞に含めて扱わざるをえないという問題の根底にあるのは、「様態」(および「結

果)」という概念の不明瞭さである。

近年の Levin と Rappaport Hovav の研究では、そのような状況を修正する形で、様態と結果を明示的に定義することを試みている。新たな切り口として彼女らが導入したのは、尺度(scale)という概念である。その結果、動作動詞はすべて何らかの変化を含み、結果動詞は尺度のある変化、様態動詞は尺度のない変化を表すものとして再分析された。そして、これら2種類の変化が相補分布をなし、動詞はいずれか一方の変化しか語彙化できないとしている。

(12) We suggest that all result roots specify scalar changes, while all manner roots specify non-scalar changes. These two types of change are in complementary distribution: a root may only lexicalize one type.

(Rappaport Hovav & Levin 2010: 28)

ここから結局、様態・結果の相補性は、単なる尺度の有無へと還元されることになる。後で見ていくように、これは Levin と Rappaport Hovav の提唱してきた相補性を再考するためのきわめて重要な観点だと思われる。

変化の尺度性の違いに関しては、さらに具体的に説明されている。結果動詞の語彙化する尺度のある変化は、Rappaport Hovav (2008: 17)、Rappaport Hovav & Levin (2010: 28)によると、単一の属性の値(=尺度)に沿ったある方向への変化を表す。一方、様態動詞が表す尺度のない変化は、Rappaport Hovav (2008: 17)、Rappaport Hovav & Levin (2010: 32)で、複数の変化が同時進行するのでどれを尺度とするのか決め手がなく、単一の変化尺度を抽出できないものだと説明している。

3.2. 尺度のない非様態動詞

ただし、尺度のない変化に関しては、さら

に興味深い点がある。Rappaport Hovav & Levin (2010: 33)は、尺度のない変化を表す動詞には *exercise* のような動詞も含まれ、この場合、動詞の語彙化する変化がそれほど具体的(specific)ではなく、ある種の活動(some sort of activity)のみを意味特徴としていると述べている。この動詞 *exercise* に関して、Fellbaum (2013: 374-378)は、目的動詞(purpose verb)というカテゴリーを新設し、一般的な意味での様態動詞とは異なり、目的が語彙化され様態そのものは未指定な動詞だとしている。

(13) We will refer to verbs like *exercise*, *treat*, *cheat*, *control* and *help* as PURPOSE VERBS, (Fellbaum 2013: 374)

動詞 *move* も、移動様態ではなく、「位置・姿勢を変える」(to change from one place or position to another)という目的を語彙化していると考えれば、Fellbaum の言う目的動詞に含めて扱えると考えられる。

ただし本稿では、Fellbaum のように様態動詞・結果動詞に目的動詞を加えた考察を行うのではなく、様態動詞と目的動詞が1つのカテゴリーをなし、それが結果動詞と対立すると思うほうが、尺度性に基づく相補性(=単なる尺度の有無)という新たな見方とうまく適合することを示していく。

3.3. 尺度に基づく相補性の見直し

(12)で見たように、様態・結果の相補性は、畢竟、単なる尺度の有無へと還元される。つまり、後の Levin & Rappaport Hovav (2013: 50)で、(2)のように様態・結果の相補性という用語を使い続けてはいるが、実質的には *exercise* のような具体的様態をもたない尺度のない変化を表す動詞が存在することを、Rappaport Hovav & Levin (2010: 33)ですでに認めている。

そこから出てくる帰結は、様態動詞が尺度

のない変化を表すとは言えるものの、尺度のない変化を表す動詞には、様態動詞だけでなく、Fellbaum の言う目的動詞もあるということである。

つまり、相補性をなすのが尺度の有無である以上、(2)のような様態・結果の相補性という言い方そのものが、不適切な呼び方 (misnomer) だということになる。結果 (= 尺度のある変化) と相補性をなすのは、様態および目的 (= 尺度のない変化) であるので、後者をまとめた非結果動詞というカテゴリーを設定し、それが結果動詞と相補性をなすと本稿では主張する。

次に問題となるのは、非結果動詞の下位類である様態動詞と目的動詞の異同である。これらが尺度のない変化を表すという共通点をもつことは自明なので、差異を説明する必要がある。本稿では、それを、Ritter & Rosen (1996) の言う動詞の強弱であると考える。

Ritter & Rosen は、同じ移動様態動詞である walk と run に多義性の違いが見られ、runの方が walk よりもはるかに多くの意味で用いられることを指摘している。それを説明するため、語彙的な意味内容の指定 (いわば意味的な縛り) が walk では強く run では弱いことこのような違いが生じていると述べている。そして、それぞれを強い動詞、弱い動詞と呼んでいる。

(14) We propose that a verb like *walk* has a highly specified lexical semantic representation, and that this high degree of lexical specification narrows the range of interpretations and syntactic contexts it can be used in. Verbs with enough lexical semantic content to restrict their syntactic behavior and interpretation we call STRONG verbs. A verb like *run*, in contrast, is both semantically flexible and appears in numerous syntactic structures. A relatively

low degree of semantic specification allows for a wide range of meanings and syntactic contexts. Verbs with less lexically specified semantic content we call WEAK verbs.

(Ritter & Rosen 1996: 42)

これに基づいて、非結果動詞の下位類である様態動詞と目的動詞の異なる点を説明してみよう。いわゆる様態動詞は、非結果動詞のうち、語彙的な意味指定が強く、様態を構成する複数の変化が詳細に語彙化されている強い動詞だと言える。一方、exercise や move のような目的動詞は、語彙的な意味指定が弱く、様態が指定されずにある種の活動であることが漠然と語彙化されている弱い動詞だということになる。

4. 事象構造類型による非結果動詞の考察

これまでの議論をふまえて、以下では動詞 move が事象構造類型とどのように関連づけられるのかを見ていく。

様態・結果の相補性が、単なる尺度の有無へと還元されることをふまえると、相補性を生じさせる語根と基本述語の組み合わせ規則は、以下のように修正される。

- (15) a. non-result → [x ACT<NON-SCALAR CHANGE>]
b. result
→ [BECOME [y <SCALAR CHANGE>]]

つまり非結果動詞 (下位類として様態動詞と目的動詞を含む) は尺度のない変化を語彙化し ACT 述語と組み合わせられるのに対して、結果動詞は尺度のある変化を表し BECOME 述語と組み合わせられる。

移動動詞に話を限ると、典型的な移動様態動詞である walk, run (= 様態動詞) も、動作主が主語である移動動詞 move (= 目的動詞) も、ともに尺度のない変化を表す非結果動詞である。したがって、事象構造類型では同じ

(15a)の構造を取ると考えられる。動詞 walk や run は、Ritter & Rosen の言う意味的指定の強い動詞であり、手足の動きなども含めた様態が明確に指定されている。一方、動詞 move は、Ritter & Rosen の言う意味的指定の弱い動詞で、位置変化という漠然とした目的の意味しか指定されていない。

しかしいずれの動詞も、移動の方向・結果という尺度を表さず、有方向移動動詞ではないという点で共通しており、語根の意味的指定の強弱の差異によって、Murphy や Fellbaum の言うような意味的上下関係が成立していると考えられる。また、Levin & Rappaport Hovav (1992)や Tenny で動詞 move が移動様態動詞に含められていたのは、この尺度のなさという特徴を直感的に捕らえていたものだと考えることができるだろう。²

5. おわりに

本稿では、様態・結果の相補性をそのまま解釈して動詞 move にあてはめた場合、様態も結果も表さない動詞 move はいずれにも位置づけることができず、分類が破綻することを冒頭で見た。2節で動詞 move に関する従来の分析を振り返り、動詞 move が様態を表さないにもかかわらず、移動様態動詞に含めて扱われてきたことを概観した。3節では Levin と Rappaport Hovav が近年、様態と結果を、尺度のない変化と尺度のある変化として再定義していることを導入し、様態を表さない Fellbaum の言う目的動詞も、尺度のない変化に含まれ、動詞 move がそれに相当することを主張した。そして、様態・結果ではなく、尺度の有無（つまり非結果動詞と結果動詞）が相補性をなすことを明らかにし、非結果動詞の下位類をなす様態動詞と目的動詞の違いは、Ritter & Rosen の言う動詞の強弱の違いであることを示した。続く4節では、それを事象構造鋳型と関連づけ、移動様態動詞 walk, run も、移動目的動詞 move も、とも

に事象構造鋳型で ACT に関連づけられることを主張した。

以上のような本稿の意義は、発表前に査読者から頂いた「move は移動／様態の二分法では捉えられないが尺度性の有無では捉えることができ、このことは Levin らの新しい分類の優越性を示す根拠となる」という文言に集約されると思う。今後、このような尺度の導入が、他の動詞の分析にどう影響するのかについても、研究を進めていきたい。

注

* 本稿は日本英語学会第32回大会（於：学習院大学）で2014年11月9日（日）に発表した原稿に基づく。司会をして下さった本多啓先生、および会場でコメント・質問を下さった方々には感謝したい。本稿は筆者が博士論文として立命館大学に提出し、2015年開拓社より出版される予定の Demizu (2015)を執筆した際に、そこに収められなかった内容を発展させたものであり、Talmy (2000)の類型論とも関連しているが、今回それに関しては論じていない。

¹ 本多啓先生より、arrive も移動動詞である以上 move を含意し、(9b)と同様になるのではないかと、もしそうだとすれば move が移動様態動詞の上位語である根拠に(9b)はならないのではないかとというコメントを頂いた。これに関しては、救急患者が意識のない状態で病院に搬送される状況を描写した、New York Times の記事に見られる以下の例を考えてみよう。

- (i) a. Victoria arrived unconscious in cardiac and respiratory arrest at Brookdale Hospital at about 6:50 P.M. on Monday.

(New York Times, 1992/03/04)

- b. He was subsequently taken to the Bellevue Hospital Center, where he arrived in a coma and died 13 days later.

(New York Times, 1985/08/22)

移動様態動詞が動作主である人を主語とする場合、必ずその人が move していなければならないのに対して、有方向動詞の arrive では、本人が意識のない状態で動かないまま搬送された場合にも使える。このことから、動詞 arrive の語義そのものは、主語が move すること

を含意していないと考えられる。これは、動詞 arrive のような有方向移動動詞が、どういう意味で移動を表すと言えるのかといった難問と関係するので、今回はこれ以上掘り下げないでおく。

² 会場で西田光一氏より、移動様態動詞は Talmy (2000) の言う衛星枠付け的表現であるため、動詞枠付け言語である日本語では「??次の部屋に歩く」が不自然であるのに対して、動詞 move の場合、日本語で「次の部屋に移る／移動する」が自然なのはどうか説明するのかという質問を頂いた。これについての詳細は、将来の課題としたいが、筆者は Demizu (2005) で、Talmy の類型論は、本来の二項対立的な見方を採るより、動詞枠付け性がすべての言語の基底にあり、いわゆる衛星枠付け言語のみで衛星枠付け的が付加的に見られることを主張している。この衛星枠付け性は、衛星枠付け的表現で、Ritter & Rosen のいう動詞の強さがどの程度まで許容されるかの程度だと現在筆者は考えている。さらに、衛星枠付け性自体は連続的であり、有無の峻別が困難なのではないかと考えているが、これらに関しては将来の課題としたい。

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position higher than Neg, and thus does not cross negative islands.

Rizzi also discusses some movement properties of *why*. For instance, *why* is ambiguous in (5), allowing both matrix and embedded interpretations. That is, *why* can be interpreted as questioning the reason for your saying something, where *why* is associated with the verb *say* in the matrix clause (matrix construal); alternatively, it can be construed with the lower clause questioning the reason for John's leaving, where *why* is associated with the verb *left* in the embedded clause (embedded construal). He claims that *why* may raise from its "base" position in the embedded Spec, Int and move to the same position that hosts other moved *wh*-expressions (embedded construal), or it may be base generated in the matrix CP (matrix construal).

- (5) Why did you say Geraldine fixed her bike?

Shlonsky and Soare (2011) argue against external Merge of *why* in Spec, Int from the viewpoint of Criterial Freezing. In the embedded construal in (5), if *why* were to be base generated in Spec, Int, a criterial position, it should not be able to move into the matrix clause, because it would be frozen in place in Spec, Int in the embedded clause by Criterial Freezing. To solve this problem, Shlonsky and Soare postulate the presence of a ReasonP in the IP zone, where *why* is base generated. Because, being located in the IP zone, ReasonP is not a criterial position, *why*, which is base generated in Spec, ReasonP in the embedded clause in (5), can move into the matrix clause in the embedded construal by passing through the specifier position of Fin, which is assumed by Rizzi and Shlonsky (2006) to be a non-criterial position. As for the negative island effect in (4b), Shlonsky and Soare follow Rizzi's idea that *how* is base generated below

Neg, and thus movement from this position into the CP zone induces a negative island violation.

To summarize, Shlonsky and Soare postulate the following hierarchical structure for *why* and *how*.

- (6) Int > ReasonP (= *why*) > Neg > *how* . . .

3. TWO REASONP PROJECTIONS

In this section, I will discuss another type of sentence, similar to but distinct from *why*-clauses, which also asks for reasons: the split form *what* . . . *for*. Consider, for instance, the following sentence with the pair consisting of *what* and *for*, which asks for the reason for your coming to the United States:

- (7) What are you coming to the United States for?

As pointed out by Peter Svenonius (personal communication), this type of split *what-for* sentence is sensitive to negative islands:

- (8) * What aren't you coming to the United States for? ¹

This observation suggests that *what* and *for* are base generated in a position lower than Neg, and that *what* jumps over Neg, violating the negative island constraint. In the terminology of Shlonsky and Soare, there would be another ReasonP below Neg from which the *what* of *what for* raises to the target IntP: ReasonP1 (*why*) > Neg > ReasonP2 (*for what*). ²

As Byron Ahn (personal communication) points out, the idea that *what* in *what for* questions is lower than Neg gains support from sentences like (9), where the reason expression headed by *for* is always inside the scope of Neg, as opposed to the reason expression headed by *because (of)*, which is ambiguous between two readings, one inside and one outside the scope of Neg: ^{3 4}

- (9) a. John didn't do it for food.
(not > for food, *for food > not)

b. John didn't do it because of food.⁵

(not > for food, for food > not)

Some languages can express a meaning similar to the split form *what . . . for* in English, but with the preposition *for* missing. This type of question shows sensitivity to negative islands, which again suggests that there is a ReasonP below Neg in which wh-elements asking for reasons are base generated. (Hereafter, I will use WHAT to denote the type of *what* asking for a reason.) Obenauer (2006) calls such question forms surprise-disapproval questions (SDQ).⁶

(10) a. Chto yu smejoshsja ?(Russia)

what you laugh

b. Cosa (*non) ridi ? (Italian)

what (*not) laugh

c. Nani-o nai-teiru no (Japanese)

what-Acc cry-Asp Q

What is the semantic interpretation of WHAT which is assigned in ReasonP2? As an OUP reviewer points out, while *why*-questions have the interpretation of both “rationale” and “cause,” WHAT questions only have the interpretation of “rationale,” as shown in (11) and (12). Based on this observation, I suggest that ReasonP2 involves the semantic interpretation related to “rationale” while ReasonP1 involves the semantic interpretation of Cause:

(11) Why is grass green?

a. So that caterpillars can play on it.

(Rationale)

b. Because God created it that way.

(Cause)

(12) What is grass green for?

a. So that caterpillars can play on it.

(Rationale)

b. *Because God created it that way.

(Cause)

See Endo (2014) for discussion of the semantic interpretation of the WHAT assigned in IntP2, the landing site of WHAT.

4. HOW COME

In this section, I will explore a new dimension of the cartography of syntactic structures by looking at variations in the use of *how come* among speakers. I will first introduce some previous analyses of *how come* and then show variations in the use of *how come* among speakers.

As Guglielmo Cinque (personal communication) notes, Rizzi's base-generation strategy of merging a wh-expression directly in the CP zone seems necessary for *how come*, which may only be construed with the matrix clause, as originally pointed out by Zwicky and Zwicky (1971).

(13) How come you say that John is mad?

(ok matrix, *embedded)

Collins (1991) claims that *how come* is base generated in the C head of the matrix clause, and thus may not appear in the embedded clause and undergo long-distance movement into the matrix clause, because head movement is generally clause bound.

Shlonsky and Soare (2011) point out a potential problem with Collins' analysis by observing that *how come* patterns with a phrasal element like *why*, not with a head element like *if* and *whether*, which do not participate in Sluicing.

(14) They thought John left early, but

they didn't tell me why/how come/

*whether/*if ϕ .

On the basis of this observation, they suggest that *how come* is base generated in the specifier position of XP. To be more specific, they adopt Rizzi's (2001) idea that Italian *come mai* 'how come' is base generated in

Spec, Int in the CP system in (15), and they also base generate *how come* in Spec, Int:

- (15) ForceP IntP TopP FocP Mod
WhP Fin(ite)P

Shonsky and Soare's idea is supported by observation by Zwicky and Zwicky (1973) that some speakers allow *how come* to be followed by the complementizer *that*:

- (16) How come **that** she has read the book]?

Let me explain why *how come* is followed by *that* in terms of Shlonsky and Soare's IntP analysis of *how come*. Rizzi (1997) claims that Force and Fin takes an amalgamated form in the absence of any constituent/s positioned between them, and they are independently projected in the presence of intervening material. In addition, based on the example in (17), Rizzi (2013: 209) claims that when Force and Fin are separately projected in the presence of an intervening element, *that* may occupies the head position of FinP:

- (17) I think **that**, if they arrive on time,
that they will be greeted.

Given these ideas, *how come* is expected to be followed by *that* in (16), where Force and Fin are separately projected in the presence of the intervening element. *How come* is found in IntP between Force and Fin, and *that* can appear in the head position of FinP.

An informal questionnaire survey conducted by Andrew Radford and me showed that many English speakers do not like *how come* immediately followed by *that*. (See Radford (2014) for the details of this survey.) For instance, Richard Kayne (personal communication) points out that he doesn't like *how come* followed by *that* at all in any environments.

I suggest that many English speakers base generate *how come* in Spec, Force, which

Tsai (2008) proposes on independent grounds. Because Force and Fin are not separately projected in the absence of an intervening element, where *how come* is base generated in Spec, Force for many speakers, Fin is not separately projected in (16), and thus *that* cannot appear in the head position of FinP, which is not projected.⁷

As expected, some speakers who do not like *how come* immediately followed by *that* as in (18a) find the use of *that* more acceptable in (18b), where an underlined adjunct phrase intervenes between *how come* and *that*, as reported in Radford (2014):⁸

- (18) a. *How come that I fell in love with someone like you?
b. How come, after a long drawn-out conflict, **that** the Israelis and Palestinians still haven't made peace?

In (18b), Force and Fin are separately projected in the presence of an intervening adjunct phrase, where Fin head can host *that*. Although it is not clear why some speakers like Kayne do not like *how come* followed by *that* even in the presence of an intervening modifier as in (18b), I speculate that such speakers do not possess what we might call "special" *that* which may only appear in a very special environment like a Fin head.

As Radford (2014) points out, those speakers who allow *how come* to be immediately followed by *that* also allow the sequence *how come that* to be followed by a modifier (Mod) or a focus (Foc) element:

- (19) a. How come that *in 2012* not many people seemed too worried about the pending apocalypse?
b. How come that *nowhere in the Bible* does anyone mention the dinosaurs?

Because Force is followed by Mod and Foc in

the CP system in (15), the sequence *how come that* may be followed by the modifier *in 2012* and the focus element *nowhere in the Bible* in (19).

At this point, one may wonder where *that* appears in (19). Based on Collins' (1991: 43) idea that *how come* presupposes the truth of its complement (cf. Fitzpatrick (2005) and Conroy (2006)), Radford (2014) suggests that *that* is a factivity head projecting into a FactP in *how come that* questions, where FactP is located between Force and Foc in the CP system in (15).⁹

There is still another variation of the syntactic position of *how come*. Ochi (2004: 34, fn.7) observes that some speakers do not like to have *how come* in embedded questions. I suggest that such speakers base generate *how come* in the specifier position of what Haegeman and Hill (2014) call Speech-ActP, which is found above ForceP. As Heizo Nakajima and Andrew Radford (personal communication) point out, speech acts describe properties of *utterances* not of clauses, and hence only sentences, i.e. root clauses, can be associated with speech acts, not subordinate clauses. Thus, such speakers base generate *how come* in Spec, Speech-ActP.

To summarize this section, I discussed a new dimension of the cartographic project by illustrating variations among speakers in the use of *how come* in the CP zone. The variations can be summarized below:¹⁰

- (20) Type A: [IntP *how come* [Fin (*that*)
 Type B: [ForceP *how come* ~~[Fin *that*]~~
 Type C: [ForceP *how come* [FactP (*that*)
 ...Foc...Mod...[FinP (*that*)
 Type D: [Speech-actP *how come*

5. WHY THE HELL

Let us finally turn to the case in (19), which is pointed out by Ochi (2004), where

why is accompanied by the non-D-linked element *the hell*.

- (21) Why the hell did you say that John is mad? (ok matrix, ??embedded)

(Ochi 2004)

Here, the embedded reading seems to be difficult. This would follow on the assumption that *why the hell* is base generated in Spec, Int, where it is frozen and thus may not undergo a long-distance movement into a higher clause.¹¹

6. CONCLUSION

To summarize, we have seen various base-generated positions for *why*, *what..for*, *how come* and *why the hell* in the CP zone:

- (22) [Speech-actP *how come* [ForceP *how come* [IntP *how come*, *why the hell* ...[FinP...[ReasonP1 (high) *why* > Neg > [ReasonP2 (low) WHAT

NOTES

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¹ Andrew Radford (personal communication) points out the following potential counterexample (italicised):

- (i) Immigration Officer: What are you coming to the US for?

Immigrant: *What aren't I coming to the US for?!!!*

(implication: EVERYTHING in the US attracts me to it)

The italicised clause appears to be exclamative in function. I have no analysis for this kind of exclamative structure, leaving

it for future research.

² Collins (1991: 32) claims that reason adverbials can originate as IP or VP adjuncts. Following Cinque (1999) and Rizzi (2004), I will assume a phrase structure without phrasal adjunction.

³ One may wonder how the question form *For what* is derived? I suggest that such a question form is derived by deleting the higher material preceding the PP *for what* before it undergoes movement: ~~did you come to the United States~~ for what?

⁴ One may wonder if ReasonP2 can be dispensed with by assuming that the meaning of asking for a reason comes from the preposition *for*. This idea is argued against by the cross-linguistic facts below, where a preposition or a post-position corresponding to *for* is absent.

⁵ Andrew Radford (personal communication) points out that in a sentence like *John didn't do it for love of his country* the PP *for love of his country* can be interpreted outside the scope of negation. More study is needed in this area.

⁶ As Obenauer notes, the SDQ interpretation is optional in English. In our framework, this means that English has an option to target either IntP, where no SDQ interpretation is assigned, or ForceP, where the SDQ interpretation is assigned.

⁷ *That* may not appear in the head position of ForceP because of the contradictory force specification which results from combining interrogative *how come* with declarative *that*.

⁸ In the informal questionnaire survey conducted by Andrew Radford and me, 5/19 informants who gave a low acceptability rating to the sentence *How come that I fell in love with someone like you?* gave a high rating to the sentence *How come I fell I love with someone like you, and that you fell in love with someone like me?*

⁹ Radford (2014) also discusses the factive nature of English exclamatory clauses. He reports that exclamatory clauses can contain *that* not only in embedded clauses but also in root clauses for some speakers as in *How quickly that people forget!*, where *that* appears in the head position of FactP. Note that the corresponding exclamatory clauses in Japanese is formed by combining the factive morpheme *koto* in the head position with *nante hayaku* 'how fast' in its specifier position:

- (i) Nante hayaku wasureru koto!
how quickly forget fact
'How quickly people forget'

In addition, the Japanese *how come* expression *dooiu koto* is created by combining the factive morpheme *koto* 'that' in the head position with *dooiu* 'how' in the specifier position:

- (ii) Ko-nai-to-wa dooiu koto?
come-not-that-Top how fact
'How come you will not come?'

These facts might suggest that *how come* and the factive head are found in the same local domain in Japanese. If we keep to Chomsky's (2001) Uniformity Principle, *how come* and *that* might also be found in the same local domain of FactP in English.

¹⁰ Andrew Radford (personal communication) points out the following ordering restriction between *how come* and a topic element:

- (i) a. I wish I knew [how come *major issues like that*, politicians are reluctant to tackle]
b. *I wish I knew [*major issues like that*, how come politicians are reluctant to tackle]

At this point, it is not clear to me whether *how come* is in ForceP or IntP.

¹¹ Andrew Radford (personal communication) points out that there are two factors supporting the alternative view that *why the*

hell is an operator binding a variable. One is that *why the hell* triggers Auxiliary Inversion, and Shlonsky & Soare (2011: 666) say that only a *wh*-operator triggers Auxiliary Inversion. The other is that *how the hell* can have a long distance construal, e.g. in:

A: Why did you do it?

B: Why the hell do you think I did it?

Further research is required in this area.

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A Doubling Constituent Account of Relative Clause and Binding Facts

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Keywords: coreference, relative clauses, phases, doubling constituents

1. Introduction

The goal of this paper is to provide a unified account of certain basic relative clause and binding data via a doubling constituent analysis. Fong and Ginsburg (2012a, b) account for typical binding data by developing a doubling constituent analysis, based on Kayne (2002), combined with the view that a derivation is constructed in phases (Chomsky 2001, etc). In this paper, I extend the analysis of Fong and Ginsburg (2012a, b) to account for i) certain relative clause data and ii) data from Munn (1994) that involve the interaction between binding and relative clauses.

2. Basic proposals

Fong and Ginsburg (2012a, b) propose a modified version of Kayne's (2002) view that certain co-reference relations originate

within a **doubling constituent (DC)** structure. The proposed structure has the form [pronoun r-expr], where r-expr refers to an r-expression. In this structure, *self* is a D phase head. In addition, they propose an operation of *Last Resort*.

(1) *Last Resort*: when a phase becomes complete, unlicensed elements within it become accessible to further operations. (Adapted from Fong and Ginsburg 2012a:310)

Certain relative clauses have a DC structure of the form [*pro* r-expr]. In this structure, certain D heads, such as *which* can be a phase head. I demonstrate how these proposals account for certain relative clause construction data.

3. Binding

Examples (2a-b) show that a reflexive, but not a pronoun, can be locally bound. In (2a), with the structure in (3a), there is a DC of the form [he John] that merges with a determiner 'self', that is a phase head. (In the diagram, copies of syntactic objects are underlined.) Morphological merger results in pronunciation of 'self' and 'he' as *himself*. When v^* is merged, the DP [self [he John]] obtains Case (i.e., *himself* obtains Case) and becomes complete. Since the v^*P phase is complete, Last Resort applies, therefore making the unlicensed r-expr *John*

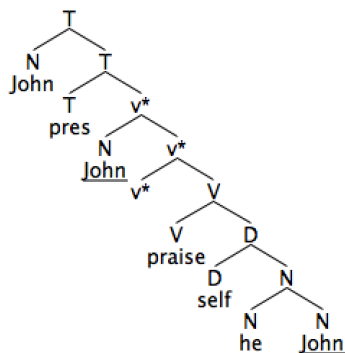
accessible to probe-goal search. As a result the r-expr *John* Merged with v^* . The head T undergoes phi-feature Agreement with *John*, an EPP/EF drives remerge, and *John* becomes fully licensed by T.

In (2b), with the structure in (3b), Last Resort cannot apply in a timely fashion to enable the r-expr *John* to become accessible to v^* . The smallest phase containing the DC is the v^*P , but the v^*P is not a complete phase, since it lacks a specifier. Since the v^*P is not complete, the r-expr does not become accessible to v^* and the derivation crashes due to the lack of a subject.

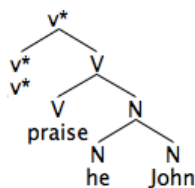
(2) (a) *John*₁ praises himself₁.

(b) **John*₁ praises him₁. (Kayne 2002:146)

(3) (a)



(b)



4. Relative Clauses

I propose that certain relative clauses are formed with a DC structure, akin to that found in the above binding constructions (2a-b). The proposed relative clause structure is of the form [*pro* r-expr], which contains a silent case-marked pronominal head, loosely referred to as *pro*. A relative clause DP is base generated as an object and raises to the specifier of a projection in the left periphery of a clause, followed by remerge of the r-expr component of the DC (via Last Resort) in the specifier of a higher position in the left periphery. I assume a split-CP projection (Rizzi 1997), with a TypP (for clausal typing) and a CP, but there are other possibilities (e.g., Aoun and Li 2003 utilize TopP and ForceP).

This proposal adopts Bianchi's 2000 view that a relative clause involves movement to a projection in the left periphery.

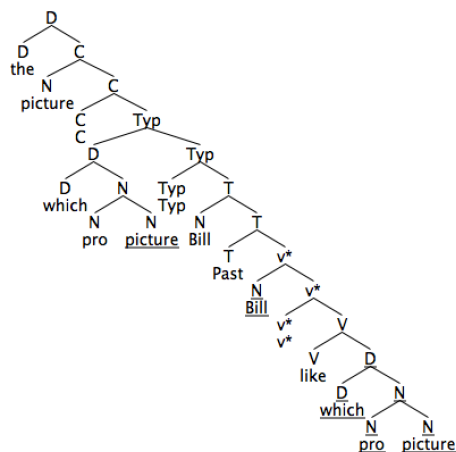
Examples (4a-b) have the structures in (5a-b). In (5a), a DC structure headed by *pro* is base generated in object position, and the DC Merges with the D *which*, a phase head, forming a relative DP. An EPP feature on Typ probes for the relative DP, forcing it to move to the specifier of Typ. Once the relative DP moves to the clausal periphery, the DP phase becomes fully licensed, possibly for reasons of semantic interpretation. Since the DP [*which* [*pro* picture]] is a phase and it is fully licensed,

the unlicensed r-expr *picture*, via Last Resort, becomes accessible to syntactic computations. A higher left-peripheral head C is merged. C has an EPP feature that attracts the now available *picture*, which moves to [Spec, CP]. The fully-formed CP then Merges with D, and the relative clause is completed.

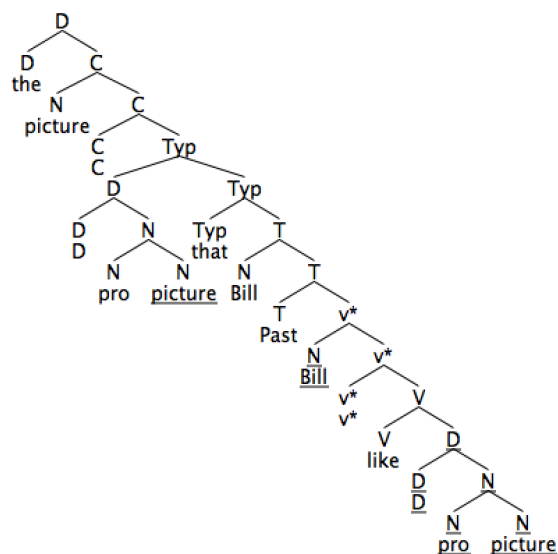
Example (4b) has the structure in (5b). This is identical to (5a) except that D (also a phase head) is not pronounced and the Typ head is pronounced as *that*.

- (4) (a) the picture which Bill liked
 (b) the picture that Bill liked (Bianchi 2000:124)

(5) (a)



(b)



Note that (6) is ill-formed. I assume that some form of the Doubly Filled Comp Filter is at work, thereby permitting either *which* or *that* to be pronounced, but not both.

(6) *the picture **which that** Bill liked

Note that relative clauses with *which that* are found in Middle English (Santorini & Kroch: 2007). It may also be that PF constraints (Kandybowicz 2006) are at work in modern English to rule out constructions such as (6).

This analysis presents a unified account of constructions with *that* and those with *which*. This analysis, however, differs from accounts such as those of Bianchi (2000) and Kayne (1994), who assume quite different structures for these two types of constructions. In Bianchi (2000), (4a) and (4b) have the structures in (4a') and (4b').

- (4) (a') [_{DP} the [_{CP} picture_j C [_{XP} [_{DP} which t_j]_i]
X Bill liked t_i]]
(b') [_{DP} the [_{CP} [_{DP} D picture]_i that Bill
liked t_i]]

In (4a'), the DP *which picture* raises to the specifier of a left-peripheral projection XP and *picture* further raises, without its D head, to [Spec, CP]. In (4b'), the DP [D picture] raises to [Spec, CP] and the null D incorporates with the external D *the*.

In typical head-promotion accounts (Bianchi 2000, Kayne 1994, Hornstein 2001, etc.), a single N, such as *picture* in (4a-b), obtains a theta-role in its base position, and then it seems to obtain another theta-role in its derived position. In my analysis, due to the doubling constituent structure, there are two distinct nominal elements that are able to obtain separate theta-roles.

5. Relative clause constructions and binding

This analysis predicts an interesting interaction between relative clauses and certain binding effects, exemplified by (7a-b).

- (7) (a) the picture of himself_i that Bill_i likes
(Munn 1994:402)
(b) *The picture of him_i that Bill_i likes
(note that I find this to be ill-formed)

Munn (1994) points out that in the well-formed (7a), the picture-NP must

reconstruct to satisfy Principle A. (7b) should be ill-formed if the picture-NP reconstructs to its base position (Principle B) and if the picture-NP doesn't form a binding domain.

I propose that the relative clause in (7a) contains two DCs of the form [pronoun r-expr], shown in (8).

- (8) (a) DC₁: [*pro* picture-NP]
(b) DC₂: [he Bill]
(c) [_{DC1} *pro* [picture of [_{DC2} he Bill]]]

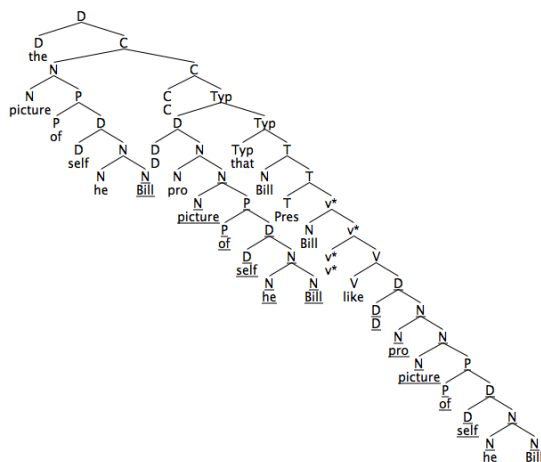
The DC₂ (8b) is contained within the DC₁ (8b), so there is the structure DC₃ (8c), where *DC* refers to a doubling constituent, not the label.

The derivation of (7a) is shown in (9a). The lower DC₁ is fully licensed when *of* is merged, so the r-expr *Bill* becomes accessible via Last Resort. When *v** is merged, *v** requires a subject. Thus, the r-expr *Bill* is merged in subject theta-position with *v**. The relative DP eventually moves to the specifier of a Typ projection. At this point, the relative DP becomes fully licensed, and the r-expr component, which is the picture-NP, becomes free. The free picture-NP then remerges in specifier position of C, and the complete CP merges with the D *the* to form a complete relative clause.

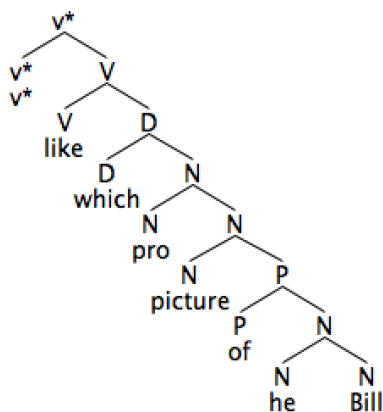
In (7b), shown in (9b), the DC, lacking the D *self*, is not a phase. When the DC head

he is licensed, the r-expr is not accessible to Last Resort. When *v** is Merged, the r-expr is not contained within a complete phase, since the *v*P* is still not complete, as it lacks a subject. There is no element available for Merge in subject position, and the derivation crashes.

(9) (a)



(b)



6. Conclusion:

This paper takes the position that certain types of relative clause and pronoun-antecedent structures are generated with DC structures, and are subject to a Last Resort process, whereby when a phase

containing a DC is complete, an unlicensed r-expr component of the DC becomes accessible to syntactic computations.

This analysis can predict basic binding facts (2a-b), relative clause structures (4a-b), and data that involve both binding and relative clause structures (7a-b).

(2) (a) John₁ praises himself₁.

(b) *John₁ praises him₁.

(4) (a) the picture which Bill liked

(b) the picture that Bill liked

(7) (a) the picture of himself₁ that Bill₁ likes

(b) *The picture of him₁ that Bill₁ likes

If this analysis is on the right track, then DC structures are a part of certain syntactic computations involving coreferenced elements. I leave for further analysis examination of how this analysis can be extended to other constructions that involve coreference.

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**The Particle DOWN and Fictive Motion:
An Analysis from the Viewpoint
of the Speaker's Line of Sight
and His Perceptual Reduction**

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Keywords: subjectification, particle, *down*,
fictive motion

1. Introduction

The aim of this paper is to analyze the motivation of the use of *down* in expressions of fictive motion and to illustrate its various meanings. Among various fictive motion expressions, I focus on “Access Paths” (Talmy (2000); also called “Access Path Expressions” in Matsumoto (1996)) and “Line of Sight” (Talmy (2000)) to point out that the meaning of the subjectified *down* has been entrenched, or fixed as a meaning, to the extent that it is used in expressions of Line of Sight.

One can perceive “motion with no physical occurrence” (Talmy 2000: 99), that is, fictive motion, as in the following examples. In (1), there is no factive moving entity, but the speaker perceives the line of the fence as an entity moving from the plateau to the valley. (2b) is an expression of Access Path, which describes the way to follow to reach a static object. *Down* in (2b) is ambiguous in that it can express a downward direction or a horizontal direction. The latter meaning is based on perception of fictive motion of one moving toward the coffee shop, like John does in (2a). (3) is an expression of Line of Sight, which describes an intangible

straight line emerging from an animated entity. *Down* in (3) expresses the line of Tom's sight, which, as the direction in (2b), can be horizontal.

- (1) This fence goes from the plateau to the valley.
(Talmy, 2000: 99)
- (2) a. John walked down the street.¹
b. The coffee shop is down the street.
- (3) Tom turned to look back down the street.

Several kinds of fictive motion perceived by human beings have been demonstrated and have been compared with factive motion in Talmy (2000). However, as far as *down* is concerned, examples such as (4) do not seem to have corresponding factive ones.

- (4) He saw Mary down at the coffee shop.

What is more, the use of *down* in (3) is different from that in (2b), in that the conceptualizer of the illusional size reduction is represented as the subject, Tom. This paper examines various examples of *down* in fictive motion and proposes that the conceptualizer of subjectification can be represented as a result of entrenchment of its subjectified meaning.

2. Down in Factive Motion

Before considering *down* in fictive motion, I review the motivation of using *down* to represent factive motion.

Lakoff and Johnson (1980) refer to the *up* that means ‘approaching’ in phrases like (5) based on the metaphor “FORESEEABLE FUTURE EVENTS ARE UP (and AHEAD).”² When an object approaches a person, it seems to become larger, so the person perceives the top of the object as if it is moving upward. Hamagami (2014) extends the motivation for the use of *up* as the metaphor for approaching to the use of *down* to mean ‘away from the speaker,’ as in (6).

Namely, in the speaker's perception, John's size undergoes illusional reduction as he walks away from the speaker.

- (5) All upcoming events are listed in the paper.
- (6) John walked down to the station.

Hamagami (2014) deals with cases where the speaker perceives factive motion of an entity that is going away from him. When there is no factive motion perceived in an event, however, does the speaker assume illusional reduction and how does it impact the meaning of the phrase? In section 3, I show examples of *down* in fictive motion and analyze them. In section 4, I consider the matter of Access Path and the Line of Sight.

3. *Down* in Fictive Motion

In this section, three types of *down* are examined. In the first two types, the direction away from the speaker and the shared knowledge of a location correspond to Access Path. In the last one, the trajectory of line of sight corresponds to Line of Sight.

3.1. Direction away from the Speaker

Example (7a) is uttered to tell where one can find the coffee shop. In it, *down* indicates the direction along the street to the coffee shop. The use of *down* in (7a) seems to derive from that in (7b). In (7b), the factive motion of John's walking is present. *Down the street* in (7b) means that the speaker perceives John's moving as going away from him along the street, that is, in a direction away from the speaker along the street. The speaker of (7a), on the other hand, does not perceive any actual factive motion, but imagines fictive motion of one going away from him toward the coffee shop. Thus, *down the street* in (7a) means the same as in (7b); the difference, however, is that in (7a) the speaker

imagines a person who walks away from him/her in order to give rough directions to the coffee shop. If one says that something is down the street, he/she does not give its exact location but just indicates the direction to it. As (8) shows, one can use *down the street* even if s/he does not know the exact place.

- (7) a. The coffee shop is down the street.
b. John walked down the street.
- (8) The coffee shop? It's down the street. But I don't know exactly where it is. Maybe it's across from the bank.

The *down* that refers to a horizontal direction is not always used in copula form but can also precede a noun. (9) means the locker is in a direction away from the speaker along the hall. *Down the hall* is just a direction, so it does not specify the exact location of the locker to use. Nevertheless, using *down* referring to a horizontal direction, one can locate a place by adding a number to skip count by, like *five* in (10), or a distance to go, like *halfway* in (11a). Once the speaker locates the place, a *down* phrase can specify it, for example, the place of Sharon and Holly joining Denise in (11a). The place where Holly and Sharon joined Denise could be represented as *at the middle of the extremely long check-in-queue* as in (11b), but (11a) is more suitable to use to indicate that they do not wait at the end of the queue but walk along to cut it. In fact, the use of *down* implies the viewpoint of the perceiver who is at the end of the queue, and the imaginary fictive movement away from the perceiver coincides with the factive one of Holly and Sharon.³ *Down* evokes the dynamic movement of Holly and Sharon to skip the line, though it is not represented verbally.

- (9) You can use the locker down the hall.

- (10) Look at the man five down from the old woman.
- (11) a. Holly followed Sharon and they joined Denise halfway down the extremely long check-in queue. “I told you we should have come earlier,” Denise moaned. (*PS, I LOVE YOU*)
- b. Holly followed Sharon and they joined Denise at the middle of the extremely long check-in queue. “I told you we should have come earlier,” Denise moaned.

The adverbial *down* can also be used preceding static spatial expressions, like *in* in (12b).⁴ (12b) includes a colloquial expression with *down*, *down in the city*; there are people who claim it is not standard. Nevertheless, *down* can be used by some people to indicate that the office is not in the area where the speaker and the hearer are, but in the city. It means that an imaginary person has to go into the city to find the office. Without *down*, as we can see in (12a), the speaker indicates simply that the office is in the city and he does not consider going across the border of the city. Thus, (12a) can be used even when the speaker and the hearer are in the city, although (12b) cannot.

- (12) a. His office? It is in the city.
- b. His office? It is down in the city.⁵

3.2 Shared Knowledge of a Location

In the following examples, *down* is used to imply that both of the speaker and the hearer have shared knowledge about the location of the object of the preposition. In (13), the speaker tells the hearer the location of the bookstore. If the speaker uses *down* before *around the bank*, it means that the hearer knows the location of the landmark, or the bank. The fact that the hearer knows the location of the bank may be obvious because the speaker needs to first give the hearer a

familiar location so that the hearer can identify the new location, that of the bookstore. However, the same usage of *down* can be seen even in a phrase that is not uttered to lead the hearer to a place. (14) indicates that the subject saw Mary at a moment in the past, and the event occurred in a coffee shop whose location the hearer knows.

- (13) The bookstore is down around the bank.
- (14) He saw Mary down at the coffee shop.

The *down* that implies shared knowledge of location is used even when the place in question is far enough away from the speaker and the hearer, as Kyoto is from *A* and *B*, who live in Tokyo, in (15). *A* is aware that *B* knows about the shop and its location, which allows *A* to use *down*.

- (15) *A* and *B* live in Tokyo. *A* spent a weekend in Kyoto, and *B* knows about it.
- A*: Do you remember Hannari, the famous coffee shop in Kyoto we went to last year?
- B*: Yes, of course. We ate a large parfait there.
- A*: I went to the coffee shop again, and I saw Mary down there.

However, if the hearer, *B*, does not know the place and cannot visualize its location, the use of *down* is not acceptable, as in (16). In (16), *B* says s/he has never been to Kyoto, so s/he obviously cannot locate the shop, which precludes *A* from using *down*.

- (16) *A* and *B* live in Tokyo.
- A*: Do you know about Hannari, the famous coffee shop in Kyoto?
- B*: No, I’ve never been to Kyoto.
- A*: Well, I saw Mary {*down there/there}.

As the shared knowledge of location motivates the use of *down* before the prepositional phrase, it is impossible to use *down* before a prepositional phrase with an indefinite article in it, as seen in the contrast between (17a) and (17b). In (17a), the hearer can identify the station from the context (for example, if they have only one in the town), and the speaker can use *down*. In contrast, in (17b) the station where the speaker ate lunch is left unspecified, so the hearer cannot identify the location, and *down* cannot be used.

- (17) a. I ate lunch down at the station.
b. * I ate lunch down at a station.

The use of *down* referring to the shared knowledge of location could pragmatically force the hearer to comprehend a location. *We want to talk with you down at the station* in (18) is a fixed expression among American police officers. In (18), Tony talks to a woman whom he has just met. Using *down* in the first phrase as soon as he met the person (and showed his badge) forces the woman to understand that the place he refers to is not any other station but the police station (see footnote 5).

- (18) He pulled open the door to see Tony already conversing with the woman. “We want to talk with you down at the station,” Tony was saying, trying to imitate Angelo. Angelo could see that he was holding his badge too high (...). (*BLINDSIGHT*)

Even in the use of *down* referring to shared knowledge of location, the speaker imagines a virtual person who goes away from him to the bookstore in (13), the coffee shop in (14), the famous coffee shop in (15), the station in (17a), and the (police) station in (18). Importantly, in such cases, the speaker includes the hearer in the

imaginary route to the place in question as its starting point. Adding *down* before the prepositional phrase, the speaker encourages the hearer to share the imaginary movement away from them to the place in question, that is, to turn his/her attention to that place (which would be impossible if the hearer could not identify the place). This implies that the bookshop is accessible for the hearer because the hearer knows well about the location of the bank in (13), that the place where the speaker saw Mary is an unexpected one in (15), or that the woman should realize what place she would be taken to in (18).

3.3 Trajectory of Line of Sight

Down in the following examples indicates the trajectory of line of sight. Example (19) means that the speaker turned around and looked in the direction away from him along the road. In (20), BJ glanced in the direction away from him along the aisles.⁶ There seems to be no particular object in these cases at which the subjects (he in (19) and BJ in (20)) direct their gaze.⁷

- (19) He turned to look back down the road.
(*CONTAGION*)
(20) BJ advanced beyond the checkout registers and started glancing down the aisles, looking for either Jack or Slam.
(*CONTAGION*)

The meaning of *down* in (19) and (20) is the same as that in 3.1, but it is different from the *down* in 3.1 and 3.2 in how it is used. In fact, *down* referring to the trajectory of line of sight permits representation of who it is that the direction is away from, that is, the subject, *he* in (19) and *BJ* in (20). This seems a subtle difference, but it is a big issue from the point of view of subjectification (Langacker (1990), (1991)), which is detailed in the following

section.

4. Subjectification and the Entrenchment of the Meaning

“Subjectification” is “a semantic shift or extension in which an entity originally construed objectively comes to receive a more subjective construal” (Langacker, 1991: 215).⁸ The *down* that indicates the illusional reduction in size of a person or object moving away from the speaker is an example of subjectification. One can use *down* to say *He scaled down the photo* when s/he recognizes an objective reduction in size. However, when one says *He walked down to the station*, s/he recognizes subjectively a reduction in the size of the moving entity, that is, s/he considers the moving entity as if it becomes smaller (Hamagami (2014)).

The problem is that the conceptualizer in a subjectification must be off-stage. That is, when *down* is subjectified, the “conceptualizer,” or the person who recognizes the illusional reduction, must not be represented in the verbal expressions. So when one says *The coffee shop is down the street* (the same as (7a)), the conceptualizer of the illusional reduction in size cannot be represented. One does not need to express who the conceptualizer is, because it is obviously the speaker. The same is true even in the acceptable examples from (8) to (18). However, examples (19) and (20) seem problematic. As mentioned earlier, the subjects *he* and *BJ* are expressed as conceptualizers.

One possible solution to this problem involves the concept of entrenchment of meaning. The meaning ‘in the direction away from the speaker’ has become so fixed that in some expressions of line of sight, it can now be used with a conceptualizer subject, which is a usage unrelated to subjectification.

5. Conclusion

This article examined three types of *down* in fictive motion: expressing a direction away from the speaker, shared knowledge of a location, and the trajectory of line of sight. The last type allows the representation of conceptualizer in the linguistic expression because of the fixation of the subjectified meaning. As the next step, it is necessary to examine other types of *down* and expressions other than *down* to find out when the conceptualizer in subjectification can be represented.

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Notes

1. Though it is ambiguous in nature, *down* in the examples in this article always means horizontal direction away from the speaker unless otherwise noted.
2. This metaphor is based on another metaphor, “MORE IS UP; LESS IS DOWN.”
3. In this case, the perceiver can be Holly and Sharon or the author, but it is not determinable.
4. Definitely there are other examples of the adverbial *down* in the text, like the acceptable ones from (13) to (18).
5. The expression *down in the city* might have arisen in relation to the historical fact that cities used to be built in low areas, like a seaside or a

riverside. In such an area, for people living in upper areas, major facilities are found in the downward area. There must be many factors that determine the meaning of *down* in a sentence, which is a subject for future research.

6. Japanese seems to have no way to express the trajectory of line of sight with an optical verb like “look.” One can say *mado no hou wo miru* (‘look in the direction of the window’) but cannot say *douro ni sotto miru* (‘look down the road’). Some might assert that the former expression indicates the trajectory of line of sight, but it does not. In fact, it just leaves the target to look at ambiguous. That is, the speaker does not know or is not sure of what exactly to look at.

7. In cases where the subject does not know what to look at when s/he turns around, one would just say *hurimuku* (‘turn around’) in Japanese.

8. See Langacker (1990, 1991).

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直接引用文の文法特性 (Grammatical Properties on Direct Quotes)

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キーワード：直接引用文、付加詞節、発話
の力、CP 指定辞

0. はじめに

本論では、直接引用文(direct quote:DQ)の文法特性を考察し、以下(1)における 4 点を主張する。

- (1) (i) DQ は、付加詞(adjunct)を構成している(廣江(2012, 2013))。
- (ii) DQ は、Collins (1997)の主張とは異なり、格素性をもつ名詞表現ではない。(contra de Vries (2008))
- (iii) DQ は、補文化辞を介さずに、言わば「裸」で埋め込まれていることで、主節とは異なる発話の力(illocutionary force)を埋め込むことが可能となる。
- (iv) DQ は、CP の指定時の位置に移動しなければいけない。

これまで生成統語論の理論的研究においては、DQ を含めた文全体の統語構造特性を解明しようと試みた考察はあったものの(e.g., Branigan (2011), Branigan and Collins (1993), Collins (1997), Collins and Branigan (1997), among others)、DQ そのものの文法特性を捉えようと試みた論考はなかったようである。本論では、DQ を取り巻く統語環境、特に DQ と選択関係にあると考えられてきた主節動詞(あるいは主節述部)を再検討し、DQ がどのような構造を呈し、インターフェイスでどのような解釈を受けるかを考察したい。

本論の構成は、以下の通りである。第 1 節では、DQ に関する先行研究、とりわけ Collins (1997)を取り上げ、DQ に関する基本的仮説の問題点を指摘する。第 2 節では DQ は付加詞節を構成しているとの提案を行い、DQ の埋め込み形式に関して「裸埋め込み」という新しい統語操作を提案する。第 4 節は類型論的な考察として日本語の DQ を観察し、日本語に語彙的引用マーカーがあることによる相違点とその帰結を探る試みを行う。第 5 節は結語である。

1. 事実と問題

DQ には、以下(2)に例示されているように、基本的に以下の 4 つのタイプがある。

- (2) a. John said, “The pizza delivery is late again.”
- b. “The pizza delivery is late again,” John said.
- c. “The pizza delivery is late again,” said John.
- d. Said John: “The pizza delivery is late again.”

(2)で観察される位置以外にも、DQ を分断する位置に生起することもある。

- (3) a. “Quite honestly,” Sue replied, “It’s highly unlikely.”
- b. “Well,” Sue said, “Would you help me to finalize the contract?”

本論では、Kurihara (1985)及び山口(2009)に従い、(2a)と(2d)を「導入型(introductory clause):」、(2b)、(2c)、それに(3)のタイプを「挿入型(parenthetical clause)」と、それぞれ呼ぶことにする。

DQ に関し、Collins (1997)は、(4)で述べられているような基本的な仮説を提示している。

(6) Collins (1997)の仮説

- a. DQ は主節動詞によって選択された補文の位置に生じている。
- b. DQ は格素性を持つ名詞表現である。

Collins は、DQ は他動詞の目的語の位置に生起していると主張しているが、DQ に関する事実を詳細に観察すれば、その仮説には問題があることがわかる。以下の例を検討してみよう。

- (7) a. This guy saw me walking by with a cigarette and he went “Hey, you got one.” (山口 (2009:219))
- b. The man laughed, “You really believe that's true?”
- c. He nodded, “Yeah, yeah.”

(7a-c)はいずれも導入型の例で、(7a)の go、(7b)の laugh、それに(7c)の nod は自動詞であるものの、DQ と共起している。同様の事例が挿入型になると、さらに数多く観察される。(8)及び(9)を検討してみよう。

- (8) a. “I'm sorry,” she wept.
- b. “Me too!” squeaked the tiny girl.
- c. “And then, in 1967, we saw the start of the plumbing problem—” droned my uncle.
- (9) a. “Yes, that's right,” Claire nodded her head.
- b. “You are all wrong!”, John charged into the room.
- c. “What is going on here?”, Peter sensed that something was wrong.”

(8a)の weep、(8b)の squeak それに(8c)の drone はいずれも自動詞である。一方、(9a)の nod、(9b)の charge それに(9c)の sense はいずれも他動詞であるが、目的語を選択しているとは考えにくい。

(6b)の仮説が正しいとすると、DQ は、名詞(句)が現れる位置に現れる得ることが予想されるが、その予測は事実とは異なる。(10)を検討してみよう。

- (10) a. *“Help me!” startled the man.
- b. *Gabrielle added some supportive evidence to “This man murdered my friend.”
- c. *I could understand what he wanted from “Could you help me this weekend?”
- d. * “John called us” was repeated over and over by Max.

(10a)では時制文の主語位置、(10b)及び(10c)では前置詞の補部の位置、また(10d)では受身文の主語位置で、それぞれ DQ があると非文になることが示されている。

以上の例から、(6)の DQ に関する Collins (1997)の主張には問題があることがわかる。

2. 提案

本節では、DQ を以下(11)のように提案し、その帰結を探りたい。

- (11) DQ は格素性を持つ名詞表現としての項(argument)ではなく、付加詞節を構成している。

(廣江 (2012, 2013))

その証拠として、以下(12)と(13)を検討してみよう。

- (12) a. Sue said, “John murdered a strange man!”
- b. Francine whispered that we should turn down the stereo.
- (13) a. *Who did Sue say, “John murdered?”
- b. *What did Francine whisper that we should turn down?

(12b)は発話様態動詞(verb of manner-of-speaking)構文であり、発話様態動詞構文のthat節は付加詞節を構成していると理解されてきた(Baltin (1982))。(13a)におけるwh句の取り出しができないという事実が示すものは、発話様態動詞構文のthat節と同様、DQが付加詞節を構成しているということを強く示唆している。

第二の証拠として、(14)を検討してみよう。(14ab)で、本来、補部を選択しないことを示している一方で、(14a)で観察されるように、DQは生起可能である。

- (14) a. the motto "I don't bow for the bigwigs"
b. *the motto that I don't bow for the bigwigs

さらに、(15a)(15b)でも、本来、補部を選択しない名詞 proverb と novel に DQ が後続している。

- (15) a. the proverb "If the shoe fits, wear it."
b. the novel "War and Peace"
(de Vrie (2008))

以上の考察から、DQが付加詞を構成しているという本論の主張が正しいことを示してきた。一方、ここでひとつ疑問点が生じる。英語の場合、一般に付加詞節ではDQで観察されるような主節現象(main clause phenomena:MCP)は生じないが、なぜDQという統語環境に限ってMCPが生じるのかという疑問である。

- (16) a. Bob said, "Never did I dream of seeing you here!"
b. Sue whispered, "Have I met you before?"
c. Gabrielle said, "My lovely daughters, I am proud of."

DQが独立文と同じ統語環境だという通説の

主張はMCPを引き起こす理由にはなるものの、なぜDQという付加詞節でのみMCPが観察されるのかという問いに対しては何ら答えを提供していない。

本論では、DQという付加詞節でのみなぜMCPが観察されるのかという問いに対し、以下のような統語操作を仮定することで説明したい。

(17) 裸(直接)埋め込み

文法範疇 α が非選択的に主節動詞(あるいは述部)により補文化辞を介さずに埋め込まれた場合、 α は裸で(直接)埋め込まれている。

(17)を(18)の例で具体的に説明しよう。

- (18) a. "Are you ok?", the police officer said to a lying man.
b. The police officer asked a lying man if he was ok.

(18b)は(18a)を間接話法に転換した文である。(18a)で、Are you ok?というDQは、上述したように、主節動詞saidにより選択されたものではない。また、そのDQは補文化辞を介さずに埋め込まれており、言わば(17)で定義した裸埋め込みが行われている。裸埋め込みが行われたDQは、

主節の発話の力には支配されず、独自の発話の力が生じることでMCPが観察される。一方、(18b)では、ifという疑問の発話の力を持つ補文化辞を介してDQが(間接的に)埋め込まれていることから、主節の発話の力に支配(合成)されたことになる。

では、DQが裸埋め込みされている統語環境では、発話の力に関する限り、以下のように二つの異なる発話の力が生じていることになり、LFインターフェイスでどのように解釈されるのであろうか(F:発話の力)。

- (19) [..F₁..[DQ...F₂...]]

そこで、主節とは異なる発話の力を適切に解釈するために、以下のような条件を提案する (cf. Meinunger (2006))。

(20) 埋め込まれた発話の力の解釈条件

埋め込まれた、主節とは異なる発話の力が適切に解釈されるために、埋め込み文は主節の CP 指定辞の位置に移動しなければならない。

そもそも補文化辞は、発話の力及び法(mood)を示すものであり、補文化辞が投射する指定辞の位置に、DQ を解釈のために移動させることは不自然なことではない。この分析の妥当性を検証する際、Hooper and Thompson (1973)が提示する分析が示唆的である。

(21) He said it's just started to rain.

- a. He said X.
- b. It's just started to rain.

(Hooper and Thompson (1973: 475))

Hooper and Thompson は、(21)に例示されているような発話行為動詞に関する限り、(21a)と(21b)がそれぞれ「断定(assert)」されている、と主張する。本論での分析に照らし合わせれば、He said it's just started to rain の文で、(21a)のみならず(21b)も主節として解釈される場合があることを示している。

そうした解釈を可能にするために、つまり、(19)で埋め込み節の F_2 が F_1 の支配を受けない形式で LF インターフェイスにおいて解釈を受けるためには、(20)のような条件が適切である。

DQ が LF インターフェイスで適切に解釈されるために、DQ は CP の指定辞に移動するとの条件を提案したが、そう考える根拠が存在する。以下の例を検討してみよう。

(22) a. I was taken aback when she replied,
"I live alone."

- b. *I was taken aback when "I live alone,"

she replied.

(Huddleston (2002:1026))

(23) a. He was shocked by how I said,
"Leave me alone!"

- b. *He was shocked by how "Leave me alone!" I said.

(24) a. They couldn't figure out where she was saying, "Help me!"

- b. *They couldn't figure out where "Help me!" " she was saying.

(25) a. I was curious as to why Amy said,
"I love typhoons."

- b. *I was curious as to why "I love typhoons," Amy said.

(22a)の when、(23a)の how、(24a)の where、(25a)の why は、それぞれ CP の指定辞の位置にあると考えられる。(22b)から(25b)がいずれも非文であるという事実は、(20)を仮定すれば、DQ が CP の指定辞の位置に移動できないということで説明できる。

3. 類型論的考察

本節では、英語以外の、例えば日本語の DQ を考察する。日本語やスペイン語には、英語とは異なり、「と」や「って」という語彙的な引用マーカーがある。そのため、第 1 節で英語の DQ で観察したような導入型と挿入型の区別もほとんどなく、ほぼ挿入型と言ってよく、動詞との共起制限も極めて緩い(e.g., 稲田 (2010, 2012), 山口 (2009))。

(26) a. 「まったくもう」と隆は笑った。

- b. 「私にわかるわけじゃないの」と法子は逃げた。
- c. 「ごめんください、クリーニングです」と戸が開いた。
- d. 「お客様がお着きになりました」と、水が置かれた。

(26)で観察されるように、日本語のDQ構文では、DQ構文に生起する動詞の意味的特徴であるはずの引用・報告といった意味がないばかりか、伝達的な行為でさえない(26b)の「逃げる」が許容されている。また、藤田(2000)が指摘しているように、動詞の発話主体とDQの発話主体が異なる(26c)と(26d)のような例もまた許容される。こうした事実は、日本語においても、DQが(挿入)動詞に選択された項ではないことを強く示唆している。

4. 結語

本論では、直接引用文そのものの文法特性を考察し、Collins(1997)が提案した仮説ではDQの文法特性を十分に捉えられないことを示し、DQそれ自体は付加詞節を構成しているとの主張を行った。また補文化辞を介せずにDQを埋め込む、裸埋め込みという統語操作を提案した。その操作が行われることにより、主節とは異なる発話の力が生じさせる効果があり、それが適切に解釈されるためには、CPの指定辞の位置への移動が要求され、挿入型の場合のDQは、CPの指定辞にあることを示唆した。

以上のように考えれば、導入型の場合のDQもLFインターフェイスでCPの指定辞に移動する考える方が理論的にも望ましい。つまり、導入型の場合はDQのCP指定辞へのLF移動、挿入型の場合はDQのCP指定辞への顕在的移動、とそれぞれ捉えることが可能であることを本論では示唆した。

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版.

英語の緊密同格表現に関する一考察*
(A Study of Close Appositives in English)

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キーワード: 緊密同格, 小節, Relator Phrase,
フェイズの拡大, 指定的解釈

1. はじめに

本論では英語の同格表現について考察する。英語の同格表現は多岐に渡るが, 2つの名詞句からなるものに対象を絞ると, Burton-Roberts (1975) や安井 (1987) による, カンマで区切られた(1a)の「弛緩同格 (loose apposition)」(DP₁, DP₂型)と, それを用いない(1b)の「緊密同格 (close apposition)」(DP₁ DP₂型)に分類できる。¹

(1) a. Sterne, the author of *Tristram Shandy*, returned to London. (Burton-Roberts (1975:391))

b. The poet Burns was born in 1759. (*ibid.*:391)

(1a)については生成文法理論での先行研究がある一方で, (1b)についてはあまり見られない。また, その数少ない先行研究にも問題があるように思われる。²

そこで, 本論では, 安井 (1987) に従い, 緊密同格がコピュラ文に対応すると仮定し, フェイズの機能を持つ小節構造から派生されると主張する。また, 本論の分析によって, 緊密同格の諸特徴が説明されるだけでなく, 派生をフェイズ単位で行うと主張する近年の極小主義理論に対して支持根拠が与えられると論じる。

2. 背景 — 弛緩同格と緊密同格の相違点 —

弛緩同格と緊密同格には, カンマの有無といった表面上の違いに加えて, 以下に示す違いが見られる。³ 第一に, McCawley (1998)が指摘するように, (2a)の弛緩同格では DP₁ と DP₂ の間に文副

詞が生起できるが, (2b)の緊密同格ではそれが許されない。

(2) a. the author, probably H. L. Mencken

(McCawley (1998:469))

b. * the author probably H. L. Mencken

(*ibid.*:469)

第二に, 先の(1a)が示す通り, 弛緩同格の場合は DP₁ と DP₂ が「同じ指示物を指し [...] 相互指示的 (co-referential)」(安井 (1987:14) [] 内は筆者)であり得るが, Burton-Roberts (1975)による(3)が示す通り, 緊密同格の場合は「2つの名詞句が表すものがまったく同一であることは許されない」(cf. *ibid.*:396 引用は荒木 (1986:14) より)。

(3) a. * *The author of 'Ulysses' Joyce is buried in*

Zurich. (Burton-Roberts (1975:396))

b. * *Linguistics the study of language* (*ibid.*:396)

これは, Burton-Roberts (1975)によれば緊密同格表現全体が「A+B」で1つの新しい実体に言及する表現」(cf. *ibid.*:396 引用は荒木 (1986:14) より)だからであり, 言い換えれば DP₁ と DP₂ が「合成的・統合的」に新たな個体を指すからである。⁴

第三に, Burton-Roberts (1975)による(4)が示すように, 弛緩同格の DP₁ には不定冠詞も生じうるが, 緊密同格の場合は通例, 不定冠詞は生じず, 代わりに定冠詞 the が使用される。

(4) a. An upholsterer, Mr. Pontefract, called today.

(Burton-Roberts (1975:414))

b. * A poet Burns (cf. (1b)) (*ibid.*:401)

第四に, McCawley (1998)の(5a)が示す通り, 弛緩同格は関係節で言い換えられるのに対し, Burton-Roberts (1975)の(5b)が示す通り, 緊密同格では同様の言い換えが許されない。

(5) a. Albert Swenson, who is a recent winner of the Illinois State Lottery, has announced that he plans to move to Bermuda.

(McCawley (1998:468))

b. * Burns who is the poet

(Burton-Roberts (1975:399))

3. 緊密同格を扱った先行研究

本節では生成文法理論の枠組みでの緊密同格

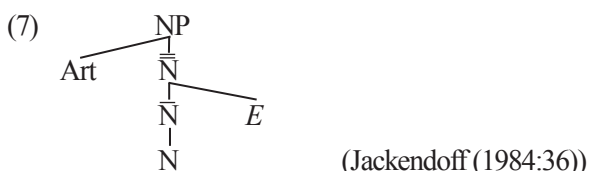
の先行研究を紹介し、それらの問題点を指摘する。

Burton-Roberts (1975:400)は、緊密同格に対して、(6a-e)のような派生を提案している。

- (6) a. [det] Burns [det] Burns be poet →
 b. [det] Burns WH be poet (by relativisation, oblig.) →
 c. The Burns who is a poet →
 d. The Burns poet (by relative reduction, opt.) →
 e. The poet Burns (by attributive preposing, oblig.) (cf. Burton-Roberts (1975:400))

まず(6a)の構造から義務的な関係節化により(6b)が派生され、冠詞の挿入により(6c)が、その後、随意的な関係節縮約を経て(6d)が派生され、最終的に名詞 poet を義務的に前置させることにより(6e)が派生される。しかし、これらの変形操作には、現行の極小主義理論では採用されていないような、固有名詞を関係代名詞に置き換える操作 ((6a, b) や、(6e)を導くための、構文固有の義務的な前置操作が含まれており、そのまま維持するのは困難であるように思われる。⁵

Jackendoff (1984)は、Jackendoff (1977)の X バー理論の式型を採用した上で、緊密同格に対して(7)の構造を提案している。



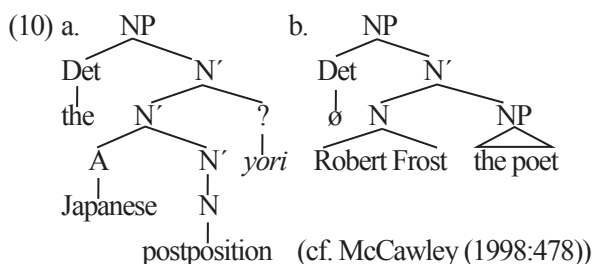
The poet Burns を例にとると、(7)の Art 節点は the に、また主要部 N は poet に、E 節点は固有名詞 Burns に、それぞれ対応する。Jackendoff (1977)によると、E の位置は本来付加部が生じる位置と考えられており、Jackendoff (1984)による(8)が適格であることからすると、例えば(8a)の同格語 p^h と付加部 in English は同一階層に現れることになるが、その場合は、2つの要素を併合 (Merge) することで構造を構築する Chomsky (1995, 2000)の極小主義理論で禁じられている、三又枝分かれ構造を仮定せざるを得なくなる。

- (8) a. the sound p^h in English (Jackendoff (1984:28))
 b. the song cycle *I Hate Music* by Leonard Bernstein (ibid.:28)

また、付加部と同じ階層に現われることから、E は付加部としての性質を持つと予測されるが、その予測は(9)が示す通り、必ずしも正しくない。

- (9) a. the ripper Jack / Jack the ripper
 b. the words in English / *in English the words
- (9a)の緊密同格では DP₁ と DP₂ が交替可能であるのに対し、(9b)の名詞句と副詞句の場合はそのような交替は起こらない。⁶ 加えて、副詞句を伴った名詞句の冠詞は必ずしも定冠詞に限定されることがなく (e.g. a girl under the tree (cf. (4b))), また関係節を用いた表現が少なからず可能 (e.g. the boy who is on the baseball team (cf. (5b))) であるという点も問題となるように思われる。⁷

McCawley (1998:478)は緊密同格に対して(10a, b)のような構造を提案している。(10a)では DP₂ に相当する要素 (yori) が付加部として N' 節点に付加しているため Jackendoff (1984)と同様の問題が生じると考えられる。また、Jack the ripper のような事例には、(10b)のような統語構造を提案しており、(9a)の交替を捉えようとはしていない。



4. 分析

本節では緊密同格に対する分析を提示する。まず、安井 (1987) では、(11)のように、緊密同格の2つの DP がコピュラ文における主語と述語に対応しているという直観が示唆されている。

- (11) これら [=緊密同格] の2つの名詞句は、等号で結ばれる関係にあり、NP₁ is NP₂にしたときに現われる be 動詞は、外延性の中身解き文 [= Halliday (1967a, b) の extensive decoding (i.e. Akmajian (1970), Higgins (1973) の指定的 (specificational) 解釈)] に現われる be 動詞と呼ばれるものとなる。

(安井 (1987:16) [] 内は筆者)

(11)の示唆は、Chomsky (1970)以来共有されてい

る「節と名詞句の平行性」の発想により支持を受ける。(11)が正しいとすると、(12)は、(13)のコピュラ文に対応していると考えられる。

(12) the ripper Jack / Jack the ripper

(13) The ripper is Jack. / Jack is the ripper.

次に、緊密同格の統語構造について考察する。上述の通り緊密同格がコピュラ文に対応しているとする、コピュラ文を派生させる際の統語構造がこの表現の派生にも関与していると考えられる。コピュラ文を派生させる標準的な方法の一つに、Stowell (1978), Moro (2000), Den Dikken (2006)などに代表される、小節を用いた分析がある。たとえば、Moro (2000)は(14)に示されるように、コピュラ文の派生に小節を使用している。

((14a)は主語名詞句が IP の指定部に移動した構造、(14b)は述語名詞句が IP の指定部に移動した構造に対応している。)

(14) a. [_{IP} DP_i [_{VP} V [_{SC} t_i DP]]] (canonical)

(cf. Moro (2000:42))

b. [_{IP} DP_i [_{VP} V [_{SC} DP t_i]]] (inverse) (cf. *ibid.*:42)

以上を踏まえ、本論では緊密同格表現の派生に関して(15)を主張する。

(15) 緊密同格表現は小節構造から派生される。

(15)の主張を踏まえ、次に、小節構造としてどのような構造が適切か考察しよう。良く知られている通り、小節構造は、従来、(14)のように sc を最上位の節点とする構造だったが、内心性を重視した近年の句構造理論では、小節を、何らかの機能的主要部の投射として捉えようとしている。例えば、Bowers (1993)は、(16)のように、小節を機能範疇 Pr の投射と捉える構造を提案している。

(16) [_{PrP} NP (subject) [_{Pr} Pr XP (predicate)]]

X = {V, A, N, P} (cf. Bowers (1993:595))

また、Den Dikken (2006)は、(17)で示されるように、小節を Relator が投射された Relator Phrase (RP) として捉える構造を提案している。

(17) [_{RP} [_{XP} SUBJECT] [_{R'} RELATOR

[_{YP} PREDICATE]]] (cf. Den Dikken (2006:13))

Den Dikken (2006)は、この RP を(18)のように叙述関係を表示する機能的要素として定義している。

(18) a. [...] [A]ll predication relationships are syntactically represented in terms of a structure in which the constituents denoting the predicate and the subject are dependents of a connective or RELATOR [...].

(Den Dikken (2006:11) []内は筆者)

b. [...] [T]he RELATOR [...] is an *abstract* functional head—not a novel lexical category, not even a specific functional element (like T or D or some such), but a placeholder for *any* functional head in the structure that mediates a predication relation between two terms [=the subject and the predicate] [...].

(*ibid.*:15 []内は筆者)

(18)における Relator の考えは、叙述関係を担うあらゆる機能的要素に当てはまり、その点で一般性が極めて高いものであるため、本論では小節構造として RP を採用し、緊密同格表現の派生にも RP が関わると仮定する。

小節構造は、伝統的には補文構造のために用いられるものだが、近年、小節と名詞句の派生を関連付ける、もしくは小節を名詞句の派生に利用する研究が見られる。例えば、Nakajima (1991)は、(19a)の動名詞構造が、(19b)に示される通り小節と同じ構造 (AgrP) を持つと分析しており、その構造として(19c)のような構造を提案している。

(19) a. Fred's singing the national anthem, everyone anticipated. (Nakajima (1991:43))

b. Small clauses and Poss-ing [gerunds] are analyzed as AgrP [...].

(*ibid.*: 52 []内は筆者)

c. [_{DP} NP=John's [_{D'} D=ing [_{AgrP} ... [_{VP} ...]]]]

(cf. *ibid.*:43)

また、RP を提案している Den Dikken (2006)は、(20a)における an idiot of a doctor のような表現が(20b)のような構造を持つと提案している。

(20) a. an idiot of a doctor / a jewel of a village

(Den Dikken (2006:162))

b. [_{DP} D₀ [_{RP} [_{NumP} an [_{NP} idiot]]

[_{R'} RELATOR=of [_{NumP} a [_{NP} doctor]]]]]

(cf. *ibid.*:168)

さらに、(21a)の「X のバカ」のような表現を扱った菊地 (2008) も同様に RP を採用し、この表現の基底構造として(21b)を仮定したうえで、主語名詞句と述語名詞句の移動を経て(21c)の構造が派生されると論じている。(なお、菊地 (2008:286, fn.3) では、「n は nominalizer を表す」としている。)

(21) a. X のバカ (がまたしでかした)
(cf. 菊地 (2008:280))

b. [DP [_{NP} [_{RP} [_{NP1} X](-no) [_{R'} [_{NP2} baka] R]] n] D]
(cf. *ibid.*:286)

c. [DP [_{NP1} X]_i-no [_{NP} _{t_i} [_{R'} [_{NP2} _{t_j}] _{t_j}] baka]_j] D]
(cf. *ibid.*:286)

緊密同格表現は解釈上、明らかに名詞句だが、これまで見てきたように、名詞句の派生に小節構造を用いる考え方には一定の一般性が見られることを踏まえ、本論では、Den Dikken (2006)と菊地 (2008) の分析に従い、緊密同格表現も、両者による構造と概ね同様の基底構造(22a)を持つと仮定し、そこから、(22b)もしくは(22c)として派生されると分析する。

(22) a. [DP D [_{RP} [_{DP} Jack] [_{R'} R [_{DP} the ripper]]]
b. [DP [_{DP} Jack]_i] [_{D'} D+R_j [_{RP} _{t_i} [_{R'} _{t_j} [_{DP} the ripper]]]]]
c. [DP [_{DP} the ripper]_i] [_{D'} D+R_j [_{RP} [_{DP} Jack] [_{R'} _{t_j} _{t_i}]]]]

(22a)では、いわゆる小節主語 (Jack) と述語 (the ripper) が、それぞれ RP の指定部と補部に生起している。RP の上には DP が投射されているが、これは、緊密同格表現全体が定名詞句として解釈される一方で、Jackendoff (1984)が指摘した(23)が示す通り、通常 DP ではなく NP に付加されると考えられる制限的關係節による修飾が許されないことによる。^{8, 9}

(23) a. ?*the song cycle *I Hate Music* that Lenny wrote
(Jackendoff (1984:31))
b. ?*the noise **** that Harry is always making
(*ibid.*:31)

次に、(22b-c)の派生に関わる一連の仮定について述べる。まず、フェイズの上位に投射される機能的主要部がそのフェイズの主要部の顕在的移動と、フェイズ内の要素の指定部への移動を引き起こすとする Den Dikken (2006:110-117)の発想に従い、本論では、RP の上位に生起する D につい

て(24a, b)を仮定する。

(24) a. 緊密同格の D は R を顕在的に牽引する。

b. 緊密同格の D は[EPP]素性を持つ。

加えて、Chomsky (2000)による標準的な仮定(25a)と、Den Dikken (2006)による(25b)を仮定する。

(25) a. Phases are propositional.
(Chomsky (2000:107))

b. Small clauses are phases.
(Den Dikken (2006:113))

ここで、上述の(24a, b)の妥当性について一言述べておきたい。(24a, b)は、以下の経験的事実を説明するために必要だと考えられる。まず(24a)について考察するために(26)を見てみよう。

(26) a. the symbol \$ (Jackendoff (1984:26))
b. the noise ***** [*raspberry, imitation of a goat, etc.*]
(*ibid.*:26)

Jackendoff (1984)が指摘する通り緊密同格には固有名詞以外にも、音やメロディ、記号などが生じ得る。これらの要素は統語素性を持つのか不明であり、これらが構造に導入された場合のために、最低限、RP の補部位置 (e.g. the symbol) を上位フェイズから可視的にしておく必要がある。¹⁰ ここで、(24a)のように R が D に主要部移動すると仮定すれば、RP の補部位置も上位フェイズにとって可視的になると考えられる。なぜならそのような移動により RP の指定部と補部が、探查要素 (D+R) にとってどちらも「等距離 (equidistant)」(cf. Chomsky (1995:185)) になるからである。例えば Chomsky (1995)は、(27a)の構造を用いて、(27b)のように規定している。

(27) a. [_{XP} Spec₁ [_{X'} X [_{YP} Spec₂ [_{Y'} Y ZP]]]]
(cf. Chomsky (1995:182))

b. In the abstract case (11) [=my (27a)], if Y adjoins to X, [...] then Spec₁ and Spec₂ are equidistant from ZP [...].
(*ibid.*:185 []内は筆者)

なお、(27b)では「移動する要素にとって等距離」とあるという言い方になっているが、Chomsky (2000)の枠組みでは、例えば「上位フェイズの探查要素にとって、下位フェイズの指定部と補部が『等距離』『可視的』になる」と述べなおされ

ることになる。また Den Dikken (2006) も、同様のことを(28)のように述べている。

(28) Movement of the head of a phase to a higher head
F extends the phase to FP.

(Den Dikken (2006:115))

次に、(24b)について考察する。McCawley (1998) の(29)が示す通り、RP の補部 the well-known operas が複数形になり、その点でこの要素が緊密同格全体の形態・統語的な中心となるが、そういった要素は RP の領域ではなく DP の領域に存在すると考えられる。なぜなら、Safir (1983) の(30)が示す通り、小節が主語として機能する場合は単数の一致を示すからである。¹¹

(29) the well-known operas *Norma* and *Tosca*

(McCawley (1998:473))

(30) Workers angry about the pay is just the sort of situation that the ad campaign was designed to avoid.

(Safir (1983:732))

なお、DP は明らかに命題を表すため (cf. Chomsky (1970)), それがフェイズとしても機能すると仮定すれば、(24b)は、(31)における Chomsky (2000) の規定によっても支持を受ける。

(31) The head H of phase Ph may be assigned an EPP-feature.

(Chomsky (2000:109))

以上を踏まえると、(24a)に従い D が R を顕在的に牽引した結果、探査要素 (D+R) にとって RP 内の指定部と補部の両者が「可視的」(「等距離」)になる。その結果、Chomsky (2000)による(32)のフェイズ不可侵性条件 (PIC) に違反することなく、RP 内の指定部もしくは補部が D の[EPP]素性を消去するために DP の指定部に移動する。

(32) *Phase-Impenetrability Condition*

In phase α with head H, the domain of H is not accessible to operations outside α , only H and its edge are accessible to such operations.

(Chomsky (2000:108))

その結果、(22a)から Jack が移動すれば(22b)が、the ripper が移動すれば(22c)が派生される。

5. 説明

第4節の分析により第2節で指摘した緊密同格

の諸特徴がどのように説明されるか考察する。まず、緊密同格に文副詞が生起しないのは Nakajima (1991)による(33)が示す通り、もともと小節内にそれが生じないことによると説明できる。

(33) ?* John considers [Mary *probably* scared of snakes]—certainly, she is scared of snakes.

(Nakajima (1991:40))

第2に、安井 (1987) に従い緊密同格とコンピュータ文との類似性を捉える本論の分析では、(34)と(35)は共に「名詞句 the ripper の変項の値を Jack が指定する」という Akmajian (1970)や Higgins (1973)による「指定的解釈」を持つと考えられる。

(34) The ripper is Jack. / Jack is the ripper. (= (13))

(35) the ripper Jack / Jack the ripper (= (12))

この考えが正しいとすると、the ripper の変項の値を Jack が指定して初めて the ripper Jack 全体の指示対象が確定するため、緊密同格全体が「合成的・統合的」指示対象を持つと言える。¹²

さらに、緊密同格に定冠詞のみが現れる事実も、Declerck (1983)による(36a)と Akmajian (1970)による(36b)の対比が示す通り、指定文一般の性質によるものと考えられることができる。

(36) a. The bank robber is John Thomas.

(Declerck (1983:216))

b. * A fool is John. (Akmajian (1970:166))

最後に、緊密同格表現の派生に関係節の存在を仮定しない本論の分析では、(5b)の*Burns who is the poet が派生されることはない。¹³

6. おわりに

以上、本論では、安井 (1987) に従い緊密同格がコンピュータ文に対応すると仮定し、一見すると統語的分析が困難に見える緊密同格表現が、小節 (=RP) という統語構造から派生されると分析した。また、この分析をフェイズ理論に基づき提示したことで、派生をフェイズ単位で行うと主張する近年の極小主義理論に対する支持根拠の提供を行った。

* 本論は、2014年11月8日に開催された日本英語学会第32回大会（於 学習院大学）研究発表部門における口頭発表の内容に加筆・修正を加えたものである。当日、司会を務めてくださった小畑美貴先生、ならびに貴重なコメント・質問をくださった、西山佑司先生をはじめとする聴衆の方々に心より感謝申し上げます。また、本発表の準備段階で草稿に目を通してくださった菊地朗先生に厚くお礼申し上げます。なお、脚注12にもあるとおり、西山（2003）は、「非飽和名詞」の理論を用いて、本論の第5節の(35)に対して筆者が行ったのと同様の説明を日本語の事例に対して与えている。この理論を本研究にどのように活かすかについては今後の課題としたい。また、本論で出典を示していない英文の容認性の判断は、Dale K. Andrews 先生（東北学院大学准教授）による。感謝申し上げます。言うまでもなく、本論における不備や誤りは全て筆者の責任に因るものである。

1. 本論では、説明の便宜上、線形順序の上で1番目の名詞句を DP₁、2番目の名詞句を DP₂ と呼ぶ。

2. 両同格表現の記述的側面については、Cumme (1931)や Quirk et al. (1972, 1985), 荒木 (1986), 安井 (1987)などを参照。また、弛緩同格を扱った、生成文法理論での研究については、De Vries (2006)や Citko (2008), Kubo (2009)などを参照。

3. 荒木 (1986:13-16) と安井 (1987:13-16) では、以下の第二、第三の相違点を含めて、両表現に関する様々な特徴がまとめられている。また、Kubo (2009)も、ここで扱っていない相違点をいくつか取り上げている。それらが本論の枠組みでどのように説明されるかは今後の研究課題としたい。

4. Burton-Roberts (1975)は、緊密同格表現全体が2つの名詞句からなる「意味的・統語的統合体 (semantic and syntactic synthesis)」(cf. *ibid.*:396)であると述べている。

5. (6a, b)に関わる問題については「包括性の条件 (Inclusiveness Condition)」(cf. Chomsky (1995: 228))を参照。

6. Burton-Roberts (1975:401-402)は、Jack the ripper 型の語順が「対比の機能 (contrastive function)」(cf. *ibid.*:402)を持つのにに対し、the ripper Jack 型はその機能を持っていても、いなくとも良いと述べている。

7. Jackendoff (1984)による(i)が示すように、固有名詞を N の補部とする分析もまた採用できない。

(i) the famous composer of lieder Johannes Brahms
(Jackendoff (1984:33))

なぜなら補部として生起するはずの of lieder と Johannes Brahms が共起するからである。なお、

McCawley (1998:473)も（根拠は違うが）同様の結論を導き出している。

8. McCawley (1998:473)は制限的關係節の付加も可能だとしているが、Jackendoff (1984:31)は、容認可能な事例における關係節を（形式上、制限的であったとしても）解釈上、非制限的なものと見なしている。ここでは、Jackendoff (1984)の判断に従い議論を進める。

9. 制限的關係節が付加する基本的位置については、Jackendoff (1977)などを参照。なお、この事例は、N 以外の投射が DP と RP の間にあると仮定しても説明できると思われる。

10. 小畑美貴先生（私信）が指摘するように、例えば主節の要素 (v や T) に対しても RP の内部が可視的であるとする、緊密同格表現の一部を移動させられると予測してしまうが、その予測は正しくないと思われる。例えば Kubo (2009)による(i)は、そのような移動が許されないことを示す根拠となり得る。(井上ほか(1985:81-82)も参照。)

(i) a. We saw the opera 'Carmen' yesterday.

(Kubo (2009:29))

b. ?? We saw the opera yesterday, 'Carmen'.

(*ibid.*:29)

主節の要素にとって可視的なのはどのような要素であるべきかについては今後の課題としたい。

11. 事実、(29)は(i)の通り複数形の一致を示す。

(i) The well-known operas *Norma* and *Tosca* were/*was performed last month.

12. 西山 (2003:33-40) は、日本語の「主役」などの表現を、(例えば「俳優」などとは異なる)「非飽和名詞」と呼び、「非飽和名詞はかならず『Xの』というパラメータを要求し、パラメータの値が定まらないかぎり、意味として完結しない」(cf. *ibid.*:33)と論じている。ここで扱う英語の the ripper なども西山 (2003) の「非飽和名詞」に該当するとすれば同様の説明が可能だが、それに該当するかどうかは今後検証が必要である。なお、the ripper などの名詞句が変項を含むことを保証する他の理論としては、Den Dikken (2006:94-95) が示唆するように、指定文の DP と同様、the ripper が縮約自由關係節に類似した構造を持つか、Partee (1987)や Zamparelli (1995)の分析に基づき <e, >タイプ関数として機能し得るとする考え方が挙げられる。

13. 仮に關係節が派生に関与するとした場合、本論の分析では RP の指定部または補部に CP が生起することになるが、英語ではそういう小節構造は一般的に認められないと考えられるので非文となると説明できる。

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Of-Insertion as a Repair Operation in Syntax*

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Keywords: *of*-insertion, labeling, repair, optionality

1. INTRODUCTION

It is a well-known fact that the preposition *of* is optionally inserted between a nominal and its appositive *wh*-clause as in (1):

- (1) a. The question [(of) whether it is true or not] may be raised.
b. Please give me an indication [(of) how to do it].

The purpose of this paper is to propose that *of*-insertion in (1) applies as a repair operation in syntax.

The important thing to notice, here, is that there seem to be two kinds of *of*-insertion. It has been generally assumed that *of* is obligatorily inserted between two nominal phrases as in (2):

- (2) John's criticism *(of) the book.

For example, Richards (2010) brings up an example like (2) to maintain that *of* must be inserted obligatorily in PF so as to avoid the linear adjacency of the same DP categories (see also Chomsky (1981); Stowell (1981)). However, *of*-insertion in (1) is optional; *of* need not be inserted. Furthermore, even when a nominal is not adjacent to its appositive *wh*-clause, *of* may be inserted as in (3):

- (3) The question is [(of) whether it is true or not].

This strongly suggests that *of* in (1) (and (3)) is not inserted in PF to avoid some linear adjacency. Of course, *of* has no effect on the LF interpretation. Hence, *of* in examples like (1) should be inserted in syntax. In this paper, I would like to focus on this type of *of*-insertion and claim that the mechanism involved in the *of*-insertion plays a significant role in understanding aspects of the theory of syntax.

This paper is organized as follows: section 2 will sketch the main outlines of Chomsky's (2013) labeling algorithm. Section 3 will propose that *of*-insertion is a syntactic operation to repair a defect in terms of labeling. Section 4 will provide evidence for the present proposal. Section 5 will explore further theoretical possibilities of the present analysis. Section 6 will discuss a case where *of*-insertion applies obligatorily. Section 7 is the conclusion.

2. LABELING ALGORITHM

Chomsky (2013) asserts that labeling is necessary for identifying the category of a syntactic object at the interfaces and proposes a theory of the labeling algorithm. When a lexical item (H^0) merges with a phrase (YP), as in (4), the label of H^0 is qualified as the label of the whole phrase.

$$(4) \quad X^0 + YP \rightarrow \begin{array}{c} XP \\ \swarrow \quad \searrow \\ X^0 \quad YP \end{array}$$

When a phrase (XP) merges with another phrase (YP), as in (5), the label of the whole phrase is assumed not to be determined and interpreted at the interfaces.

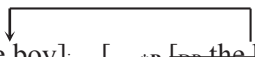
$$(5) \quad XP + YP \rightarrow \begin{array}{c} \\ \swarrow \quad \searrow \\ XP \quad YP \end{array}$$

Chomsky (2013) argues for two ways of determining the label: to raise one of the phrases or to share the prominent feature of the phrases.

The first strategy works when the subject DP merges with the verb phrase v^*P . In (6a), for example, the DP *the boy* merges with the v^*P *saw the dog*, as illustrated in (6b):

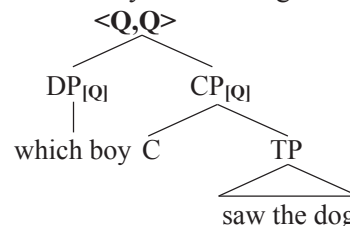
- (6) a. The boy saw the dog.
b. [α [_{DP} the boy] [_{v^*P} saw the dog]]

The label of the whole phrase (α) is unlabeled, since the two elements are both phrases. To avoid this undesired result, the subject is raised as in (7):

- (7) 
[[_{DP} the boy]_i... [_{$\alpha=v^*P$} [_{DP} the boy]_i [_{v^*P} saw the dog]]]

Assuming that the lower part of the moved element is invisible to labeling, the label of α is determined and interpreted as v^*P .

The second strategy is used in a *wh*-question. The *wh*-question is generated by moving a *wh*-phrase to sentence-initial position. In (8a), the DP *which boy* moves to merge with the CP *saw the dog*. The label of the whole phrase is unlabeled, since DP and CP are both phrases. To determine the label, the second strategy is used to require a prominent feature to be the label. The prominent feature is a Q-feature in this case, because it is shared by the *wh*-phrase and the CP under consideration. Then, the label of the whole phrase is interpreted as the Q-feature as in (8b).

- (8) a. Which boy saw the dog?
b. 

Given this labeling algorithm, the next section will propose a repair operation in syntax.

3. *OF*-INSERTION AS A REPAIR OPERATION IN SYNTAX

In this section, I propose that *of*-insertion applied in a sentence like (9) is a syntactic operation to repair a defect in terms of labeling.

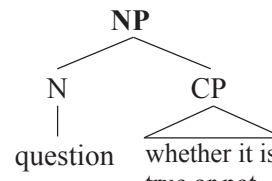
- (9) The question [(of) whether it is true or not] may be raised. (= (1a))

One of the key assumptions that the current Minimalist theory adopts is that Merge applies freely (see Chomsky (2004, 2007, 2008, 2013)). This assumption leads to the view that there are at least two ways to merge a nominal with its appositive *wh*-clause, as given in (10):

- (10) a. [α [_N question] [_{CP} whether it is true or not]]
b. [α [_{DP} the question] [_{CP} whether it is true or not]]

(10a) illustrates that the N^0 *question* merges with the appositive *wh*-clause; (10b) illustrates that the DP *the question* merges with the appositive *wh*-clause.

The label of α in (10a) is determined immediately as NP, since the head N^0 is qualified as the label of the whole phrase, as discussed in (4) above.

- (11) 

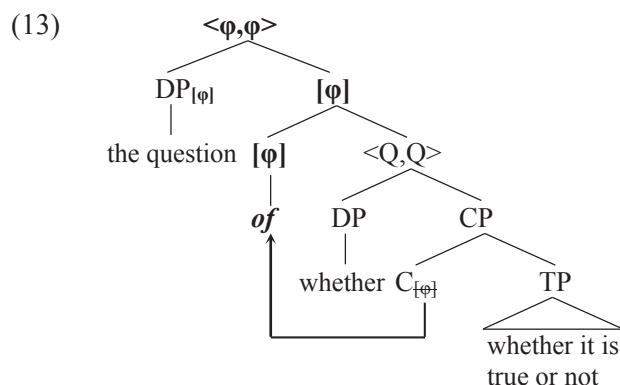
On the other hand, the label of α in (10b) is not determined, since the two elements are phrases. To make matters worse, the two strategies on the labeling algorithm discussed in section 2 do not

help determine the label. The first strategy requires one of the merged phrases to be raised. However, the nominal and its appositive *wh*-clause are adjacent to each other, so that the first strategy is not usable. The second strategy applies when there exists a prominent feature that the merged phrases share. However, there is no such prominent feature: the DP *the question* has ϕ -features while the appositive *wh*-clause has a *Q*-feature. Hence, the label of α in (10b) is left undetermined.

In this paper, I propose a syntactic operation that repairs the defect of labeling in (10b). The key point is that the appositive *wh*-clause has ϕ -features as its inherent property. Evidence for this point is provided by the subject-verb agreement: the verb agrees in number with a *wh*-clause, as shown in (12):

- (12) a. [Whether he should be found guilty] is/
*are crucial.
b. [Whether he should be found guilty]
and [whether he was present at the
scene of the accident in the first place]
*was/were irrelevant.

Assuming that the ϕ -features inherent in the appositive *wh*-clause are originally on C^0 of the clause, I claim that they move to the edge of the clause and are pronounced as *of*, as illustrated in (13):



After this movement, the moved ϕ -features ena-

ble the label of the whole phrase to be the ϕ -features, because *the question* has the ϕ -features in common.¹ In this way, *of* is inserted to repair the defect of labeling.²

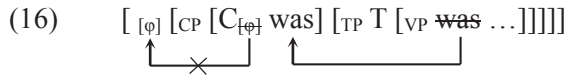
Notice that the ϕ -features inherent in the appositive *wh*-clause move to the edge of the clause, which receives support from two pieces of evidence. The first evidence is concerned with head movement in Belfast English. Belfast English has head movement in an embedded clause as well as a root clause. One restriction imposed on such movement is that head movement cannot co-occur with the *wh*-phrase, as the contrast in acceptability between (14b) and (14c) shows:

- (14) a. They couldn't work out [whether we had left].
b. They couldn't work out [had we left].
c. * They couldn't work out [whether had we left]. (Henry (1995: 107))

With these observations in mind, let us consider ϕ -feature movement in the appositive *wh*-clause under consideration. (15a) shows that *of* is optionally inserted when no head movement applies. However, (15b) shows that *of* fails to be inserted when head movement applies.

- (15) a. We discussed the question (of) whether it was true or not.
b. We discussed the question (*of) was it true or not.
(Alison Henry (personal communication))

The failure of *of*-insertion in the Belfast English example of (15b) is straightforwardly accounted for by the impossibility of excorporation proposed by Baker (1988). Once *was* moves (through T) to C, the part of the C cannot undergo any operation, including ϕ -feature movement to the edge of the clause as in (16):

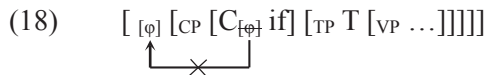


Therefore, the impossibility of *of*-insertion in (15b) indicates that ϕ -feature movement applies in the appositive *wh*-clause.

The second evidence is related to the inapplicability of *of*-insertion in a (Standard) English sentence such as (17):

- (17) The question (**of*) if it is true or not
may be raised.

Given that *if* occupies the C^0 position in the appositive *wh*-clause, the impossibility of *of*-insertion in (17) is the same as that of (15b): ϕ -feature movement from the C^0 position is a type of excorporation:



Hence, these two pieces of evidence support the view that ϕ -feature movement applies in the appositive *wh*-clause.

To review the discussion up to this point, the generalization is that *of* is not inserted when the nominal head (N^0) merges with its appositive *wh*-clause whereas *of* is inserted when the nominal phrase (DP) merges with its appositive *wh*-clause. In other words, *of* is not inserted when the nominal selects the appositive *wh*-clause as its complement whereas *of* is inserted when the nominal merges with the appositive *wh*-clause qualified as the adjunct.³ The next section will demonstrate that the distinction obtains between the complement and the adjunct on the basis of *one* substitution.

4. ONE SUBSTITUTION

It has been argued that a nominal head cannot be substituted for the pronoun *one* when it is followed by a complement, while the nominal can be replaced by *one* when it is followed

by an adjunct as in (19):

- (19) a. * Jack met the king of England, and I
met the one of France.
b. Jack met the king from England, and I
met the one from France.
(Jackendoff (1977: 58))

The present analysis argues that *of* is not inserted when the nominal has the complement relation with its appositive *wh*-clause but *of* is inserted when the nominal has the adjunct relation with the clause. The prediction, then, is that the nominal should not be able to be substituted for the pronoun *one* when *of* is not inserted, while the nominal can be replaced by *one* when *of* is inserted. This prediction is borne out by the following sentences:

- (20) a. * The question [whether it is true] is different from the one [whether there is really a difference in degree].
b. The question [of whether it is true] is different from the one [of whether there is really a difference in degree].

The difference in grammaticality between (20a) and (20b) shows that the appearance of *of* plays a crucial role in specifying the syntactic relation between a nominal and its appositive *wh*-clause. Only when *of* is inserted, the nominal can be substituted for *one*; and the appositive *wh*-clause has the syntactic status of an adjunct. This is an immediate consequence of the present analysis.

5. OTHER THEORETICAL POSSIBILITIES

This section examines three types of syntactic environments in which *of*-insertion may apply and concludes that *of*-insertion cannot apply in all of these environments.

The first case is relevant to a case where a

nominal merges with its appositive *that*-clause as in (21).

- (21) I heard a rumor (*of) that John was guilty.

Different from the case where a nominal merges with its appositive *wh*-clause discussed in previous sections, *of* fails to be inserted in (21).⁴ This inapplicability of *of*-insertion is accounted for as a consequence of the present proposal coupled with the free application of Merge.

The free application of Merge produces two kinds of derivational possibilities as in (22a) and (22b):

- (22) a. [NP [N rumor [CP that John was guilty]]]
 b. [_α [DP a rumor] [CP that John was guilty]]

The label of the whole phrase in (22a) is determined as NP. On the other hand, the label in (22b) is undetermined. In fact, the *that*-clause does not have ϕ -features, as given in (23):

- (23) a. [That you won] is wonderful.
 b. [That he lost] and [that you won] is/ *are wonderful. (Ross (1973: 147))

The examples in (23) show that the verb does not agree in number with the *that*-clause. Since the existence of ϕ -features is significant for repairing the defect of labeling, the nonexistence of ϕ -features on the *that*-clause makes the repair operation inapplicable and *of* cannot be inserted.

The second is about a case in which an adjective merges with its appositive *wh*-phrase as in (24):⁵

- (24) I am not sure (*of) whether it is true or not.

In this case, *of* cannot be inserted. The present analysis gives a simple account of this case as well. The free application of Merge produces two kinds of derivational possibilities as in (25a) and (25b):

- (25) a. [AP [A sure [CP whether it is true or not]]]
 b. [_α [AP sure] [CP whether it is true or not]]

The label of the whole phrase in (25a) is determined as AP. On the other hand, the label in (25b) is undetermined. Although the *whether*-clause has the ϕ -features that are used to repair the defect of labeling, the adjective has no such ϕ -features. In order for the prominent feature to be the label, the feature must be shared by both the phrases that merge. Accordingly, the labeling of (25b) remains undetermined, resulting in the ungrammaticality. Only when *of* is not inserted, the sentence is grammatical.

The third case is concerned with a case in which an adjective merges with its appositive *that*-clause as in (26):

- (26) I am not sure (*of) that it is true.

Here, *of* is not inserted. The reason for this impossibility of *of*-insertion is clear. The free application of Merge produces two kinds of derivational possibilities as in (27a) and (27b):

- (27) a. [AP [A sure [CP that it is true]]]
 b. [_α [AP sure] [CP that it is true]]

The label of the whole phrase in (27a) is determined as AP. The label in (27b) is left undetermined. Neither the adjectival phrase nor the *that*-clause has ϕ -features, so that the option of repairing the defect of labeling by inserting *of* is not utilized. Thus, the grammatical sentence

does not involve *of*-insertion.

6. A CASE OF OBLIGATORY *OF*-INSERTION

In this section, I would like to consider a case where Abney (1987) argues that *of*-insertion applies obligatorily. The example of (28) is a case in point:

- (28) the knowledge *(of) who John saw
(Abney (1987: 174))

The present analysis wrongly predicts that *of* is inserted optionally in this case. The reason for this is the following: the free application of Merge produces two kinds of derivational possibilities as in (29a) and (29b):

- (29) a. [_N knowledge] [_{CP} who John saw]
b. [_{DP} the knowledge] [_{CP} who John saw]

The label of (29a) is easily determined as NP; the label of (29b) can be interpreted as ϕ -features by applying *of*-insertion as a repairing operation.

I would like to argue that the reason for the obligatory *of*-insertion in (28) is reduced to the property inherent in the word *knowledge*.

Chomsky (1986) points out that the lexical item *knowledge* has a peculiar property with respect to binding. Let us consider the following sentences:

- (30) a. * the knowledge [that John_i might fail]
b. the possibility [that John_i might fail]
b. bothered him_i (Chomsky (1986: 167))

(30a) shows that *John*, embedded in the appositive *that*-clause, cannot have a coreference relation with *him* of the matrix object. Such a coreference relation is possible in (30b). This difference leads Chomsky (1986) to conclude

that *knowledge* selects PRO as its specifier, different from other lexical items, including *possibility*. This PRO binds *John* in (30a), yielding the violation of the Condition C of the binding theory.

Evidence for the existence of PRO is provided by the appearance of the overt pronominal element in the sentence involving *knowledge* as in (31):

- (31) a. our knowledge that John might fail
b. * our possibility that John might fail
(ibid.: 168)

That is, Chomsky's (1986) argument is equivalent to saying that *knowledge* must merge with PRO as its lexical inherent property. This property prevents us from applying the application of Merge given in (32a); only the option of (32b) is produced.

- (32) a. * PRO [_N knowledge [_{CP} who John saw]]
b. [_{NP} PRO knowledge] [_{CP} who John saw]

The label of (32b) forces *of*-insertion as a repair operation to apply, so that the example of (28) involves obligatory *of*-insertion.

7. CONCLUSION

In this paper, I have discussed a certain type of *of*-insertion. Apparently, this type of *of*-insertion is optional. However, the present proposal implies that the optionality of the *of*-insertion is reduced to the free application of Merge coupled with the repair operation responsible for labeling algorithm in syntax. In this sense, this paper has a great contribution to understand the optionality of the linguistic theory.

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NOTES

¹ One might wonder how the label of the whole phrase in (13) is determined technically as ϕ -features. Chomsky (2013) assumes that mere matching of the prominent feature does not suffice for the label; the agreement relation is necessary between the probe and its goal. The ϕ -features of the nominal and the ϕ -features of the appositive *wh*-clause in (13) seem to be both interpretable; there seems to be no agreement relation between them. I will leave this issue for further research.

² The present analysis assumes that the ϕ -features of the appositive *wh*-clause are not visible to the label at first. In order to be visible, the ϕ -features need to move to the edge of the clause, which is pronounced as *of*. This argument predicts that a sentence like (12) should involve *of*-insertion because the ϕ -features of the appositive *wh*-clause enter into an agreement relation with the verb. However, *of* cannot be inserted:

- (i) *Of [whether he should be found guilty] is crucial.

³ Akiko Nagano (personal communication) points out that a similar argument applies in Japanese nominal compounds. In Japanese, a linking element *no* 'of' appears in a certain compounds: it does not appear in syntactic compounds constructed by a head and its argument, whereas it appears in modificational compounds and coordinate compounds constructed by a head and its adjunct.

⁴ Jespersen (1927) provides evidence for *of*-insertion in this type of sentence:

- (i) [That his treatment of Old Tom was sound], he presently had proof *(of).

(Jespersen (1927: 30))

Furthermore, my informants have pointed out to me that this *of* cannot be omitted. I will leave this issue unresolved in the present paper.

⁵ Jason Ginsburg (personal communication) informs me that *of*-insertion can apply in (24), though *of* has the same meaning as *about*. One of my informants, who is an American, has said the same thing. The other informant, who is a British person, has judged the sentence with *of*-insertion to be bad. Quirk, Greenbaum, Leech, and Svartvik (1985) shows that a sentence like (24) is grammatical even

with *of*-insertion. By contrast, Huddleston and Pullum (2002) shows that a sentence of this type cannot involve *of*-insertion. This issue may have to do with the difference between American English and British English or the historical difference.

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英語の動詞 *sigh* の意味論 (The Semantics of the Verb *Sigh*)

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キーワード：英語の動詞 *sigh*、呼吸ドメイン、
プロファイル

1 はじめに

英語の動詞 *sigh* に対して英英辞典が与える語釈は2種類に大別できる。息の出入りに関して〈吸う〉と〈吐く〉の両方を含む語釈(1)と〈吐く〉のみを含む語釈(2)である。

- (1) to take and then let out a long deep breath that can be heard, to show that you are disappointed, sad, tired, etc[.]
(OALD 8, s.v. *sigh*; cf. LDOCE 6)
- (2) When you sigh, you let out a deep breath, as a way of expressing feelings such as disappointment, tiredness, or pleasure.

(COBUILD 7, s.v. *sigh*; cf. CALD 4, MED 2)

タルミーによるアスペクト分類によれば、(1)は full-cycle に相当し、(2)は one-way resettable に相当する (Talmy 2000a: 63-64; 2000b: 67-69)。

そして、(1, 2)それぞれに、それを支持する証拠が見つかる。

- (3) a. You just sighed three times in a row.
(K. Scott, *This Is So Not Happening*)
b. He kept sighing. (Talmy 2000a: 48)
- (4) a. He {breathed in/inhaled} and (then) sighed.
b. He {breathed out/exhaled} and (then) sighed.

(3)は *sigh* の繰り返しを表す表現である。ここで繰り返されているのは、吸って吐くことであり、吐くことではない。(3)によれば、*sigh* は〈吸

う〉と〈吐く〉の両方を表すようにみえる。(4a, b)は、息を吸ってため息をつくか、息を吐いてため息をつくかで異なる。共に容認される文だが、興味深いことに、(4a)の方が(4b)に比べてより慣習的な言い回し、特別な文脈を必要としない表現のようである。*sigh* が〈吐く〉を表すとなると、自然な呼吸の仕方(吸う、吐くの繰り返し)に合致するのは(4a)になる。*sigh* が〈吸う〉と〈吐く〉の両方を表し、〈吸う〉で始まるとすると、自然な呼吸の仕方に合致するのは(4b)になる。(4b)に比べて(4a)の方が慣習的であるという事実を捉えようとすれば、*sigh* が〈吐く〉のみを表すと考えるのが理に適う。*sigh* は「〈吸う〉と〈吐く〉」なのか「〈吐く〉」なのか。本稿では、二つの見方を統合する方途を探る。

ここで、タルミーの言う full-cycle と one-way resettable について補足しておこう。

- (5) a. *The beacon flashed and then went off.
[full-cycle]

- b. He fell and then got up.
[one-way resettable]
(Talmy 2000a: 63; 2000b: 68)

full-cycle は、逆方向の状態変化(たとえば、flash であれば、「明かりが点く」(暗い状態から明るい状態への変化)と「明かりが消える」(明るい状態から暗い状態への変化))を併せ持つものである(*sigh* が〈吸う〉と〈吐く〉から成るのであれば、full-cycle になる)。*one-way resettable* は、一方向的な状態変化(たとえば、fall であれば、立っている状態から立っていない状態への変化)を表し、繰り返すことができるものである(*sigh* が〈吐く〉のみから成るのであれば、one-way resettable になる)。

タルミーによれば、The beacon flashed. と He fell. は、反対表現 (expressions of reversal) (上掲の例の and then 以下の表現)と共起するか否かで異なる。(5a)は、暗い状態から暗い状態への変化を表すことになり、容認されない。

本論に入る前に、(6)のデータと、それに対するクロフトの解説(7, 8)を頼りに、研究対象となる言語データの性質について確認しておこう。

- (6) a. Jack ate₁ (= consume) a pizza with Jill.

b. Jack ate₂ (= dine) lunch with Jill.

(Croft 1998: 169)

(6a)と(6b)は共に容認される表現だが、それぞれ動詞の意味が異なる。それと連動して、目的語の表す意味も異なる。(6a)の a pizza は「食べ物」を表す目的語であり、(6b)の lunch は「食事」を表す目的語である。共に容認される表現だが、(6a)が使用されることはほとんどない。食事相手を表す表現 (with Jill) が使われるのは、食事をとるという意味の eat₂ が食事を表す目的語をとる場合のみであるというのがクロフトの観察である。詳細は、次の(7, 8)を参照されたい。

- (7) [T]he syntactic collocates of *eat* 'consume' (with a type of food as direct object) and of *eat* 'dine' (with the name of a meal as direct object) are distinct: the comitative argument (referring to a fellow eater) occurs only with the latter use in the corpus. That is, one finds sentences of the type *Jack ate lunch with Jill* but not *Jack ate a pizza with Jill*, although the latter would be judged grammatical on introspection. (Croft 1998: 169)
- (8) Most English-speaking linguists would not reject a sentence such as *I ate a pizza with Carol* as unacceptable. But it appears that one would rarely if ever actually say such a thing. . . . Grammatical unacceptability is only a weak indicator of the actual grammatical patterns in language use that tell us about the semantics of the words and constructions of the language.

(Croft 2009: 18)

より一般化した形で述べると、容認される表現には、よく使用される表現からほとんど使用されない表現まで、さまざまある。容認されるからといって、使用されるとは限らない。よく使用される表現とそうでない表現を識別し、両者の違いを説明しようとするならば、容認性の判断以外のデータを頼みとする必要がある (cf. Taylor 2012: 9-13)。

そこで、クロフトが利用した 200 万語から成るコーパスよりも規模の大きい 1 億語から成るコーパス (BNC) を検索してみると、食事相手を表す表現と食べ物を表す表現が共起する例 (動詞

は eat₁) は、(9)にあげてあるように確認できる。とはいえ、この種の例は 2 例にすぎず、食事相手を表す表現と食事を表す表現が共起する例の方が多く見つかる。(10a, b)を参照されたい。

- (9) a. [She] ate₁ **peanut-butter sandwiches with her children**[.] (BNC, ACS 879)
b. He ate₁ **pork chops in tomato sauce with us** that evening[.] (BNC, FAT 725)
- (10) a. Eater_{SBJ} eat Food Item_{OB} with Co-Eater_{OBL}
BNC では 2 例
b. Eater_{SBJ} eat Meal_{OB} with Co-Eater_{OBL}
BNC では 9 例

ある表現が見つかるか否か、あるいは、どの程度見つかるかは、コーパスの規模による。ここでは、ある表現が容認されるか否かではなく、よく使用される表現とあまり使用されない表現の違いを意味あるものと見なし、これを説明の対象とし、必要に応じてウェブ (特に Google Books) をコーパスとして利用する。

2 sigh の意味構造

本稿では、sigh が表す意味の一部 (physical domain に関わる意味) は呼吸ドメインとプロファイルにより捉えられることを論証する (Taylor 2003: 87-90 の Monday の分析を参照)。具体的には、①呼吸ドメインは〈吸う〉と〈吐く〉をまとまりとする単位の繰り返しから成り (ただし、最後は〈吸う〉)、②sigh は呼吸ドメインを構成する単位の一部である〈吐く〉をプロファイルする。(cf. inhale, breathe in, yawn, gasp, etc.) これを図式化すれば、(11)のようになる。(11a)は呼吸ドメインを表し、(11b)は sigh の意味構造を表す。(12)に示してあるのは、吸うと吐くの単なる繰り返しである。これは、ここで退けられる考え方である。

- (11) a. [〈吸う〉 - 〈吐く〉] … [〈吸う〉 - 〈吐く〉] … [〈吸う〉 - 〈吐く〉] - 〈吸う〉
b. [〈吸う〉 - 〈吐く〉] … [〈吸う〉 - 〈吐く〉] … [〈吸う〉 - 〈吐く〉] - 〈吸う〉
- (12) … 〈吸う〉 - 〈吐く〉 - 〈吸う〉 - 〈吐く〉 - 〈吸う〉 - 〈吐く〉 …

以下では、まず、(11a)の呼吸ドメインを例証する。その過程で、呼吸ドメインが(12)のような、

単なる〈吸う〉と〈吐く〉の繰り返しから成るのではないことを確認する。次に、*sigh* が呼吸ドメインの一部をプロファイルすることを示す。

呼吸ドメインについて論じるにあたり、まず、呼吸に関する基本語 *breathe* が呼吸ドメインを反映すると仮定する。(13)に示すように、*sigh* については対立していた2つの辞書が、*breathe* については、ほぼ同様の語釈を与えている。

- (13) a. to take air into your lungs and send it out again through your nose or mouth[.] (OALD 8, s.v. *breathe*)
b. When people or animals breathe, they take air into their lungs and let it out again. (COBUILD 7, s.v. *breathe*)

(13a, b)は、どちらも *breathe* が〈吸う〉と〈吐く〉から成ることを示している。

これと併せて、*breathe* が繰り返しを表すという母語話者の直観により、呼吸ドメインが〈吸う〉と〈吐く〉の繰り返しから成ることが確認できる (cf. Talmy 2000a: 49, 63; 2000b: 68)。

さて、呼吸ドメインの身体的基盤であると考えられる呼吸運動は、吸う、吐くを繰り返すのが自然であり、吸うのを繰り返したり、吐くのを繰り返したりするのは自然ではない (cf. Hewitt-Taylor 2011: 60)。これを反映して、吸うと吐くの等位接続表現は、吸うと吸うや、吐くと吐くの等位接続表現よりも多く見つかる。

(14-16)は、BYU-BNC (Davies 2004-) と COCA (Davies 2008-) を調査した結果である (以下、コーパスは 2014 年 9 月 15 日に参照)。

- (14) a. breathe in and (breathe) out [13, 83]
b. inhale and exhale [3, 61]
(15) a. breathe in and (breathe) in [0, 0]
b. inhale and inhale [0, 1]
(16) a. breathe out and (breathe) out [0, 0]
b. exhale and exhale [0, 0]

角括弧内の左側には BYU-BNC での数、右側には COCA での数を記してある。(14)は吸って吐くを表す表現で、BYU-BNC と COCA を合わせると 160 になる。(15)は吸って吸うで、両方を合わせても 1、(16)は吐いて吐くで、0 である。

呼吸ドメインは、典型的な呼吸の仕方を表す。

そこから逸脱するものは非典型的な呼吸であり、そのような呼吸の仕方を描写する表現は特別な文脈を必要とし、典型的な呼吸の仕方を描写する表現と比べてあまり用いられず、用いられる際には特別な意味をもつことになる。以下、(17a, b)にあげる例は、それぞれ、吸うのを繰り返す表現と、吐くのを繰り返す表現である。

- (17) a. Being misunderstood is like having to breathe in and in and in again with no out-breath. The lung hurts and the sorrow can become a physical pain.
(T. M. Finser, *Organizational Integrity*)
b. When we make a non-stop dash toward recovery from a disaster, it's like breathing out and out and out and out—until one has to gasp for air! God can breathe out and out and out the breath of life, but we who are not the Creator were created to breathe in as well as out.

(G. L. Harbaugh, *Act of God/Active God*)

(17a, b)が示すように、自然でない呼吸の仕方を表す表現は、好ましくないことを表すのに用いられる。これは、心の乱れが呼吸の乱れにつながることによる。心のあり方と呼吸のあり方は換喩的な関係にあるといえる (contra Fesmire 1994)。

次に、呼吸ドメインが〈吸う〉と〈吐く〉を単位 ([〈吸う〉 - 〈吐く〉]) とする根拠を述べよう (cf. Talmy 2000a: 63; 2000b: 68)。

まず、(18)にあげるような語があることそのものが、〈吸う〉と〈吐く〉がまとまりを成すことを示している (なお、*suspire* には *sigh* の意味もあり、呼吸とため息の接点となっている)。

- (18) breathe, respire, suspire

また、(19)のような、a *breath cycle* や a *breathing cycle* という表現 ([〈吸う〉 - 〈吐く〉]) というまとまりを表す) の存在も、ここでの主張の裏付けとなる。

- (19) a. During quiet respiration, about 40% of a **breath cycle** is devoted to inspiration, and expiration takes up about 60% of the cycle. (J. Kreiman and D. Sidtis,

Foundations of Voice Studies)

- b. [I]nstruct the client to attempt to stretch out a **breathing cycle** to a count of about 8 seconds. This can be 4 or 5 seconds breathing in and 3 or 4 breathing out. (D. H. Barlow and J. A. Cerny, *Psychological Treatment of Panic*)
- c. A **respiratory cycle** is a single cycle of inhalation and exhalation. (F. H. Martini, *Anatomy and Physiology*)
- d. [T]he verb *breathe* suggests greater fusion across **its inhalation-exhalation cycles** than does the locution *take breaths*.
(Talmy 2000a: 57)

さらに、〈吸う〉を表す表現と〈吐く〉を表す表現は概念的にまとまりを成す。(20a, b)の回数表現は〈吸う〉と〈吐く〉の合計を表すが、これは、(21a, b)における回数表現が合計を表すのと並行的である。

- (20) a. She *breathed in*, *breathed out* three times before climbing the half-repaired steps and going into the house.
(N. Roberts, *Sea Swept*)
- b. We breathe a lot. At rest we inhale and exhale about 12 times per minute on average. So, someone who's 20 years old has already taken 126,144,000 breaths. That's a lot of breaths.
(J. Reynolds, *Trumpet for Dummies*)
- (21) a. Before he left for London in 1737, Johnson had tried and failed three times to become a schoolteacher. (C. N. Parke, *Samuel Johnson and Biographical Thinking*)
- b. He was released at age thirty-nine after spending almost half his life in prison, tried and convicted three times for a crime he didn't commit.
(I. G. Goldman, *Sick Justice*)

また、次の(22)は、〈吸う〉と〈吐く〉が慣習的に1つとして数えられることを示している。

- (22) a. Count one inhalation and one exhalation as one respiration. (B. R. Hegner, B. Acello,

and E. Caldwell, *Nursing Assistant*)

- b. Count one breath in and out as 1, the next breath in and out as 2, and so on. (G. Andrews et al., *The Treatment of Anxiety Disorders*, 2nd ed.)

ここで少し観点を変えて、*breath* という名詞を観察してみよう。*breath* は〈吸う〉と〈吐く〉の両方を表したり〈吸う〉や〈吐く〉を表したりする。

- (23) a. She stood for a moment, hardly able to draw breath, hardly able to think.
(P. Wentworth, *Girl in the Cellar*)
- b. [C]lose your eyes, take a deep breath, and slowly as you let your breath out, say, "Thank you, Lord." (D. Vaughan, *Do You Know How to Pray As You Should?*)

(23a)の *draw breath* の *breath* は吸って吐くことを表し、(23b)の *take a deep breath* の *a breath* は吸うこと、*let your breath out* の *breath* は吐くことを表す。これは、モノ化の対象が〈吸う〉と〈吐く〉から成る〔〈吸う〉－〈吐く〉〕であると考えることにより説明できる事実である。

ここで、繰り返しの単位を〔〈吸う〉－〈吐く〉〕と考え、〔〈吐く〉〕－〔〈吸う〉〕と考えないのは、吸って吐くという表現が、吐いて吸うという表現よりも多く見つかるという事実による (cf. Cooper and Ross's (1975: 67) "Me First" principle)。概念的に、まとまりを成す単位が〔〈吸う〉－〈吐く〉〕であると考えれば納得のゆく事実である。

以下、(24, 25)に BYU-BNC と COCA の検索結果をあげておく (表記については、前掲のデータと同様である)。

- (24) a. breathe in and (breathe) out [13, 83]
b. inhale and exhale [3, 61]
- (25) a. breathe out and (breathe) in [1, 3]
b. exhale and inhale [0, 2]

(24)は(14)で確認したものと同一、吸って吐くのデータで合計 160 である。他方、(25)に示すように、吐いて吸うのデータは合計 6 である。次の(26)はこの結果を裏付けるデータである。

- (26) in and out/??out and in (Ariel 2010: 44)

さらに、呼吸に関して(27)のような助言がされるのも、通例は〔〈吸う〉－〈吐く〉〕が単位

であることを示していると理解できる。

- (27) Try starting each breath cycle with an exhalation. Rather than breathing in and breathing out, switch to “breathe out, breathe in.” Close your eyes and repeat to yourself several times: “Breathe out, breathe in.”

(Scheinbaum 2012: 45)

次に呼吸ドメインの始まりと終わりについて確認しておこう。英語には(28a, b)のような慣用的な言い回しがある。

- (28) a. draw one's first/last breath
b. The moment we take our last breath on earth, we take our first breath in heaven.

(H. Lockyer, *All the Promises of the Bible*)

one's first breath は生まれ出た時の息を表し、one's last breath は亡くなる時の息を表す。(28a)だけでは息の出入りに関しては不分明だが、(28b)によれば、どちらも吸うであることがうかがわれる (cf. take a deep breath)。

さらに、draw one's first breath や take one's last breath が使われるのと同様の文脈で take one's last gasp という表現が使われる。gasp は吸気を表すので one's last breath についても同様に考えてよいであろう。以下、(29)に、最初と最後がいずれも吸気であることが確認できるデータをあげておく。

- (29) a. A newborn baby takes in a long deep breath, and as it exhales, its life on Earth begins. Likewise, when it is time to die, we take one last gasp for air before death occurs. From the first breath to the last breath, to breathe is to live.

(M. Seidman, *Balancing the Chakras*)

- b. The baby may draw its first breath as soon as the chest is freed, or when the entire baby emerges. There is a pause, the lungs then inflate, and with the first exhalation breath may make a sound or cry as the air passes through the vocal cords. (C. A. Bean, *Methods of Childbirth*)

以下では、sigh が呼吸ドメインを構成する〔〈吸う〉－〈吐く〉〕という単位の〈吐く〉を

プロファイルすることを論じてゆく。まず、sigh が〈吐く〉の意味をもつという点では、上で参照した2種類の英英辞典は一致している（さらに、sigh が uniplex で punctual aspect を表すことについては Talmy 2000a: 48, 2000b: 281 を参照）。sigh が〈吐く〉をプロファイルするのは、ため息の呼気が普段の呼気より長く、音を伴うため、注意を引くことがその契機となる。

また、(30)が示唆するように、呼吸にかかわる一連の語（すなわち、呼吸ドメインに基づいて捉えられる一連の語）は息の出入りという点で対立している。息の出入りというのは、呼吸にかかわる動詞を捉えるのに有意義な観点である。sigh は〈吐く〉をプロファイルするという点で、〈吸う〉をプロファイルする yawn や gasp などと対立する。

- (30) Explain each of the following in terms of breathing in and out: a yawn, a gasp, a cough, a sigh, a laugh.

(M. Roberts and N. Ingram, *Biology*, 2nd ed.)

ところで、ある種のドメインは、その構成要素の間に順序の概念を含んでいる。そのようなドメインを背景とし、構成要素のプロファイルによって捉えられる語には順序がある。たとえば、曜日は週のドメインを背景とし、週のドメインには順序がある。そして、曜日はその順序に従う形で把握される。この順序は、(31)のようなテストによって確認できる。(31a)は週のドメインに合致するが、(32b)は合致しない。

- (31) a. Sunday {is followed by/comes before} Monday.

- b. ??Monday {is followed by/comes before} Sunday.

これと同様のことが呼吸ドメインについても言え、吸って吸うこと、吐いて吐くことは、呼吸ドメインに合致しないことになる。

さて、ここで話を sigh に戻すと、通例、この動詞は punctual aspect を表すとされる。たとえば、Talmy (2000b: 281)は She sighed at exactly 3:00.といった例により、それを例示している。語彙的アスペクトの観点からは確かにそうであるが、sigh が表すため息の意味（すなわ

ち、sigh のプロファイル) は広がりをもつといった側面もある。(32a)では sigh が深さに由来する程度副詞を伴っており、(32b)では sigh が継続時間表現 for a few seconds を伴いながら、繰り返してなく、長いため息を表している (cf. He coughed for a few seconds.). そして、(33) はため息の 3 つの局面について指摘している。

- (32) a. He sighed {deeply/shallowly}.
(cf. He heaved a {deep/shallow} sigh.)
b. Charlie then sighed for a few seconds before continuing to ponder.
(J. Green, *Mind Diversion*)
- (33) Every sigh has a beginning, middle, and end with a stress somewhere along the timeline. (Stern 2010: 142)

それでは、sigh が広がりをもつとすれば、どのような内部構造をもつのだろうか。以下では、sigh が〈吐く〉で始まり〈吐く〉で終わることを明らかにする。sigh が〈吐く〉で終わることは、(34a, b)のデータによって確認できる。

- (34) a. He sighed and (then) {breathed in/inhaled}.
b. He sighed and (then) {breathed out/exhaled}.
(cf. Talmy 2000a: 63; 2000b: 68)

(34a, b)は共に容認されるが、sigh のあとに〈吸う〉が続く(34a)の方が、sigh のあとに〈吐く〉が続く(34b)よりも多く見つかる。(35, 36)は、Google Books (books.google.com) による検索の結果である。セーフサーチはオフにし、言語設定は英語とした (2014 年 9 月 15 日参照)。

- (35) a. sighed and (then) {breathed in/inhaled} 59 件
b. sighed and (then) {breathed out/exhaled} 20 件
- (36) a. sighed and (then) {breathed in/inhaled} deeply 20 件
b. sighed and (then) {breathed out/exhaled} deeply 2 件

以上の結果は、sigh が〈吐く〉で終わるのであれば、予想される結果である。(35a)では〈吐く〉のあとに〈吸う〉が続き、呼吸ドメインに合致

するが、(35b)では〈吐く〉のあとに〈吐く〉が続き、呼吸ドメインに合致しない。呼吸ドメインに合致する方が多く生じるのは道理である。(36)においては、deeply という副詞が加わることにより、a の文と b の文の間の差は、(35)よりも、さらに大きくなる。(36b)が、(35b)と比べると、呼吸ドメインからの逸脱が大きくなるからである。

sigh が〈吐く〉で始まることは、(37a, b)のデータによって確認できる。これらは、(34a, b)の前後を入れ替えたものである(大槻まい氏による)。

- (37) a. He {breathed in/inhaled} and (then) sighed.
b. He {breathed out/exhaled} and (then) sighed.

ここでは、〈吸う〉のあとに sigh が続く(37a)の方が、〈吐く〉のあとに sigh が続く(37b)よりも多く見つかる。sigh が〈吐く〉で始まるのであれば、〈吐く〉よりも〈吸う〉のあとに多く生じるのは当然である。(38, 39)は、(35, 36)と同様、Google Books による検索の結果である。

- (38) a. {breathed in/inhaled} and (then) sighed 62 件
b. {breathed out/exhaled} and (then) sighed 23 件
- (39) a. {breathed in/inhaled} deeply and (then) sighed 116 件
b. {breathed out/exhaled} deeply and (then) sighed 7 件

(38a)は〈吸う〉のあとに〈吐く〉が続き、呼吸ドメインに合致するが、(38b)は〈吐く〉のあとに〈吐く〉が続き、呼吸ドメインに合致しない。そのため、(38a)の方が(38b)よりも多く生じる。deeply を付け加えた(39)において、a の文と b の文の間の差がさらに大きくなるのも、上と同様の理由による。

ここで、名詞の sigh を観察してみよう。この語は、上で確認した breath とは違い、〈吐く〉の意味しかもたない。この事実は、動詞の sigh が〈吐く〉をプロファイルするという考え方と調和するものである。

- (40) a. Mrs. Capps drew a sigh. . . . (cf. 23a)

(J. Stringfellow, *Faith Walks*)

b. Carl took a deep sigh. . . . (cf. 23b)

(P. M. Dubal, *Crimes against Humanity*)

c. [He] let a deep sigh out. (cf. 23b)

(R. Mellito, *The Halford Colony*)

(40a, b, c)は、それぞれ動詞が異なるにもかかわらず、いずれも、ため息をつくという意味を表す。

次の(41)は、*breath* と *sigh* が等位接続されている例である。それぞれ同じ動詞を共有しながら、くびき語法にならず、(23)と(40)で確認した通りの意味解釈がなされている。

(41) a. Rockwell drew a deep breath and a sigh of relief. (W. H. Schmalz, *Hate*)

b. Dan took a deep breath and a sigh.
(T. Harding, *Let's Go Get'em*)

c. He let out his breath and a sigh of relief.
(D. M. Cece, *The Rodeo Southwest*)

3 むすび

ここでは、呼吸ドメインが〔吸う〕-〔吐く〕という単位の繰り返しから成り、〔吸う〕で終わることを明らかにした。そして、*sigh* はその単位の〔吐く〕の部分のプロファイルする。つまり、〔吸う〕と〔吐く〕は非対称的な関係にある。英英辞典の *sigh* に関する2種類の語釈は、プロファイルに加え、呼吸ドメインの〔吸う〕を語釈に含めているか否かで異なるものと理解できる。

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付記

本稿は、日本英語学会第32回大会(2014年11月8日、9日、於 学習院大学)における研究発表に基づくものである。質疑応答の折、岩田彩志、柏野健次の両先生に有益なコメントをいただいた。また、中右実、廣瀬幸生の両先生には、草稿にお目通しいただき、ありがたいご助言と励ましのお言葉をいただいた。ここに記して感謝申し上げる。

英語史における場所句倒置構文の発達*
(The Development of Locative Inversion
Construction in the History of English)

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キーワード: 場所句倒置構文、V2 現象、
比較的豊かな一致形態素

1. 導入

(1)に示されるように、文頭に場所句があり、その後ろで主語と定形動詞が倒置した表層形を持つ文は場所句倒置構文(locative inversion construction、以下 LIC)と呼ばれ、これまで多くの共時的研究がなされてきた。

- (1) a. On the stage appeared a man.
(Coopmans (1989: 73))
b. In the swamp were found two children.
(Bresnan (1994: 95))

そして、それらの研究によって現代英語における LIC の統語構造は、かなりの程度明らかとなっている。他方で、(2)に示されるように、LIC は古・中英語において既に観察されるにもかかわらず、その通時的研究は極僅かしかない。¹

- (2) a. On þisum þrim stelum stynt se
on these three supports stood the
cynestol
royal-dwelling (colsigewZ,ÆLet_4_[SigewardZ]:1217.598: O4)
b. Of Anna wæs geboren Maria
from Anna was born Maria
(CMKENTHO,139.143: M1)

その上、古・中英語における LIC は暗黙のうちに単なる V2 現象の一例として済まされ、故に

詳細な言語事実に基づき、深刻に議論されてこなかったように思われる。そのため、古・中英語における LIC の統語構造については、実際のところ未解明の部分が多く、その歴史的発達の道筋も明らかとされていないのが現状である。そこで本論文では、歴史コーパスからの新たな言語事実を示しながら、現行の極小主義の枠組みの下、英語史の各段階における LIC の統語構造を提案する。そして、LIC 発達の全体的道筋を明らかにすることを目的とする。

2. 背景

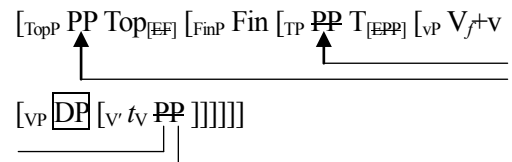
この節では、LIC の通時的分析の基盤となる、現代英語における LIC の分析、及び古・中英語における V2 の分析を概観する。

2.1. 現代英語における LIC

Koike (2013)は、Rizzi (1997)の分離 CP 仮説を採用しながら、現代英語における LIC は、2 タイプの統語構造を持つと主張する。

1 つ目のタイプは、(3)に示される統語構造を持ち、その主語 DP のスペルアウト位置から SpecVP タイプと呼ぶことにする。

(3) 現代英語における SpecVP タイプの LIC



Chomsky (2008)における「1 つのフェイズ内における異なる主要部による操作は同時に適用される」という考えの下、TopP フェイズにおいて T の EPP 素性と Top の末端素性が同時に探索する。これによって場所句 PP は、V の補部位置から SpecTP と SpecTopP の両方へ同時に移動する。²その後、各構成素のうち最高位のコピーのみが顕在的にスペルアウトされる。

さて、(3)では主語 DP は移動せず、故に基底位置である SpecVP でスペルアウトを受ける。このことは、実際に(4)において、主語 DP *Ian* が、v にある *emerged* と vP に右付加した *with*

句の間に現れている事実からも覗うことができる。

- (4) a. From the cottage emerged Ian with a spade, rubber boots and an enthusiastic expression.

(Levin and Rappaport Hovav (1995: 266))

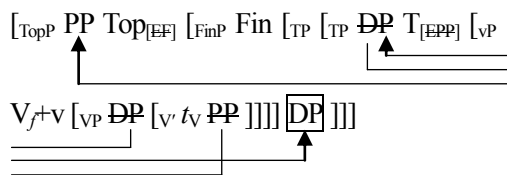
- b. [_{TopP} PP [_{FinP} [_{TP} PP [_{vP} [_{vP} emerged DP PP] with a spade, ... expression]]]]

(PP: from the cottage, DP: Ian)

そして、この分析は Bresnan (1994) 以来観察されてきた、このタイプにおける文頭場所句が持つ話題要素としてかつ統語的な主語としての二重の特性に原理的説明を与えられると論じている。

2 つ目は、(5) に示される統語構造であり、ここでは主語 DP が右方向へ重名詞句転移 (heavy NP shift, 以下 HNPS) を受けている点が特徴的である。このことに着目し、このタイプを HNPS タイプと呼ぶことにする。

- (5) 現代英語における HNPS タイプの LIC



T の EPP 素性が探索し、主語 DP を SpecTP へ牽引する。それから、主語 DP は HNPS を受け、TP に右付加する。他方で、Top の末端素性が探索し、場所句 PP を SpecTopP へ牽引する。その後、各々最高位のコピーのみが顕在的にスペルアウトされる。³

さて、このタイプの派生が可能であることは、(6) に示されるように、主語 DP *the traces of cities ...* が vP に右付加した付加詞 *over the last century* に後続する位置に現れている事例によって経験的にも裏付けられる。

- (6) a. Out of the mud-brick ruins of temples and ziggurats have emerged over the last century the traces of cities whose names evoke the rise of human civilization.

(Levin and Rappaport Hovav (1995: 266))

- b. [_{TopP} PP [_{FinP} [_{TP} [_{TP} DP have [_{vP} [_{vP}

emerged DP PP] over the last century]]

DP]]]

(PP: out of the mud-brick ... ziggurats, DP: the traces of ... civilization)

加えて、この分析は Culicover and Levine (2001) が観察するように、このタイプにおける文頭場所句は話題性だけを持ち、他方で、主語 DP は重いものに限られるという事実を正しく捉えられると主張している。

本論文では、現代英語における、これら 2 タイプを LIC 発達の到達点として見据えながら、次節以降では古・中英語に話を移していく。

2.2. 古・中英語における V2 現象

古・中英語がもつ主要な特性の 1 つに、定形動詞が 2 番目の位置を占めるという、動詞第二位 (verb second, 以下 V2) 現象と呼ばれる現象がある。この現象に関する先行研究の中でも Nawata (2009) は、話題要素で始まる V2 構文に (7) の構造を与えている。

- (7) [_{TopP} Topic Top [_{FinP} V [_{TP} Subj T [_{vP} ...]]]] (cf. Nawata (2009: 262))

主語は SpecTP、話題要素は SpecTopP を占める。定形動詞は、これから 4 節において詳述されるように、豊かな一致形態素との関連において Fin まで主要部移動する。こうして、話題要素+動詞+主語という V2 の倒置語順が生成される。ある人は、T-to-Fin 移動の結果、倒置が起こっていることに目をつけ、古・中英語における LIC も (7) の構造で事足りると考えるかもしれない。しかし Nawata (2009) によっても注意が喚起されるように、この分析を単に LIC に適用しただけでは不十分である。なぜなら、仮にも古・中英語における LIC が (7) の構造のみであったとすると、V2 現象、即ち T-to-Fin 移動の消失後、話題要素+主語+動詞という語順になり、倒置語

順を持つはずの LIC は消失したと誤って予測してしまうからである。これと同時に、T-to-Fin 移動の消失後も、なぜ LIC は依然として倒置構文として存在しているのかという疑問が生じる。そこで次節では、古・中英語における LIC について 3 タイプの統語構造を提案することで、これらの問題・疑問の解決を試みる。

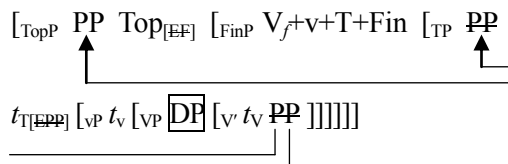
3. 古・中英語における LIC

この節では、主語 DP のスペルアウト位置に着目しながら、古・中英語における LIC について 3 タイプの統語構造を提案する。

3.1. SpecVP タイプ

1 つ目は、(3)と同様に、主語 DP が SpecVP に留まるタイプである。

(8) 古・中英語における SpecVP タイプの LIC



T の EPP 素性と Top の末端素性が探索し、場所句 PP を SpecTP・SpecTopP の両方へ同時に牽引する。他方で、定形動詞は豊かな一致形態素を引き金として、Fin まで主要部移動する。最後に、各々最高位のコピーのみが顕在的にスペルアウトされ、場所句 PP+定形動詞+主語 DP という V2 の倒置語順が生成される。

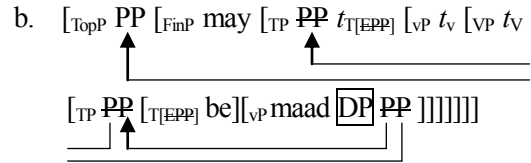
(8)の構造を、経験的な事実と照らし合わせながら検討する。まず、場所句 PP が SpecTP を占める証拠としては、(9)において LIC が *may* という法助動詞と共起しているという事実が挙げられる。Roberts (1993)と共に、法助動詞は 16 世紀以前では繰り上げ動詞であったことを考えると、(9)の文頭場所句 *of þis trewþe* は所謂「主語繰り上げ」を受けていることになる。このことは循環的な A 移動を使って、本分析の下 (9b)のように説明される。

(9) a. Of þis trewþe may be maad sych
from this truth may be made such

a good resound

a good reason

(CMWYCSE, 267.719: M3)



(PP: of þis trewþe, DP: sych a good resound)

埋め込み節の T の EPP 素性によって、PP は埋め込み節 SpecTP へ移動する。さらに主節の T の EPP 素性によって、PP は主節 SpecTP へ移動する。他方で、Top の末端素性によって、PP は SpecTopP へ牽引される。それから、SpecTopP にある最高位の PP コピーのみが顕在的にスペルアウトされ、(9a)の表層語順が生成される。このように、場所句 PP は A 位置である SpecTP へ移動しているからこそ、不適性移動(improper movement)とならずに、さらに主節への A 移動を受けることができる。⁴

さて、主語 DP が SpecVP に留まる点は、(10)によって経験的にも裏付けられる。(10)では、比較的短い主語 DP *nan winter* が、否定副詞 *næfre* に後続している。

(10) a. On Egypta lande ne cymð næfre nan
on Egypt's land not comes never no
winter
winter

(cotempo, ÆTemp: 4.53.185: O3)

b. [TopP PP [FinP ne cymð [TP PP [VP næfre [VP DP PP]]]]]

(PP: on Egypta lande, DP: nan winter)

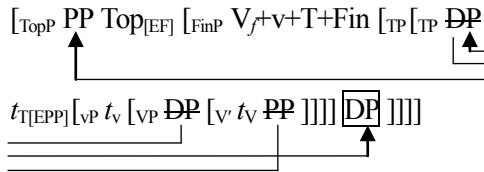
Biberauer and Roberts (2010)に従い、否定副詞は英語史を通じて vP の左側に付加していると仮定すると、(10b)に示されるように、主語 DP は派生の間中、動詞句内部に留まることで *næfre* に後続する位置でスペルアウトを受ける。

3.2. HNPS タイプ

2 つ目は、(5)と同様に、主語 DP が HNPS を

受けるタイプである。

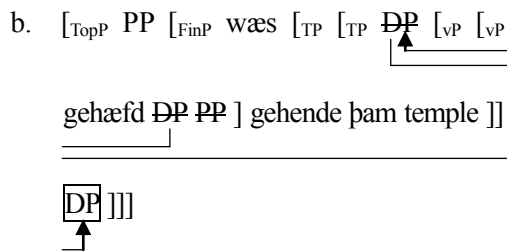
- (11) 古・中英語における HNPS タイプの LIC



T の EPP 素性によって、主語 DP は SpecTP へ移動し、その後 HNPS を受けて TP に右付加する。他方で、Top の末端素性によって、場所句 PP は SpecTopP へ牽引される。それから定形動詞は Fin まで主要部移動し、こうして V2 の倒置語順が生み出される。

Pintzuk and Kroch (1989)によると、HNPS は古英語の頃から利用可能であり、そして、このことは、(12)の LIC においても観察される。(12)では、主語 DP *a wundorlic wæterscipe ...* は累加的な付加詞 *gehende þam temple* を跨いで文末へ転移されている。

- (12) a. On þære byrig wæs gehæfd, gehende
on the burg was retained near
þam temple, an wundorlic wæterscipe,
the temple a wonderful water-body
Bethsaida gehaten
Bethsaida called
(coaelhom,ÆHom_2:10.250: O3)

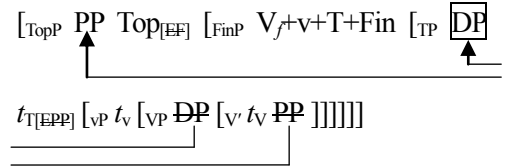


(12b)が示すように、付加詞 *gehende þam temple* は vP に右付加していると仮定すると、主語 DP はそれを越えて右方へ移動することで、この付加詞に後続する位置でスペルアウトを受ける。当該の DP は、音韻的に長いことを考慮すると、この右方移動は、古英語の他の所でも見られる HNPS と想定するのが妥当であろう。

3.3. SpecTP タイプ

3つ目は、V2に基づく構造であり、その主語 DP のスペルアウト位置から SpecTP タイプと呼ぶことにする。

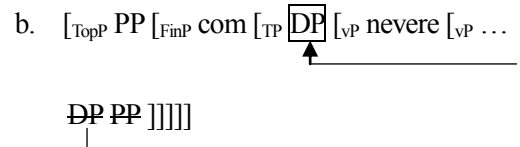
- (13) 古・中英語における SpecTP タイプの LIC



主語 DP は SpecTP へ移動し、他方で場所句 PP は SpecTopP へ移動する。それから、定形動詞は Fin まで主要部移動する。

さて、(13)の派生が可能であったことは、(14)の事例によって裏付けられる。

- (14) a. In hiȝe halle of hevene com he nevere
in high hall of heaven comes he never
(CMPOLYCH,VI,185.1324: M3)



(PP: in hiȝe halle of hevene, DP: he)

(14b)が示すように、主語 DP は本分析に沿って SpecTP へ移動することで、否定副詞 *nevere* に先行する位置でスペルアウトを受ける。さらに(14)では、主語 DP が代名詞であることに注目する。動詞句内部の要素は核作用域(大まかには焦点領域)へ写像されること(cf. Diesing (1992))、そして、HNPS は転移された要素を焦点化すること(cf. Rochemont and Culicover (1990))を踏まえると、旧情報を表す代名詞は焦点となれず、故に vP/VP 内部に留まることも HNPS を受けることもできないと考えられる。すると(14)は SpecVP タイプでも HNPS タイプでもない、もう1つ別のタイプの LIC の存在を示唆し、ここでの V2 に基づく派生を支持している。

この3節をまとめると、古・中英語の LIC について SpecVP タイプ・HNPS タイプ・SpecTP タイプという3タイプの統語構造を提案した。

4. 豊かな一致仮説

(15)に示されるように、古・中英語は比較的豊かな動詞一致形態素を持っていた。

- (15) 古・中英語における比較的豊かな動詞一致形態素

	present		past	
	sg	pl	sg	pl
1	-e	-en	-de	-den
2	-st	-en	-dst	-den
3	-th	-en	-de	-den

(cf. Nawata (2009: 269))

文献では「豊かな一致仮説」の名の下に、定形動詞の Fin や T への移動を、これらの一致形態素と関連付ける一群の先行研究がある。これらの筋に沿って、3 節において、定形動詞は Fin まで主要部移動すると主張してきた。

ところが、これらの一致形態素は後期中英語以降、段階的な水平化を受ける。初めに、複数一致形態素 *-en* は 14 世紀から 16 世紀にかけて消失したと言われている(cf. Nawata (2009))。すると、(16)に引用されるように、数の一致形態素が T-to-Fin 移動の存在を示す形態的手掛かりであったため、この形態素の消失と共に T-to-Fin 移動も消失することになる。

- (16) If a language has a distinctive number agreement morpheme, it exhibits the V2 word order (i.e. T-to-Fin movement).

(cf. Nawata (2009: 248))

T-to-Fin 移動の消失は定形動詞の位置に関する変化であるため、当然、主語と定形動詞の相対語順にも影響を与える。(17)は T-to-Fin 移動消失後の 3 タイプにおける主語 DP と定形動詞の構造配置を表している。

- (17) a. SpecVP タイプ

[_{TP} PP [_V]_{VP} +v+T [_{VP} ... [_{DP}] ...]]

- b. HNPS タイプ

[_{TP} [_{TP} ~~DP~~ [_V]_{VP} +v+T [_{VP} ...] [_{DP}]]

- c. SpecTP タイプ

[_{TP} [_{DP}] [_V]_{VP} +v+T [_{VP} ...]]

決定的なことに、他の 2 タイプと違って SpecTP

タイプでは、主語 DP は定形動詞に常に先行し、LIC に特徴的な倒置語順を生成できなくなっている。現に、SpecTP のタイプでは代名詞主語が現れることを見たが、そうした事例は(18)の M4 期を最後にそれ以降観察されなくなる。

- (18) In Samary deied he

in Samaria died he

(CMCAPCHR,34.71: M4)

こうして、SpecTP タイプは 14 世紀から 16 世紀にかけて消失したと結論付けられる。⁵

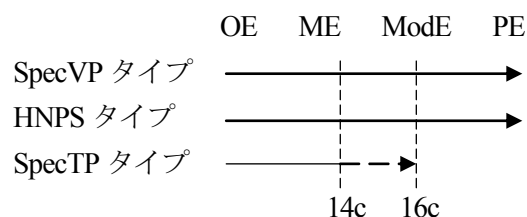
16 世紀以降、動詞一致形態素は、さらなる水平化を受け、17 世紀までに 2 人称一致形態素 *-(e)st* が消失した(cf. Görlach (1991))。この消失によって、過去時制では人称の区別が無くなる。すると、(19)において Roberts (2007)に従うと、T への動詞移動は人称による区別を形態的手掛かりとしていたため、この形態素の消失と共に v-to-T 移動は失われることになる。

- (19) If (finite) V is marked with person agreement in all simple tenses, this expresses a positive value for V-to-T parameter. (Roberts (2007: 137))

したがって、後期近代英語以降、定形動詞は v のみ移動するようになる。こうして、定形動詞の構造位置だけを変えながら、2 節で見たような形で SpecVP タイプ・HNPS タイプの 2 タイプが現在まで生き残ってきたのである。

これまでの議論に基づき、英語史における LIC 発達の道筋は(20)にまとめられる。

- (20) 英語史における LIC 発達の道筋



古・中英語では、SpecVP タイプ・HNPS タイプ・SpecTP タイプという 3 タイプの LIC が存在した。しかし、14 世紀から 16 世紀にかけて、T-to-Fin 移動の消失により SpecTP タイプでは倒置語順が派生されなくなったことで、SpecTP

タイプの LIC は消失した。他方で、残りの 2 タイプは、定形動詞の構造位置だけを変えながら、現在まで存続してきた。

5. 結語

本論文では、歴史コーパスからの新たな言語事実を示しながら、英語史における場所句倒置構文の発達を考察してきた。古・中英語では、SpecVP タイプ・HNPS タイプ・SpecTP タイプという 3 タイプの LIC が存在したと主張した。この分析は、とりわけ動詞後位の主語 DP が示す、他の構成素との語順のバリエーションを正しく捉えることができる。それから、初期近代英語にかけて SpecTP タイプは消失したのに対して、SpecVP タイプ・HNPS タイプは現在まで生き残ってきたと論じた。これによって、V2 現象消失後も、なぜ LIC は倒置構文として存在しているのかは、標準的な V2 タイプに加えて、SpecVP タイプ・HNPS タイプが元々存在し、それらが T-to-Fin 移動消失後も、その動詞移動に依存することなく倒置語順を生成できるからであるとして説明された。

* 本論文は日本英語学会第 32 回大会(2014 年 11 月 8 日、於学習院大学)における口頭発表原稿に加筆・修正を施したものである。本研究を進めるにあたって、大室剛志先生、田中智之先生、そして柳朋宏先生からは貴重な助言を頂いた。ここに記して感謝の意を表する。なお、本論文における誤りや不備は全て筆者の責任による。

注

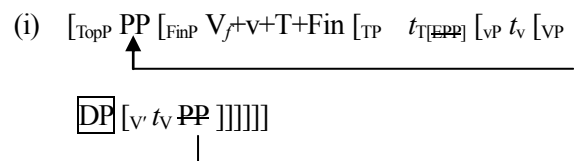
1. 本論文における古・中英語の事例は、The York-Toronto-Helsinki Parsed Corpus of Old English Prose (YCOE)・The Penn-Helsinki Parsed Corpus of Middle English, Second edition (PPCME2)から引用されている。

2. この分析の 1 つの利点は、SpecTP からの短距離の話題化を仮定せずに済むことである。短距離の話題化が不可能である点については、

Lasnik and Saito (1992)や Mikami (2010)を参照。なお、SpecTP への移動の際、場所句 PP は主語 DP を跨いで移動するが、それらは同じ V の最少領域内に存在し、T から等距離(cf. Chomsky (1995))であるため、この移動において局所性違反は生じないと考える。

3. (5)は Culicover and Levine (2001)によって提案された分析を最新の極小主義に合わせ、改良を施したものである。彼らの考えに沿って、主語の HNPS は TP 領域における操作であると想定されている。なぜなら、このタイプにおける場所句 PP は統語的な主語性を欠くことを考慮すると、主語 DP が T の EPP を満たすために SpecTP へ移動せざるを得ないからである。

4. LIC は法助動詞と共起し辛いため(cf. 鈴木 (1986))、古・中英語における PP の主語性については議論の余地がある。このことを考慮し、古・中英語における SpecVP タイプの LIC については、(i)の腹案を示唆しておく。



SpecTP は、何物によっても占められていない。他方で、T の EPP 素性は豊かな一致形態素を伴った定形動詞が T へ主要部移動する際に満たされる(cf. Alexiadou and Anagnostopoulou (1998), Tanaka (2002))。この分析の下では、豊かな動詞一致形態素が失われると、動詞に代わって何か SpecTP へ移動しなければならず、こうして (3)で見たように、場所句 PP が SpecTP を占めるようになったのである。

5. SpecTP タイプが消失したことは、現代英語において代名詞主語を含む LIC が、(直示的な場合を除き)非文であることから支持される。

(i) *Rose_i? Among the guests of honor was sitting she_i/her_i. (Bresnan (1994: 86))

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仮主語 *it* を伴う外置構文の派生について
(On the Derivation of Extraposition
Constructions with the Dummy *It*)

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キーワード：外置構文, 仮主語 *it*, 素性共有,
θ 素性

1. 導入

本論文では、(1a, b)に見られる仮主語 *it* と *that* 節を伴う外置構文の構造と派生について考察する。

- (1) a. It is obvious that the world is round.
[Type A]
(Akmajian and Heny (1975: 280))
b. It seems that Ralph already
skimmed the milk. [Type B]
(Napoli (1988: 326))

(1a)のような外置構文は連結動詞と NP または AP で構成される述部を持ち、(1b)のような外置構文は述部として連結動詞のみを含む。以下では、これら 2 種類の外置構文は異なる構造と派生を持ち、前者に現れる *it* は *that* 節の指定部に併合される指示代名詞であるのに対して、後者に現れる *it* は *that* 節とは独立して主節の TP 指定部に併合される虚辞であると主張する。便宜上、(1a)の外置構文をタイプ A、(1b)の外置構文をタイプ B と呼ぶことにする。

本論文は以下のように構成される。2 節では、タイプ A とタイプ B の外置構文に関する三つの統語的違いを概観する。3 節では、本論文で採用する理論的枠組みを提示する。4 節では、3 節で提案した理論的枠組みの下

で、2 種類の外置構文の派生を考察し、その派生により 2 節で概観した両者の統語的違いが説明されることを示す。5 節では、結論を述べる。

2. 2 種類の外置構文

2 種類の外置構文には、しばしば先行研究で指摘されているように、3 つの顕著な統語的違いがある。第一に、Napoli (1988)が指摘しているように、(2a)におけるタイプ A の外置構文では *it* が付加詞節の PRO をコントロールすることが可能だが、(2b)におけるタイプ B の外置構文ではそれが不可能である。(2a, b)のいずれも *that* 節を含むため、この対比は *it* の特性の違いを反映していると考えられる。

- (2) a. It_i's likely enough that John did it
[PRO_i to convince me that we
ought to question him]
b. *It_i seems enough that John died
[PRO_i to upset me]
(cf. Napoli (1988: 328-329))

第二に、(3)に見られるように、タイプ A の外置構文では *that* 節から *wh* 要素を抽出することはできないが、タイプ B の外置構文ではそれが可能である。

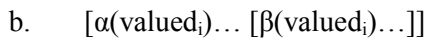
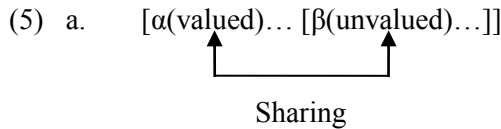
- (3) a. *Why did it seem miraculous
that John left? (Stroik (1996: 248))
b. How does it appear he got lost?
(Zaring (1994: 566))

第三に、Napoli (1988)が示唆しているように、(4a)におけるタイプ A の外置構文は文主語構文に言い換えられるが、(4b)におけるタイプ B の外置構文はそれが不可能である。

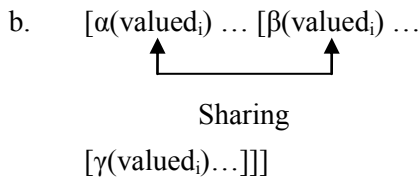
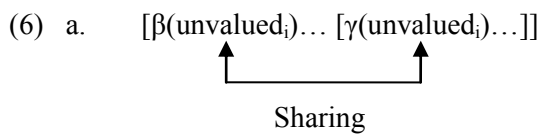
- (4) a. [That the world is round] is
obvious.
(Akmajian and Heny (1975: 280))
b. *[That Ralph already skimmed
the milk] seems.
(Napoli (1988: 326))

3. 理論的枠組み

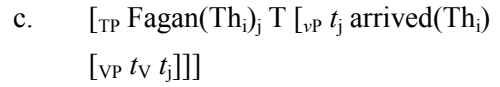
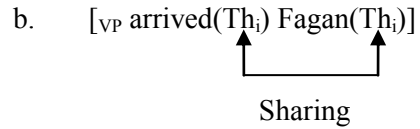
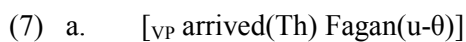
Pesetsky and Torrego (2007)等は Agree を素性の共有であると主張している。本節では、この素性共有の仕組みと素性を用いた θ 理論を組み合わせた新しい枠組みを提案する。まず、値を持つ素性と値未付与の素性の素性共有の一例として、(5)のような事例を提示する。



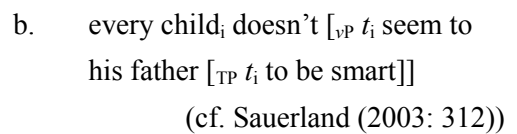
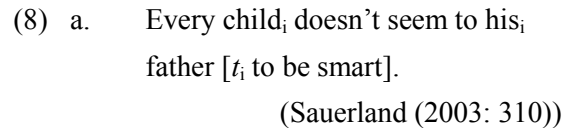
(5a)において、 α にある値を持つ素性が β にある値未付与の素性と Agree する。その結果、(5b)において、 α と β の素性の値が共有される(素性共有した素性は同一指標により示される)。このメカニズムでは、最終的に値を付与されるのであれば、値未付与の素性同士が Agree することも可能とされている。(6a)において、 β と γ にある値未付与の素性同士が Agree により素性を共有する。次に、(6b)において α が派生に導入されると、その値を持つ素性と β の値未付与の素性が Agree し、その結果 α 、 β 、 γ が同じ素性の値を共有することになる。



このような素性共有のメカニズムに Bošković and Takahashi (1998)や Hornstein (1999)等で提案されている素性に基づく θ 理論を組み合わせると、非対格構文の派生は(7)のようになる。



まず、(7a)において *arrived* と *Fagan* が併合し、VPを形成する。次に、(7b)において *arrived*にある Theme (以下、Th)という値を持つ θ 素性と *Fagan*にある値未付与の θ 素性 (以下、u- θ 素性)が Agree により値を共有する。この段階で *arrived* の θ 素性は既に放出されたと思われ、その他の項と素性共有することはできない。これは、素性に基づく θ 理論において θ 基準を再定式化したものである。最後に、(7c)において *Fagan* は主節の T の EPP 素性を満たすために TP の指定部に移動する。ここでは、Sauerland (2003)と Legate (2003)に従い、非対格構文の vP がフェイズであり、内項の A 移動が vP 指定部を経由すると仮定する。A 移動が非対格構文における vP の指定部を経由している証拠として、Sauerland (2003)は(8)のような再構築に関する事例を提示している。



(8a)のような繰り上げ構文において、主節の主語位置にある数量表現 *every child* は前置詞句 *to his father* 内の代名詞 *his* を束縛し、尚且つ否定の作用域内に含まれる解釈が可能である。この解釈は LF における再構築により得られると仮定し、Sauerland (2003)は(8b)の派生を提案している。(8b)では、*every child* は埋め込み節の TP 指定部から vP の付加位置を経由して主節の主語位置に A 移動している。この派生では、vP の付加位置における *every child* の再構築が可能となり、それが

代名詞を束縛し、尚且つ否定の作用域内に含まれる解釈が可能であることが説明される。さらに、Legate (2003)は A'移動もまた非対格構文の *vP* の付加位置を経由していると主張している。Legate (2003)によれば、(9a)のような受動態の動詞を含む文において、*wh* 句に埋め込まれている代名詞 *he* と指示表現 *Mary* はそれぞれ主節の主語 *every man* と文末の前置詞句内の代名詞 *her* と同一指示を持つ解釈が可能である。この解釈を得るには、*he* が *every man* に束縛され、尚且つ束縛条件 C に違反しないように *Mary* が *her* に構成素統御されない位置に *wh* 要素全体が再構築されなければならない。したがって、(9a)は(9b)の構造を持つと分析される。

- (9) a. [At which of the parties that he_i invited $Mary_j$ to] was every man_i introduced to her_j ?
 b. [at which of the parties that he_i invited $Mary_j$ to] $_k$ was every man_i [$_{VP} t_k$ introduced [$_{VP} t_V$ to $her_j t_k$]]?
 (cf. Legate (2003: 507))

(9b)では、*wh* 要素が *vP* の付加位置を経由して文頭に A'移動している。この派生では、*wh* 要素は *vP* の付加位置で再構築されることが可能であり、そこでは *he* が *every man* に束縛されることができ、尚且つ *Mary* は *her* に構成素統御されることはない。したがって、当該の表現間の同一指示関係が説明される。

これらの証拠から非対格構文の *vP* をフェイズであるとし、その補部である VP は(10)に示すフェイズ不可侵条件により外部からのいかなる操作も受けることはできないと仮定する。

- (10) The Phase Impenetrability Condition
 The domain of H is not accessible to operations outside HP; only H and its edge are accessible to such operations.
 (Chomsky (2001: 13))

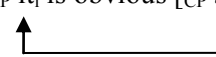
次節では、本節で仮定したメカニズムを用

いて、2 種類の外置構文の違いに原理的説明を与える。

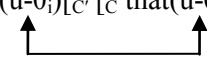
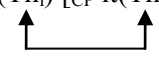
4. 説明

4.1. 派生

本節では、3 節の仮定に基づき、2 種類の外置構文の派生について考察する。Iwakura (2002)では、(11)に示すように、*that* 節の主要部 C が EPP 素性を持ち、それを満たすために *it* が CP 指定部に併合され、その後主節の TP 指定部に移動すると仮定されている。

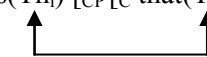
- (11) [$_{TP} it_i$ is obvious [$_{CP} t_i$ [$_{C'} that$ (~~EPP~~) [$_{TP} the world is round$]]]]
- 

この仮定に基づく、タイプ A の外置構文の派生は(12)のようになる。

- (12) a. [$_{CP} it(u-\theta_i)$ [$_{C'} [C that(u-\theta_i, \text{EPP})] \dots$]]
- 
- Sharing
- b. [$_{AP} obvious(Th_i)$ [$_{CP} it(Th_i)$ [$_{C'} [C that(Th_i, \text{EPP})] \dots$]]]
- 
- Sharing
- c. [$_{TP} it_j T$ [$_{VP} t_j$ [$_{V'} is$ [$_{VP} t_V$ [$_{AP} obvious$ [$_{CP} t_j$ [$_{C'} that \dots$]]]]]]]]]

まず、(12a)において CP 指定部に併合された *it* と C が Agree することにより、*it* と *that* 節の *u-\theta* 素性が共有される。次に、(12b)において *obvious* と *it* が Agree により θ 素性を共有し、その結果、*that* 節もまた同じ θ 素性を共有することができる。最後に、(12c)において *it* が主節の T の EPP 素性を満たすために、*vP* 指定部を経由して TP 指定部に移動する。

一方、タイプ B の外置構文の派生は(13)のようになる。

- (13) a. [$_{VP} seems(Th_i)$ [$_{CP} [C that(Th_i)] \dots$]]
- 
- Sharing

- b. [TP it(u-θ) T [VP seems [VP tV [CP that ...]]]]

まず、(13a)において *seems* と *that* 節が併合され、それらが Agree により θ 素性を共有する。しかし、(12)の派生とは異なり、*that* 節の主要部 C は EPP 素性を持たないため、*it* が CP 指定部に併合されることはない。次に、(13b)において主節の T の EPP 素性を満たすために、TP 指定部に *it* が直接併合される。フェイズ不可侵条件によると、この段階では既にフェイズ主要部の補部である VP はアクセス不可能であるため、*it* は *that* 節と Agree により θ 素性を共有することはできない。

4.2. 帰結

前節で提案された 2 種類の外置構文の派生により、2 節で見た両者の振る舞いの違いが原理的に説明されることを示す。第一に、コントロールに関する違いは、*it* の位置付けの違い、つまり、代名詞か虚辞かということに還元される。タイプ A の外置構文における *it* は、*that* 節と θ 素性を共有できるため、*that* 節を指す指示代名詞としての位置付けを持つことができるが、タイプ B の外置構文における *it* は、u-θ 素性に値付けがなされないため、虚辞としての位置付けを持つことになる。指示内容を持つ要素のみが PRO をコントロール可能であるということを考慮すると、(14a)に示すように、指示代名詞としての位置づけを持つタイプ A の外置構文における *it* が PRO をコントロール可能であり、(14b)に示すように、虚辞としての位置づけを持つタイプ B の外置構文における *it* はそれが不可能であるということが説明される。

- (14) a. [TP it_j's(Th_i) T [VP t_j likely(Th_i) enough [CP t_j [C' [C that(Th_i)] ...]] [PRO_j ...]]]
 b. *[TP it_j(u-θ) T [VP seems(Th_i) enough [CP [C' [C that(Th_i)] ...]] [PRO_j ...]]]

この分析は(15)と(16)の文法性の違いにより支持される。Napoli (1988)によると、知覚動詞の非定形補部節における主語位置は非指示的な要素によっては占められることはできない。

- (15) a. We all watched it become clear that he wasn't going to show up at the church.
 b. I watched it becoming ever more clear that he wasn't going to show up. (Napoli (1988: 338))
 (16) a. *I could actually see it appear that he was sad.
 b. *I couldn't see it appearing that he was sad. (Napoli (1988: 337))

(15)の知覚動詞の補部節には、タイプ A の外置構文が埋め込まれ、(16)では、タイプ B の外置構文が埋め込まれている。タイプ A の外置構文における *it* は指示代名詞としての位置づけを持つので、知覚動詞の補部節における主語位置に生起することができ、タイプ B の外置構文における *it* は虚辞としての位置づけを持つので、そのような位置には生起できない。

第二に、*wh* 移動に関する違いは、*it* が併合される位置の違いにより説明される。(17a)に見られるように、タイプ A の外置構文では *it* が *that* 節の指定部に併合されるため、*wh* 要素はその位置を経由することができず、直接主節の vP 指定部に移動することになる。しかし、この移動はフェイズ不可侵条件に違反する。つまり、主節の vP の段階では既に埋め込み節の TP はフェイズ不可侵条件によりアクセス不可能であるため、そのような移動は許されない。一方、(17b)に見られるように、タイプ B の外置構文では *it* が主節の TP 指定部に併合されるため、そのような問題は生じない。

(17) a. * $[_{CP} \text{why}_i \text{ did } [_{TP} \text{it}_j \text{ T } [_{VP} t_i t_j \text{ seem miraculous } [_{CP} t_j \text{ C } [_{C} \text{that}(\text{EPP})] [_{TP} \dots t_i]]]]]$

b. $[_{CP} \text{how}_i \text{ does } [_{TP} \text{it T } [_{VP} t_i \text{ appear } [_{CP} t_i \text{ C } [_{TP} \dots t_i]]]]]$

この分析は通言語的観点から支持される。

(18)のアイスランド語の外置構文では、仮主語は随意的であるが、それが生起する(18a)の事例では埋め込み節からの抽出は不可能であり、それが生起しない(18b)の事例では可能である。

(18) a. * $\text{Maríu er það hörmulegt að Mary is it deplorable that Jón skuli hafa barið. John shall have hit}$

‘It is deplorable that John has hit Mary’ (cf. Thráinsson (1979: 196))

b. $\text{Maríu er hörmulegt að Jón Mary is deplorable that John skuli hafa barið. shall have hit}$

(cf. Thráinsson (1979: 195))

最後に、文主語構文に言い換えられるか否かに関しては、*that* 節の主要部 C の EPP 素性の有無に関係があると主張する。(19)に見られるように、文主語構文において *that* 節が等位接続された場合、動詞は複数の一致を示す。

(19) [That the president will be reelected] and [that he will be impeached] are equally likely at this point.

(McClosky (1991: 564))

このため、文主語構文の *that* 節は ϕ 素性と格素性を完備していると考えられる。ここで、この ϕ 素性と格素性は *that* が D として併合することで得られると提案する。Alexiadou and Anagnostopoulou (1998)では、名詞的な素性を持つ主要部が併合あるいは移動することにより EPP 素性が満たされると提案されている。この提案によると、ギリシャ語やイ

タリア語のような動詞の屈折が豊かな言語において、動詞の屈折接辞は代名詞としての位置づけを持ち、T へ移動することで EPP 素性を満たす。したがって、(20a)のような動詞が文頭に生起するギリシャ語の例は、(20b)の構造を持つと分析される。

(20) a. $\text{diavase ena pedi/kathe pedi read a child/every child to vivlio. book}$

‘A/every child read the book’

(Alexiadou and Anagnostopoulou (1998: 512))

b. $[_{TP} [[[_{V+V} \text{diavase}] + \text{T}(\text{EPP})] [_{VP} \text{ena pedi/kathe pedi } t_v [_{VP} t_v \text{ to vivlio}]]]]]$

(20b)において、V と v の複合体が T に移動することで、T の EPP 素性が満たされる。また、(21a, b)に示される接語が義務的であるイタリア語の Fiorentino 方言では、(21c)に示すように、T の EPP 素性は接語の併合により満たされ、文頭の *Mario* は話題化位置に基底生成される。

(21) a. $\text{Mario e parla. 'Mario speaks'}$

b. * Mario parla.

(Alexiadou and Anagnostopoulou (1998: 528))

c. $[_{CP} \text{Mario C } [_{TP} [[[_{Cl} e] + \text{T}(\text{EPP})] [_{VP} \text{perla } [_{VP} t_v]]]]]$

この提案に基づき、C の EPP 素性は ϕ 素性と格素性を持つ *that* が C へ併合することにより満たされると仮定する。(12)と(13)の派生で示したように、タイプ A に生じる *that* 節の主要部 C は EPP 素性を持つが、タイプ B に生じる *that* 節の主要部 C は持たない。したがって、2 種類の外置構文の文主語構文に言い換えられるか否かに関する違いは、(22a, b)の対比として説明される。

(22) a. $[_{TP} [_{CP} [_{C'} [[[_{D} \text{that}(\phi, \text{case})] + \text{C}(\text{EPP})] [_{TP} \dots]]]]]_i \text{T}(\text{EPP}) \text{ is obvious } t_i]$

b. * $[_{TP} \text{T}(\text{EPP}) [_{VP} \text{seems } [_{CP} [_{C'} [_{C} \text{that}]]] [_{TP} \dots]]]]]$

(22a)において、タイプ A で生じる *that* 節は主要部 C に EPP 素性を持つので、それを満たすために、 ϕ 素性と格素性を伴う *that* が要求される。このため、*that* 節は主節の T と Agree することが可能となり、T の EPP 素性を満たすために TP 指定部に移動することができる。一方、(22b)において、タイプ B に生じる *that* 節の主要部 C は EPP 素性を持たないので、 ϕ 素性と格素性を持つ *that* が併合されることはなく、*that* 節が T と Agree することができないため、TP 指定部に移動することはできない。この分析が正しければ、外置構文と文主語構文の違いは、C の EPP 素性の満たされ方の違いに還元することができる。つまり、外置構文では *it* の CP 指定部への併合により EPP 素性が満たされ、文主語構文では ϕ 素性と格素性を持つ *that* の C への併合により満たされる。さらに、この分析では、(23a, b)に見られる対比も説明することができる。

- (23) a. [That the teacher was lying] was hardly obvious.
 b. * [The teacher was lying] was hardly obvious. (Stowell (1981: 396))

(23)では、主語位置にある *that* 節において *that* は義務的であるということを示している。本論文の分析では、(23a, b)の対比は(24)のように説明される。

- (24) a. [_{TP} [_{CP} [_{C'} [[_D that(ϕ , case)]+C(~~EPP~~)] [_{TP} ...]]]_i T(~~EPP~~) was hardly obvious *t_i*]
 b. * [_{TP} T(EPP) was hardly obvious [_{CP} [_{C'} [_C \emptyset (EPP)] [_{TP} ...]]]]

(24a)では、文主語構文における *that* 節を T と Agree 可能にする要素は ϕ 素性と格素性を持つ *that* であるため、それを欠く(24b)は C の EPP 素性を満たせないだけでなく、(22b)と同じように、T と Agree することができず TP 指定部に移動することはできない。

5. 結論

本論文では、タイプ A とタイプ B の外置構文の根本的違いは *that* 節の主要部 C の EPP 素性の有無であると主張した。タイプ A の外置構文は、*that* 節の主要部 C に EPP 素性を持つため、*it* は CP 指定部に併合される。したがって、タイプ A の外置構文では、*it* は *that* 節との θ 素性の共有により指示代名詞としての位置づけを持ち、*wh* 要素の連続循環移動を阻止する。さらに、タイプ A の外置構文で用いられるような EPP 素性を持つ *that* 節は ϕ 素性と格素性を持つ *that* の C への併合を許し、*that* 節の TP 指定部への移動を可能にする。これに対し、タイプ B の外置構文は、*that* 節の主要部 C に EPP 素性を持たないため、*it* は主節の TP 指定部に直接併合される。したがって、タイプ B の外置構文では、*it* は *that* 節と θ 素性を共有せず虚辞としての位置づけを持ち、*wh* 要素の連続循環移動を阻止することはない。さらに、タイプ B の外置構文で用いられるような EPP 素性を持たない *that* 節は、 ϕ 素性と格素性を持つ *that* の C への併合を許さず、*that* 節の TP 指定部への移動は不可能である。

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CP 領域のカートグラフィーに基づいた
主格・属格交替現象の統語論的分析*
(A Syntactic Analysis of Nominative-Genitive
Conversion: A View from CP Cartography)

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キーワード：属格主語、連体形、カートグラ
フィー、名詞性

1. はじめに

本稿では、日本語の主格属格交替現象を扱う。(1) のように、日本語では主節主語の属格標示は許されないが、名詞節内などの特定の環境下であれば、主語の属格標示が可能となる。例えば(2) のような関係節内では属格主語が可能である。

(1) 太郎{が/*の}来た。

(2) 太郎{が/の}来る可能性

日本語の主格・属格交替現象は Harada (1971) 以降、さまざまに論じられているが、属格主語の認可に関しては、Miyagawa (1993, 2011), Ochi (2001), Maki and Uchibori (2008) 等による D 分析と Watanabe (1996), Hiraiwa (2001, 2002) 等による C 分析の二つの立場が対立している。¹

以下では、属格主語を許す節には、その主要部要素の種類によってさまざまな統語的振る舞いの差が見られることを示し、その事実を、Hiraiwa (2001)等による C 分析を Cinque (1999) の CP 領域のカートグラフィーの観点から修正し、(3) の二点を仮定することで説明する。

(3) 本稿での仮定

- a. 連体形形成と属格付与は別々の機能範疇の役割である。
- b. 節の機能範疇の名詞性はそれが生じる統語環境によって異なる。

以下、まず、第 2 節で先行研究の概略とその問題点を示す。次に、第 3 節では、節の主要部要素の種類によってさまざまな統語的振る舞いの差が見られることを示す。第 4 節では、第 3 節で観察した事実を説明する。第 5 節はまとめである。

2. 先行研究

本節では、日本語の主格属格交替現象を扱っている先行研究として、Miyagawa (1993) 等による D 分析と、Hiraiwa (2001) 等による C 分析を概観し、それぞれの問題点を述べる。具体的には、両分析共に、節主要部の種類によって生じる様々な統語的振る舞いの差をとらえきることができないことを指摘する。

2.1. D 分析

2.1.1. 主張

Miyagawa (1993) は、主語が主格標示されるか属格標示されるかで、主要名詞との作用域関係が異なることを観察した。主語が主格標示された(4a) では「可能性」が主語より広い作用域を持つ読みのみが可能だが、主語が属格標示された(4b) では主語が「可能性」よりも広い作用域を持つ読みも可能となる。

(4) a. ルビーかダイヤが高くなる可能性が 50%以上だ。

i. 可能性>ルビーかダイヤ

ii. *ルビーかダイヤ>可能性

b. ルビーかダイヤの高くなる可能性が 50%以上だ。

i. 可能性>ルビーかダイヤ

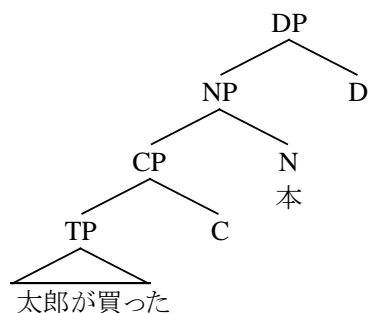
ii. ルビーかダイヤ>可能性

(Maki and Uchibori (2008: 195))

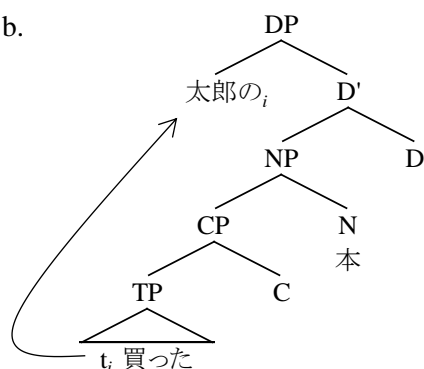
このことから Miyagawa は、(4a) の主語は補

文内で主格を与えられている一方、(4b) の主語は「可能性」よりも構造上高い位置、即ち DP 指定部まで移動し、属格を与えられているとし、(5) のような構造を提案した。

(5) a.



b.



(5) の構造から、(4a, b) の解釈の差は次のように説明できる。(4a) では、主語が TP 内部で主格を受け取るため、「可能性」より狭い作用域を持つ解釈のみが可能となる。一方、(4b) では、主語が属格を受け取るために、LF で DP 指定部まで移動する。主語が元位置で解釈された場合、「可能性」より狭い作用域を持つ読みが生じ、DP 指定部で解釈された場合、「可能性」より広い作用域を持つ読みが生じる。

2.1.2. 問題点

しかし、D 分析には以下の問題が存在する。次の(6, 7) では、属格主語を含む節と「その」が共起した場合に、容認性の差が生じる。ちなみに、(6, 7) における主要名詞は(8) に示す通り、いずれも単独では「その」と共起可能である。

(6) a. 太郎の来た(その)時

b. 太郎の来る(その)前

(7) a. 雨の降る(*その)可能性がある

b. 雨の降る(*その)おそれがある

(8) その{時/前/可能性/おそれ}

属格主語が D によって認可されているとすると、(7) で属格主語を含む節と D の音形具現である「その」が共起できない理由が説明できない。

2.2. C 分析

2.2.1. 主張

Hiraiwa は次の(9, 10) のように、名詞を主要部としない節内でも、属格主語が生起可能な例が存在することから、D 分析が妥当でないことを示した。

(9) この辺りは [日{が/の}暮れるにつれて] 冷え込んでくる。

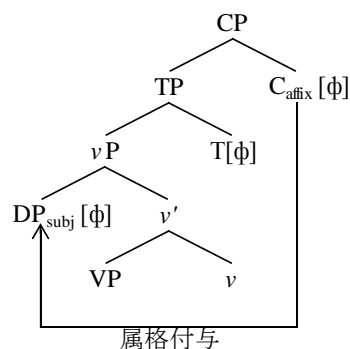
(Hiraiwa (2002: 547))

(10) ジョンは [時{が/の}経つとともに] メアリのことを忘れていった。(ibid.)

また、Hiraiwa は、(11) に見られるように、属格主語が可能な節内では述語の形態が連体形となることから、主格属格交替現象は、C のゼロ接辞が動詞を牽引することで生じる述語連体形によって引き起こされるとし、(12) の構造を提案した。

(11) ジョンの好きな音楽

(12)



2.2.2. 問題点

しかし、C 分析にも次の問題点がある。次の(13)-(14) の例では、述語の形態は連体形であり、Hiraiwa の分析では、属格主語が可能であると予測されるが、実際には不可能である。

(13) 海{が/*の}きれいなはずだ。

(14) 海{が/*の}きれいなのに

以上、本節ではD分析、C分析それぞれの主張を概観し、その問題点を指摘した。具体的には、両分析とも、主要部要素の種類によって生じる統語的振る舞いの差をとらえきれないという問題を指摘した。

3. 節主要部とその振る舞いの差異

本節では、さまざまな節主要部が見せる統語的振る舞いの差を、より具体的に観察する。以下(15)-(23)の(a)-(d)はそれぞれ、(a)先行する述語が連体形であるか、(b)主要部要素単独と「その」との共起が可能か、(c)先行する節内での属格主語の認可が可能か、(d)先行する節と主要部要素との間に「その」が介在可能かを示している。(15)-(23)は、(a)-(d)のテストに対し、それぞれ異なる結果を示し、主要部要素の名詞性に差があることが示される。

(15) とともに、につれて

- a. (形容動詞でのテストが不可能)
- b. (*その){とともに/につれて}
- c. 日の暮れる{とともに/につれて}
- d. 日が暮れる(*その){とともに/につれて}

(16) ところ/の

- a. きれいな{ところ/の}
- b. (*その){ところ/の}
- c. 太郎の歩いている{ところ/の}
- d. 太郎が歩いている(*その){ところ/の}

(17) ので/のに/ら

- a. きれいな{ので/のに/ら}
- b. (*その){ので/のに/ら}
- c. 太郎{が/*の}来る{ので/のに/ら}
- d. 太郎が来る(*その){ので/のに/ら}

(18) はず/よう/つもり

- a. きれいな{はず/よう/つもり}
- b. (その){はず/よう/つもり}

c. その部屋{が/*の}きれいな
{はず/よう/つもり}だ。

d. その部屋がきれいな(*その)
{はず/よう/つもり}だ。

(19) 傾向(がある)/こと(がある)

- a. きれいな{はず/よう/つもり}
- b. (その){傾向/こと}
- c. 太郎{が/?*の}来ることがある。
- d. 太郎が来る(*その)ことがある。

(20) おかげ/せい

- a. 水がきれいな{おかげ/せい}
- b. (その){おかげ/せい}
- c. 太郎{が/??の}来た{おかげで/せいで}、次郎が帰った。
- d. 太郎が来た(*その){おかげで/せいで}次郎が帰った。

(21) 可能性/おそれ

- a. 水がきれいな{可能性/おそれ}
- b. (その){可能性/おそれ}
- c. 雨{が/?の}降る{可能性/おそれ}がある。
- d. 雨が降る(*その){可能性/おそれ}がある。

(22) 時間(だ)/季節(だ)

- a. 夕焼けがきれいな{時間/季節}
- b. (その){時間/季節}
- c. そろそろバス{が/の}来る時間だ。
- d. そろそろバスが来る(*その)時間だ。

(23) 時

- a. 夕日がきれいな時間
- b. (その)時
- c. 太郎{が/の}来る時
- d. 太郎が来る(その)時

以上をまとめると、表1が得られる。

表 1：主要名詞の振る舞いの差

	a. 連体形	b. その+主要部	c. 属格主語	d. 節+その+主要部
(15)とともに/につれて	-	*	√	*
(16)ところ/の	√	*	√	*
(17)ので/のに/ら	√	*	*	*
(18)はず/よう/つもり	√	√	*	*
(19)傾向/こと(がある)	√	√	?*	*
(20)おかげ/せい	√	√	??	*
(21)可能性/おそれ	√	√	?	*
(22)時間(だ)/季節(だ)	√	√	√	*
(23)時	√	√	√	√

表 1 が示す通り、節主要部となる要素の種類によって、さまざまな統語的振る舞いの差が観察される。

4. 分析

本節では、前節(18), (21), (23) の間で観察された差に焦点を当て、それらが何故生じるのかを説明する。本稿では、Hiraiwa (2001) の C 分析を、Cinque (1999) の CP 領域の構造を用いて修正し、さらに(26) の二点を主張する。

(24) 採用する仮定群

- Hiraiwa (2001) の C 分析
- Cinque (1999) の CP 領域の階層構造((25))

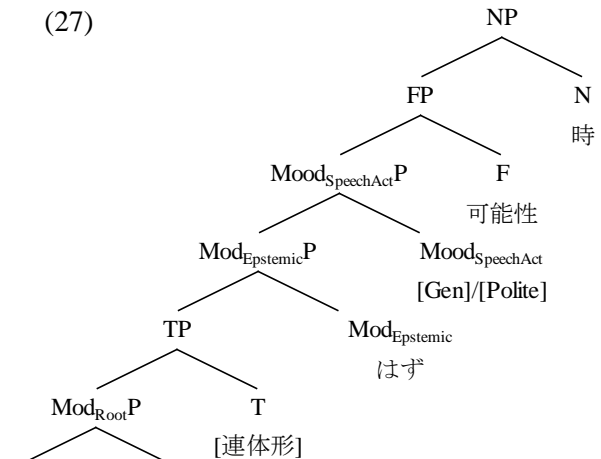
(25) Mood_{SpeechAct} > Mood_{Evaluative} >
Mood_{Evidential} > Mood_{Epistemic} >
T(Past) > T(Future) >
Mood_{Root}/ T(Anterior) > Aspect_{Perfect}
>Aspect_{Progressive} /Aspect_{Completive} >
Voice (Cinque (1999: 55))

(26) 本稿での仮定

- 連体形形成と属格付与の役割は別々の機能範疇が担う。
- 節の機能範疇の名詞性は、それが生じる統語環境によって異なる。

以上を踏まえ、(27) の統語構造を提案する。

(27)



以下、(27) の構造について説明していく。

4.1. 連体形形成接辞

まず、連体形形成の接辞の位置だが、これは Mod_{Root} と Mod_{Epistemic} の間、つまり T の位置に生起すると主張する。「はず、可能性、時」はこれより構造上高い位置に生じるので、いずれの例においても、先行する述語が連体形である事実が説明できる。

Mod_{Root}、連体形接辞、Mod_{Epistemic} の位置関係は、根源的モーダル、認識的モーダルそれぞれに先行する述語の形態から確かめることが出来る。認識的モーダルに先行する述語の形態が連体形となることは、既に(13) ((28) として再掲)にて観察した。このことから、連体形形成接辞が T に生じると主張することは妥当であると言えるだろう。

(28) 海{が/*の}きれいなはずだ。

4.2. 属格付与

次に、Mood_{SpeechAct} 位置を見る。本稿ではこの位置に、丁寧表現に関わる機能範疇と属格付与の素性を持つ機能範疇が、相補的に生じると主張する。これは、属格主語の分布と

丁寧表現の分布が相補的であることから確かめることが出来る。(29)-(32)のように、丁寧表現が可能な節では、属格主語は許されない。一方、(33)-(36)のように、属格主語が可能な節では丁寧表現は許されない。

(29) 主節

- a. 太郎{が/*の}来た。
- b. 太郎が来ました。

(30) ノデ節

- a. [太郎{が/*の}来たので]、出発しよう。
- b. [太郎が来ましたので]、出発しよう。

(31) ノニ節

- a. 太郎は[先生{が/*の}来たのに]、挨拶をしなかった。
- b. 太郎は[先生が来ましたのに]、挨拶をしませんでした。

(32) ラ節

- a. [太郎{が/*の}来たら]、出発しよう。
- b. [太郎が来ましたら]、出発しよう。

(33) 関係節

- a. 太郎{が/の}買った本
- b. *太郎が買いました本

(34) コト節

- a. 太郎は[次郎{が/の}したこと]を知っている。
- b. *太郎は[次郎がしましたこと]を知っている。

(35) ニツレテ節

- a. [日{が/の}暮れるにつれて]人が増えてきた。
- b. *[日が暮れますにつれて]人が増えてきた。

(36) マデ節

- a. [太郎{が/の}来るまで]待とう。
- b. *[太郎が来ますまで]待ちましょう。

以上をまとめると、表 2 が得られる。

表 2：属格主語と丁寧表現の分布

	a.属格主語	b.丁寧表現
(29)主節	*	√
(30)ノデ節	*	√
(31)ノニ節	*	√
(32)ラ節	*	√
(33)関係節	√	*
(34)コト節	√	*
(35)ニツレテ節	√	*
(36)マデ節	√	*

4.3. はず・のに

さて、ここで、先行する述語は連体形であるが、属格主語を許さない「はず」、「のに」について考える。(37) では、単文内で、下線部の二か所に連体形接辞が生じているが、属格主語は不可能である。

(37) 海{が/*の}きれいなはずなのに^{2,3}

本稿では、連体形形成と属格付与は別々の機能範疇によって行われているとしているので、それらが連動しない場合があると正しく予測する。しかし、(37) で属格主語が許されないのは何故かという疑問が残る。ここでは、丁寧表現との相補性の観点からの説明を行う。(38) で示す通り((31) も参照)、ノニ節では、丁寧表現が可能である。

(38) 海がきれいなはずですのに

本稿では、この種の節では、「です・ます」の形態具現の有無に関わらず、**Mood_{SpeechAct}** に、丁寧表現形成の機能範疇が生起し、属格付与の機能範疇は生じないと考える。つまり、ノニ節 では、**Mood_{SpeechAct}** を[Polite] が占めるため、属格主語が不可となる。次に「はず」だが、(39) に示す通り、これに先行する述語を丁寧形にすることは許されず、属格主語との相補性が成立していないように見える。

(39)*太郎が来ますはずだ。

しかし、(39) の非文法性は、**Mood_{SpeechAct}** > **Mod_{Epistemic}** の階層関係から生じると考えら

れる。実際、この階層関係を反映した(40)の語順は正文となる。

(40) 太郎が来るはずです。

つまり、「はず」の場合も、MoodSpeechAct を [Polite] が占めているため、属格が不可能となる。⁴ちなみに、(41)に示す通り、関係節等も、主要名詞に後接する形であれば、丁寧表現と共起可能である。

(41) それは太郎が買った本です。

(40)は(41)が正文となるのと同じ理由で許されているとも考えられるが、両者には(42)に示す構造の違いがあると仮定しておく。

(42) a. [CP 太郎が来るはずです]

b. [CP それは[NP[CP 太郎が買った]本]です]

(42a)の「です」は「はず」と同じ節内に生じるが、(42b)の「です」は関係節内には生じない。

4.4. 可能性/時

最後に「可能性」タイプと「時」タイプについて見る。本稿では、「可能性」は、MoodSpeechActPの上に生じるC相当の機能範疇(ここでは仮にFPとしておく)の主要部に、「時」はさらに上のNPの主要部として生じると主張する。⁵両者は属格付与の機能範疇を内包する位置に生じるので、(21c), (23c)((43)-(44)として再掲)において、属格主語が許される理由が説明できる。

(43) 雨{が/?の}降る{可能性/おそれ}がある。

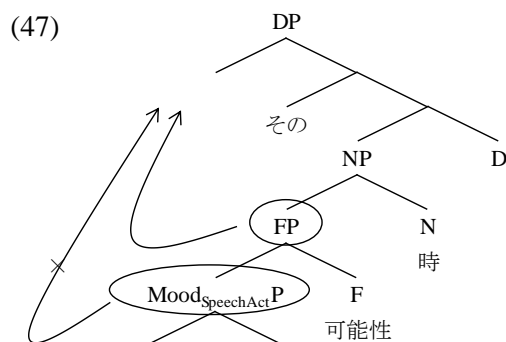
(44) 太郎{が/の}来る時

しかし、(21d), (23d)((45)-(46)として再掲)で観察した通り、両者には、主要部と先行する節の間に「その」が介在できるかどうかで差がある。本稿では、この差を、A-over-A principle (AOA)によって説明する。

(45) 雨が降る(*その){可能性/おそれ}がある。

(46) 太郎が来る(その)時

本発表では、(47)のFPとMoodSpeechActPはいずれもCP領域の機能範疇であると考える。(45)の語順を導くには、「可能性」を元位置に残し、FP内部からMoodSpeechActPを移動させる必要がある。この移動は、CP内から他のCPを動かすものであり、AOA違反が生じ、結果、(45)は非文となる。一方、(46)の語順は、「時」を元位置に残し、FPを移動させることで生じる。この場合、FPの上には、C相当の機能範疇は投射しておらず、AOA違反は生じない。



以上、本節では、Hiraiwa (2001)のC分析をCinque (1999)のCP領域のカートグラフィーの観点から修正し、(i)属格付与と連体形形成が別々の機能範疇によって担われるべきだということ、(ii)節主要部は、その名詞性に応じて生起位置が異なることを主張し、第3節で観察した、節主要部のタイプごとに見られるさまざまな統語的振る舞いの差を説明した。

5. まとめ

本稿では、主格・属格交替現象について論じてきた。ここでは、Hiraiwa (2001)らのC分析を、Cinque (1999)のCP領域の構造に基づき修正し、述語連体形形成の接辞と属格付与の機能範疇を区別すべきであることを論じた。また、連体修飾節を伴う名詞は、その動詞性に応じて、生起位置が異なることをみた。

注

*本稿は、第32回日本英語学会において口頭発表した内容に加筆、修正を加えたものである。本稿の執筆に当たり、貴重なご意見を頂いた小川芳樹先生、菊地朗先生、長野明子先生、また、発表時に貴重なご意見、ご質問を頂いた藏藤健雄先生、松本マスミ先生、西山國雄先生、には、この場を借りて心からの謝意を表したい。言うまでもなく、本論文の不備は全て筆者の責任によるものである。

1. この他に、主語の格標示は、それが生じる環境が、[+Tense]の領域内であるか[-Tense]の領域内であるかで決定するとする、Kobayasi (2012) 等がある。
2. この例は、コピュラ/連体形接辞の生起位置が単文内に少なくとも二か所存在することを示唆する。実際、Hiraiwa and Ishihara (2002) に従えば、複数のコピュラが含まれると考えられる(i)も単文と分析される。

(i) 一番静かなのは、太郎だ。

3. 本稿では、主格の認可も、CP領域の機能範疇によって行われると考えるが、具体的にどの要素が主格の認可を担うのかについては、残された問題とする。

4. 「はず」の場合でも、(i)のように、「の」を伴い埋め込まれると、属格主語を許す。

(i) 太郎の買うはずの本

[Polite]/[Gen]の選択が最終的にどのように決定されるかについては、残された問題とする。

5. 「可能性」は蓋然性を表す要素であるので、本稿では、FPもモダリティーの一種であると考ええる。

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Controller Restrictions and Embedded Force *

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Keywords: control shift, split control, partial control, force, semantic selection

1. Introduction

Generative linguists have often viewed complement control exemplified in (1) and (2) below to involve obligatory control (Williams (1980), Borer (1989), and Hornstein (1999) among others), although the terminology and the specific definition somewhat vary among linguists.

- (1) John_i promised Mary_j PRO_i to leave.
- (2) John_i persuaded Mary_j PRO_j to leave.

Roughly put, they have coindexed PRO (or, *pro* or trace) with one of the matrix DPs, illustrating that PRO has a uniquely determined local controller.

At the same time, however, various exceptions have been noted repeatedly. A well-known exception is non-obligatory interrogative complement control for which a generic controller is an option.¹ In addition, the fact that even non-interrogative complement control does not quite meet the obligatory control criteria has been pointed out since the very early stage of the study. Rosenbaum (1967) observed control shift and Jackendoff (1972) split control. Wilkinson (1971) touched on partial control, although this did not draw linguists' attention until Landau (2000). Consider the following examples taken from

Rooryck (2000: 74-75) and Landau (2000: 5):

- (3) Kim_i proposed to Sandy_j [PRO_{i/j/i+j} to do the dishes].

- (4) The chair_i preferred [PRO_{i+} to gather at 6].

Example (3) illustrates control shift allowing subject, object, and split control: PRO can refer to *Kim*, *Sandy*, or both. Example (4) exhibits partial control: *the chair* constitutes only a subset of the reference set of PRO.

The question arises as to whether complement control necessarily involves obligatory control. The answer to this is not simple since even in cases like (3) and (4), controller choice is not completely arbitrary. As for (3), a possible discourse topic, say *David*, cannot control PRO. In (4), a reading in which *the chair* is not part of the reference set of PRO is impossible. Neither allows a generic controller.

It seems that the reference of PRO is often “neither arbitrary nor fully deterministic” (Landau (2000: 1)). It is not uniquely determined; possible interpretations of PRO are just *restricted* in a certain manner. The challenge we are faced with is to capture the right level of restrictions on the interpretation of PRO under minimalist assumptions.

This paper presents Japanese complement control data, in which embedded clauses show overt force morphology. Remarkably, as I will argue, force turns out to be a key player, imposing interpretative restrictions on PRO. I do not treat the instances of split control, control shift, and partial control as exceptions, but rather view them as a window to the core mechanism of complement control. My proposal accommodates both the typical “obligatory” complement control cases and those with somewhat different behaviors as natural consequences of a single mechanism.

2. Japanese Data

Consider the Japanese complement control data below. As suggested by Fujii (2006), each complement clause occurs with a distinct postverbal particle.

- (5) Taro_i-wa [PRO_i daigaku-e
Taro-Top [university-to
iki-*tai*-to] negat-ta.
go-Opt-C_{to}] hope-Past
'Taro hoped to go to university.'
(Subject Control)
- (6) Taro_i-wa [PRO_i daigaku-e
Taro-Top [university-to
ik-*oo*-to] kuwadata-ta.
go-Int-C_{to}] attempt-Past
'Taro attempted to go to university.'
(Subject Control)
- (7) Hanako_i-wa Taro_j-ni [PRO_j
Hanako-Top Taro-Dat [
daigaku-e ik-*e*-to] meireisi-ta.
university-to go-*Imp*-C_{to}] order-Past
'Hanako ordered Taro to go to university.'
(Object Control)
- (8) Hanako_i-wa Taro_j-ni [PRO_i
Hanako-Top Taro-Dat [
daigaku-e ik-*u*-to] yakusokusi-ta.
university-to go-*Prm*-C_{to}] promise-Past
'Hanako promised Taro to go to university.'
(Subject Control across Object)
- (9) Hanako_i-wa Taro_j-ni [PRO_{i+j}
Hanako-Top Taro-Dat [
daigaku-e ik-*oo*-to] teiansi-ta.
university-to go-*Exh*-C_{to}] propose-Past
'Hanako proposed to Taro to go to university (together).'
(Split Control)

I argue that controlled complements have their own specific force and that it is overtly expressed in Japanese. For instance, the

complement in (5) appears with the particle *-tai*, which represents the optative (Opt) force. Likewise, the intensive (Int) particle *-(y)oo* occurs in (6); the imperative (Imp) particle *-e/-ro* in (7); the promissive (Prm) particle *-(r)u* in (8); and the exhortative (Exh) particle *-(y)oo* in (9). The intensive and the exhortative particles have identical phonological forms, but I distinguish them as two different particles. The particle *-(r)u* is standardly analyzed as a nonpast tense particle. Nevertheless, I argue that it also bears a promissive force in certain contexts (see Matsuda (to appear)).

I find that each sentence shown above, itself a declarative (Decl), has an embedded clause inside it with an independent force. The left column in Table 1 lists the combinations of matrix and embedded forces for sentences (5) to (9).

Table 1. Force and Control Pattern

(5)' [Decl <i>hope</i> [Opt]]	=> subject control
(6)' [Decl <i>attempt</i> [Int]]	=> subject control
(7)' [Decl <i>order</i> [Imp]]	=> object control
(8)' [Decl <i>promise</i> [Prm]]	=> subject control across object
(9)' [Decl <i>propose</i> [Exh]]	=> split control

Moreover, I find some correlation between the embedded force and the control pattern: an optative, intensive, or promissive complement gives rise to subject control; an imperative complement brings about object control; and an exhortative complement, split control. The right hand column in Table 1 summarizes this observation.

Although controlled clauses in English do not exhibit overt force morphology, I hold that similar forces covertly exist in them, and in the counterparts of many other languages.

3. Force and Person Restrictions

Portner (2004) associates the clausal force

with person restrictions on the subject. Employing the notion of the To-Do List, he proposes that the discourse function of imperatives is to add a property to the To-Do List of the addressee. Similarly, the promissive force adds a property to the speaker's To-Do List, and the exhortative force to the To-Do List of both the speaker and the addressee. Zanuttini, Pak, and Portner (2012) analyze Korean data in which these forces are overtly realized, and conclude that an imperative subject always refers to the addressee(s) of the utterance. This holds true even with a null or a proper name subject. In like manner, a promissive subject refers to the speaker(s) exclusive of the addressee(s); and an exhortative subject refers to both the speaker(s) and the addressee(s).

I adopt their conclusion and extend it to optative and intentive subjects. Each force imposes person restrictions in its own way as summarized in Table 2.

Table 2. Subject Restrictions by Force

Force	Restrictions	
optative	(+SP, -AD)	
intentive	(+SP, -AD)	SP=speaker
imperative	(-SP, +AD)	AD=addressee
promissive	(+SP, -AD)	'+'=inclusive
exhortative	(+SP, +AD)	'-'=exclusive

Japanese is just like Korean regarding the interpretation of imperative, promissive, and exhortative subjects. Moreover, distribution of the Japanese optative and intentive particles reveals that they can only occur with the speaker subject as discussed in Matsuda (to appear).

It appears that these clausal forces restrict subject interpretations.

4. Associative Semantics

This section discusses the nature of the speaker/addressee features. Wechsler (2010) holds that the notion of *associative semantics* is

inherent in the speaker and the addressee person indexicals. The plural forms of the speaker/addressee indexicals do not always refer to multiple speakers or addressees; they refer to a group of people in which the speaker or the addressee is included. Consider Table 3, adapted from Wechsler (2010: 335).

Table 3. Possible Meta-persons and Attested Pronoun Types

Possible	Attested
1+2 1+2+ 3	A. Inclusive first (+SP, +AD)
1 1+ 3	B. Exclusive first (+SP, -AD)
2 2+ 3	C. Second (-SP, +AD)
3	D. Third (-SP, -AD)

In the left column, '1' stands for the speaker, '2' the addressee, and '3' any non-participant in the speech act; this column lists the seven logically possible combinations of them. However, according to Wechsler (2010), languages seem to make only four-way distinctions, A to D, at maximum as shown in the right column. Most notably, none of the categories A, B, and C, which correspond to the person features I adopt in this study, prohibits the inclusion of the third non-participants (i.e. '3' in boldface) or requires the inclusion of them. I assume that the person features relevant to the embedded forces in complement control constructions have an inherent associative nature. I will come back to this notion later to account for partial control.

5. Semantic Selection

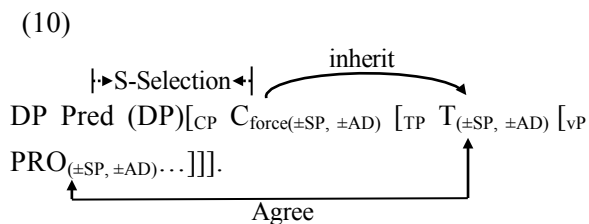
I observe a particular relation between the matrix predicate and the embedded force in Japanese complement control data: the predicates such as *negau* 'hope' and *nozomu* 'wish' appear with an optative complement; *kuwadateru* 'attempt' and *kimeru* 'decide'

cooccur with an intensive; *yakusokusuru* ‘promise’ and *tikau* ‘vow’ with a promissive; *meireisuru* ‘order’ and *sijisuru* ‘instruct’ with an imperative; and *teiansuru* ‘propose’ and *sasou* ‘ask out’ with an exhortative.

I argue that the notion of semantic selection (s-selection) introduced in Grimshaw (1979) captures this relation. Grimshaw posits that the predicates such as *wonder* select interrogatives while those like *amazing* select exclamatives. Some predicates select both semantic types (e.g. *know*) or neither (e.g. *think*). They do not have to be a biunique relation. Likewise, I maintain that the control predicates such as *order* and *promise* select an imperative and a promissive respectively. In English, these embedded forces are not overtly manifested, but they are in Japanese. The Japanese predicate *teiansuru* ‘propose’ and its English counterpart *propose* represent the predicates selecting multiple forces, giving rise to control shift as I will discuss later.

6. Proposal

I propose that the derivation of complement control proceeds as follows:



The first two DPs represent the matrix subject and object. The bracketed CP represents the embedded clause, in which T and PRO share the same person features by Agree (Chomsky (2000, 2001)). The person features on T are inherited from C (Chomsky (2008)), which represents the embedded force. Note that the person features are specified as $(\pm SP, \pm AD)$, depending on the force type. PRO merges at spec vP with its person features unvalued. Only after C is

merged does PRO get them valued through C to T inheritance and T-PRO Agree. In this Agree relation, T begins with uninterpretable but valued person features, which will value the person features on PRO; these features become interpretable on PRO by Agree. This ensures the restrictive interpretation of PRO.

Crucially, in my proposal, there is no coindexation or direct syntactic relationship between the matrix DP and PRO. Their referents may just happen to be identical as in the cases of (1) and (2), but they need not be. All that is assumed between the matrix and the embedded clauses is a selectional relationship between the predicate and the embedded force.

Note that the embedded clause has its own force and its own person features on C independently of the matrix clause. The predicate does not *assign* the embedded force by selection. If a control predicate, say *promise*, occurs with a declarative *that*-clause as in (11) below, the embedded clause remains a declarative; the sentence is grammatical since *promise* also selects a declarative clause.

- (11) John promised Bill that he would leave.
(Borer (1989: 73))

Consequently, the interpretation of the embedded subject in (11) is not restricted. As mentioned in Borer (1989), *he* in (11) can refer to *John*, *Bill*, or neither. Similarly, person restrictions are not imposed on a nominal complement. In (12) below, the pronoun *his* can refer to *John* or any other person. Even *her* can appear in the same position.

- (12) John promised his/her return.

The matrix and the embedded clauses in a complement control construction are on a par with each other with respect to their force. If the embedded force meets the matrix predicate’s selectional requirement, it leads to grammaticality; if not ungrammaticality. In the

sentence, *I ate an apple*, the predicate *eat* does not make *an apple* an edible object; *an apple* is edible by its very nature. The same thing holds for controlled complements.

This boils down to saying that, at least in English, only infinitival complements are subject to person restrictions in the way I propose here, while tensed declarative (or subjunctive) *that*-clauses and nominals are not because they lack the relevant forces discussed in this paper.

7. Split Control, Control Shift, and Partial Control

This section illustrates that my system is tolerant enough to allow split and partial control and control shift, but stringent enough to rule out unwanted interpretations of PRO. Let us first consider split control case (3), repeated here as (13):

- (13) Kim proposed to Sandy [_{CP} C_{Exh(+SP, +AD)} PRO_(+SP, +AD) to do the dishes].

I assume that the embedded clause is exhortative, meeting the selectional requirement of the predicate *propose*. The embedded C represents the exhortative force with the associated person features, (+SP, +AD). Through the process I proposed, PRO ends up with the same person features.

One caveat: the speaker/addressee notion I adopt here is different from the standard notions of the first- and the second-person pronouns. It requires a *shifted interpretation* as discussed in Delfitto and Fiorin (2011). While the referents of the pronouns *I* and *you* are fixed to the speaker and the addressee of the speech time context, the specific referent of the speaker/addressee feature is determined relative to the event context of the immediately higher clause. In (13), the matrix event is that of *Kim proposing something to Sandy*. In such a context,

the speaker is *Kim* and the addressee *Sandy*; PRO refers to both *Kim* and *Sandy*.

Case (13) repeats (3). Thus, it is three-way ambiguous. When the embedded force is promissive, the associated feature is (+SP, -AD), giving rise to subject control, while an imperative complement with (-SP, +AD) brings about object control. Ambiguity arises because *propose* s-selects at least these three force types: exhortative, promissive, and imperative. This explains how one type of control shift is brought about.

There is another type of control shift with *be allowed to* complements. I contend that this type resorts to the pragmatic process *coercion* as mentioned in the literature by, for example, Jackendoff and Culicover (2003). Consider (14):

- (14) Kim promised Sandy [PRO to be allowed to leave].

Here, *Sandy*, the object, is often understood to be the referent of PRO despite the fact that *promise* normally manifests subject control. I assume that such a shift arises from a selectional mismatch between the matrix predicate and the embedded force. Intentives, imperatives, promissives, and exhortatives (but not optatives) only denote *intentional* actions. In (14), however, the embedded clause denotes a *nonintentional* situation; it could not possibly be a promissive, but *promise* s-selects a promissive. This leads to ungrammaticality for some speakers of English, but for some others, this triggers coercion to shift the controller. My proposal does not predict how the controller is determined under coercion, but it at least predicts the trigger of coercion.

Now consider the instance of partial control (15), repeating (4).

- (15) The chair preferred [_{CP} C_{Opt(+SP, -AD)} PRO_(+SP, -AD) to gather at 6].

The speaker of the matrix context, the referent of

the chair, is not identical with that of PRO. *The chair* only constitutes part of PRO. This fact falls out naturally as a consequence of associative semantics (section 4). The embedded force in (15) is optative with the feature (+SP, -AD). This feature does not require or prohibit the inclusion of other people who are neither the speaker nor the addressee. In (15), the embedded predicate *gather* requires a collective or plural subject, bringing about a partial reading: PRO refers to *the chair* plus some other people.

My proposal also accounts for canonical *obligatory* complement control. Example (1) can be represented as follows:

- (16) John promised Mary [_{CP} C_{Prm(+SP, -AD)} PRO_(+SP, -AD) to leave].

The embedded force is promissive. PRO has the feature (+SP, -AD), which could refer to the speaker only (i.e. the referent of *John*), or the speaker plus some others (i.e. the referent of *John* plus others). Thus, the obligatory reading remains a possibility under my proposal. Furthermore, my proposal correctly predicts that it is just an option. If the context is properly fixed, it is possible to interpret PRO to refer to *John* and, say, his family. This precisely captures the pervasiveness of partial control as pointed out by Landau (2000).

8. Theoretical Consequences

The most prominent syntactic approaches to control, i.e. the movement theory (Hornstein (1999)) and the Agree theory (Landau (2000)), do not provide a systematic account for complement control, which often exhibits looser restrictions than was once assumed. Split control and partial control are unexplainable under the movement theory without complicated stipulations and devices. It is hard to think of a movement process in which a plural DP in the

complement clause ends up as two separate DPs or as a singular DP in the matrix clause. The Agree theory allows partial control through C-mediated Agree, but it does not explain which matrix argument partially controls PRO, nor does it account for split control or control shift. In fact, the Agree theory and my proposal share the view that the person features on C play an important role in control, a view that dates back to Borer (1989). However, my proposal crucially differs from the Agree theory in that the embedded C does not receive its person features from the matrix argument by Agree; I assume that the person features originate in the embedded C as a representation of the clausal force. Although my proposal is greatly inspired by Landau's observation that partial control is pervasive, our accounts are quite different.

9. Conclusion

This study introduced a new, force-based approach to complement control. Crucially, it meets the spirit of minimalism: it employs no device that is construction-specific; the Phase Impenetrability Condition (Chomsky (2001)) is fully respected. My proposal focuses on the embedded forces in complement control constructions and their person restrictions on the subject. It gives a whole new look to the phenomena by capturing just the right level of interpretative restrictions on PRO in infinitival complements. I believe it serves as an important clue in understanding the phenomena.

Notes

* A major part of this study was presented at the 32nd conference of the English Linguistic Society of Japan held at Gakushuin University in Tokyo on November 8, 2014. I am grateful to the audience there for their insightful questions

to which this paper attempts to offer a brief and partial answer.

¹ Interrogative complement control is outside the scope of this paper.

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使役移動構文と結果構文における
心理的变化を表す用法の意味的特性
(A Comparative Look at the Semantic Features
of Psychological Caused-Motion and Resultative
Constructions)

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キーワード：構文文法、感情を表す名詞、
構文の意味的特性

1. はじめに

感情を表す名詞が生起する、[V NP1 into NP2]という形式をとる表現には、意味的に類似する2種類のタイプがある。

一つ目は、感情を表す名詞を目的語にとり、into 句にその感情の経験者である「人」や「人の心」等が生起するタイプである。たとえば、(1) のように、感情の抽象的な移動を表し、「人をある感情の状態にさせる」という意味を表す。

- (1) a. The news struck fear into the hearts of his enemies.
b. The teacher instilled confidence into his students.

また、(1) は、感情を表す名詞を目的語にとる「使役移動構文」とみなすことができる。本稿では、(1) のような事例を構文 I と呼ぶことにする。

二つ目は、構文 I と形式は同様であるが、感情を表す名詞が into 句に生起する構文タイプである。たとえば、(2) のように、経験者を示す目的語が into 句に生起する感情を表す名詞の示す状態になるという意味を表す。

- (2) a. The question threw Mary into a panic.
b. His words sent his wife into a frenzy.

(2) では、目的語位置に感情の経験者である「人」が生起し、前置詞 into 句に感情を表す名詞句が生起する。(2) の例において感情を表す名詞の生起する位置をみると、into 句の目的語となっており、ある状態の結果を表す表現としても見なすことができる。つまり、(2) での into 句は、結果構文における結果句としても捉えられると考えられる。本稿では、(2) のタイプを構文 II と呼ぶことにする。¹

(1) と (2) をみると、どちらの構文タイプも感情語が生起し、生起する動詞は文字通りの物理的な行為を表さず、表現全体として「人をある心理状態にさせる」という心理動詞的な意味を表すという点が共通している。これらの2つの構文タイプは、共通する部分は認められるが、それぞれに生起する感情語の意味的な特性、また構文としての特性は、どのように異なっているのかという疑問が生じる。

本稿では、このような疑問に対して、構文文法 (Construction Grammar) の観点より構文 I と構文 II に生起する感情語の特性を考察し、それぞれの意味的な特性を捉えることを目的とする。構文 I と構文 II における、それぞれの関連する構文の一般的な意味特性と比較することで、2種類の構文タイプの特性を捉えられることを指摘する。また、これらの構文タイプの考察を基に、構文 I と構文 II は、個別の語が特定される具体的なレベルでの構文として捉えられることを示唆する。

2. 先行研究と枠組み

構文 I と構文 II は、それぞれ物理的な移動を表す表現に感情を表す名詞が生起することから、メタファー的に心理状態の変化を表している。そこで、本稿対象の2構文に関連するメタファーについての先行研究を確認しておく。次に、本稿の枠組みである構文文法のアプローチを概観する。さらに、事例パターンとスキーマ性の高い構文レベルを捉えるため、語彙の詳細な意味を重視する構文文法の立場を概観し、

参考とする。

2.1 メタファーの観点

Lakoff (1990) では、構文 II にあたる事例を取り上げて、メタファーの観点から一つの分析を与えている。(3) に見られるように、本研究における構文 II は、CAUSES ARE FORCES (使役は力である) というメタファーの関わりが考察される。

(3) The home run sent the crowd into a frenzy.

(Lakoff (1990: 62))

Lakoff (1990) は、動詞の使用にも注目しておりまた、send は、基本的に移動の開始の使役の部分を含意しているという。この分析は、本稿の対象と関連しており、示唆に富むが、感情に関わる表現に特定したものではない。さらに、このメタファー表現で使用する動詞は、ある一定の使役動詞類が生起すると指摘される。(Kövecses (2000))。Kövecses (2000)では、(3)と同様のメタファーで、drive, send, push, keep などの動詞の使用が見られることを挙げ、その例として (4) を示している。また、感情を表す場合にも見つけられることも指摘し、(3) と同じ frenzy を用いた (5) を例として示す。

(4) a. Circumstances drove him to commit suicide.

b. I pushed him into washing the dishes.

(Kövecses (2000: 53))

(5) The news sent the crowd into a frenzy.

(Kövecses (2000: 53))

このような (3) や (5) の感情や心理的な変化を表す表現を構文という形式と意味のペアとして捉え直すことで、それぞれの個別の特性を探る可能性が広がると予測する。つまり、これらの表現を別の観点から構文研究の対象としても扱えると考えられる (cf. Sullivan (2013))。構文 II だけでなく、構文 I も同様に、メタファー的な目的語の使役移動を表す表現とみなすことができるため、以下では構文として分析する。

2.2 構文文法の観点

本稿の枠組みである構文文法での関連する先行研究を概観する。

まず、Goldberg (1995) で提案された構文文法の分析では、さまざまな構文に見られるメタファーの動機付けを積極的に採用する。具体的な事象を表す構文から抽象領域へと拡張される事例では、体系的なメタファーによって動機づけられる。Goldberg は、構文 I と構文 II との関連性が見られる物理的な目的語の移動を表す使役移動構文 (= (6a)) と目的語の状態変化を表す結果構文 (= (6b)) をメタファー的拡張によって動機づけられるとしている。

(6) a. Joe kicked the bottle into the yard.

b. Joe kicked Bob black and blue.

(Goldberg (1995: 88))

つまり、「状態変化は位置変化 (Change of State as Change of Location)」というメタファーによって 2 構文の関係を捉えられる。とりわけ、Goldberg (1995)では、(6a) のような使役移動構文の方向句と(6b) のような結果構文の結果句にみられる、位置変化と状態変化というメタファー的な対応関係に注目している。

さらに、以上に示される使役移動構文と結果構文の構文間の対応関係を基に、Goldberg and Jackendoff (2004)では、この 2 つの構文を総じて一つの結果構文のカテゴリーとしてまとめている。しかし、個々の事例のレベルの構文に目を向けると、(6b) の結果構文の表す事態は目的語の物理的な状態変化を表し、結果句に主にメタファーの焦点が当たっているが、構文 I や構文 II では、表現全体がメタファー表現となるため、メタファー的な対応付けが異なっている。本稿で対象とする構文の意味的特性を、大きな結果構文のカテゴリーで捉えることは困難である。Goldberg and Jackendoff (2004) は広く結果構文を捉えることには有益だが、本研究対象を含むさまざまな構文の特性を捉えるには事例のレベルで動詞等の語彙やその構文の意味を詳細に分析することが必要である。つまり、

Goldberg (1995) および Goldberg and Jackendoff (2004) での結果構文と使役移動構文に関する議論よりも、さらに特定した事例のレベルの構文での分析が必要であると言える。

2.3 語彙・構文文法的アプローチ

本稿では、構文文法の枠組みにおいて、語彙や事例のレベルの構文を積極的に取り入れる立場をとる研究 (Boas (2003), Iwata (2008), etc.) を参考にする。事例のレベルの具体的な構文の特性を捉えるために、構文スキーマの階層性が想定され、Croft (2003, 2012) や Iwata (2008) において提示されている。構文の階層では、スキーマ的な抽象的な構文が上位レベルにあるとすれば、下位レベルには実際の構文の生起例で構成される。Iwata (2008) は、使役移動構文に生起する *put* を中心に見た構文の階層性の例を提示している。この構文のスキーマは、(7a-d) は、それぞれのレベルでの構文を示している。

- (7) a. Syn: [NP V NP PP]
 =Sem “.....”
 (caused-motion construction)
 b. Syn: [NP V NP PP]
 = Sem “.....”
 c. Syn: [NP [*throw* / *put* / *push*] NP PP]
 =Sem “.....”
 d. Syn: [*John put the box on the desk*]
 =Sem “.....”

(Adapted from Iwata (2008))

最もスキーマ性の高い上位の構文のレベルは (7a) の使役移動構文のスキーマを示す。(7b)は、個々の動詞が生起する構文において *put* とその類似する意味・用法を持つ動詞のクラスが生起する構文 *verb-class-specific construction* が構成される。また、(7b) の下位のレベルの (7c) では、個々の動詞の使用が指定される構文、*verb-specific construction* が構成されている。この (7b) と (7c) における下位の構文のレベルを想定することで、具体的な事例に基づいて、語の意味も含めたその構文の意味的な特性を

詳細に分析することが可能となる。

Boas (2003) は、語彙の詳細な意味を重視する構文文法のアプローチで、実例を基にして結果構文の考察を行い、個別の動詞が事例のレベルで一つの構文をなしていることを示唆している。たとえば、Boas (2003) は、*drive crazy* 結果構文に関して、*drive* が結果句に意味的な制限を与えているということを British National Corpus (以下 BNC) の生起件数の観察から指摘する。(8) は、*drive crazy* 結果構文の事例であり、(9) は Boas (2003) で示された結果句のデータの一部である。(以下、[]内は生起件数を示す。)

(8) The continuous noise was *driving me crazy*.
 (LDOCE)

(9) mad / to madness [108 / 5], crazy [70],
 to distraction [27], insane [23], wild [22]
 (Boas (2003:129))

Boas は、(9) の BNC のデータより、*drive* の意味が否定的な心理状態を表す結果句を指定すると指摘する。つまり、個別の動詞がある一定の共通する意味を持つ語と共起する性質があり、その動詞との共起性を中心として一つの構文パターンを抽出できると言える。

また、(8) の構文のスキーマの階層にあてはめると、*drive crazy* 結果構文は、特定の動詞の使用により意味的な特性を捉えられる、(7c) で示される *verb-specific-construction* であると考えられる。構文 I と構文 II に関しても、同様に下位のスキーマレベルにおいてそれぞれの詳細な意味的な特性を分析することが可能であるという予測が立つ。また上位のスキーマ的構文との関連性を認めることで、構文 I と構文 II をそれぞれに関連する一般的な構文の特性から捉えられると考えられる。次節以降では、構文 I と構文 II を、構文のスキーマ性の観点も取り入れ、それぞれの意味的な特性を明らかにする。

3. 感情を表す名詞と構文の意味的な特性

本節では、構文タイプごとの感情を表す名詞

の生起に注目し、構文 I と使役移動構文の意味的な特性および構文 II と結果構文の意味的な特性を比較する。構文 I は、感情の移動物と捉えると、全体として感情のメタファー的な使役移動を表す構文とみなすことができる。そして、構文 II は、into 句を心理的な状態変化の結果を表す表現とすると、全体を心理的な状態変化を表す構文として捉えることができる。また、この2つの構文タイプに生起する感情を表す名詞の性質を考察することによって、一般的な構文の意味的な特性との関連性について考察していく。

3.1 構文 I と使役移動構文

構文 I を使役移動構文のメタファー的な用法とみなすと、感情を表す名詞は目的語位置であるため、「移動物」として捉えられる。つまり、構文 I に生起する感情を表す名詞は、使役移動構文の目的語の意味特性との関連性を示すと予測が立つ。

使役移動構文の目的語に生起する移動物はその移動の過程で状態変化を含意する場合、経路を特定することが不可能であるとされている (Goldberg 1995)。たとえば、(10a) のように、状態変化動詞が使役移動構文と共起することは困難となるが、(10b) のように、移動の過程で目的語への状態変化を示さない動詞は生起できる。

(10) a. * The man broke the chair into the room.

b. The man pushed the chair into the room.

この使役移動構文の意味制約は、感情のメタファー的な移動を表す構文 I の場合、関連する特性があるのかを考察する。構文 I では、(11) のように、点的な感情を表す名詞 surprise, startle などを目的語として生起することは難しい。

(11) a. * Jean put a surprise into you.

b. * Jean struck a startle into you.

一方、(12) のように、fear や awe は状態的な感情を表すと考えられ、構文 I に生起し、長期間を表す句で修飾することもできる。

(12) The name of the manufacturer struck fear and awe into the American automobile industry for a long time.

したがって、構文 I では、抽象的な移動のなかで瞬間的な変化を含む感情を表す名詞ではなく、状態的な感情を表す名詞が生起すると言える。この意味的な特性は、使役移動構文の基本的な意味特性によって関連づけられる。一般的な使役移動構文では目的語の状態変化を含意しない移動を示すという特性との関連性が見られ、構文 I においては、目的語である感情を表す名詞は変化を含意しない性質であるということがわかる。

以下は、BNC での構文 I の目的語として生起する感情を表す名詞の例である。

(13) a. fear [48], terror [12], scare [3], awe, trepidation, chill, worry, despair, guilt, distress [1]

b. confidence [3], pride and honour, enthusiasm, excitement, respect, [1]

(14) a. This is what strikes fear into the hearts of all but the most experienced [...].

b. 'No one cares to remember whether the author of the most fascinating allegory that ever struck despair into the souls of imitators was a Dissenter.'

c. He couldn't instil enough confidence into her, that was the trouble.

d. He has also gradually collected a team of the best teachers in the world; and has personally instilled tremendous enthusiasm into all the students.

(BNC)

注目すべきことは、恐怖を表す fear, terror の生起が多く見られ、それらと共起する典型的な動詞は strike が挙げられる。また、肯定的な感情を表す語の生起数は多くはないが、感情のカテゴリーが限定されており、instill (instil) が共起動詞となる。つまり、confidence や respect は instill とパターンをつくる。(14) は、BNC で検

索した例の一部である。目的語となる感情語は静的・状態的な性質を表すものが見つけられる。

構文 I は、静的な感情を表す名詞と特定の動詞によってパターンを構成していることが見られ、(7c) で提示される、下位レベルの構文 verb-specific construction として位置づけられると考えられる。以下に示すように、特定の名詞との意味的に適合したパターンをつくる。

(15) strike {fear / terror / awe / despair / trepidation} into someone

(15)でみられる strike は、fear 以外の恐怖語の生起例も見られ、否定的な感情を表す語が生起する。また、strike の構文パターンでは、文脈も含めて意味的に適合する場合は、肯定的な感情を表す語との使用もある。

(16) I contrast this with the emotion [...] as they sing the 'Star Spangled Banner', 'God Bless America', 'America' and other such anthems which strike pride and honour into one's soul.
(BNC)

(16) は、インフォーマントによれば特殊な文脈でのみ容認される例である。(16) では、感情を表す名詞は pride and honour が生起しており、主語 anthem と意味的に適合することで、容認できるという。

(17) で示されるもう一つのパターンでは、instill と肯定的・否定的な感情を表す名詞との意味的な適合が見られる。「徐々に」という動詞の表す感情発生の意味と fear などの恐怖を表す語や confidence, respect などの肯定的な感情を表す意味が適合していることが考えられる。

(17) instill {fear / terror / confidence / respect / enthusiasm} into someone

以上のように、構文 I は個別の動詞を特定した下位レベルの構文でまとめられていることが確認できる。さらに、一般的な使役移動構文の意味特性との関連性を捉えられることから、上位の使役移動構文との関連性があることを指摘する。つまり、構文 I は、使役移動構文の一つの下位構文として捉えることができる。

3.2 構文 II と結果構文

構文 II に関しては、感情を表す名詞の生起位置は、into 句の目的語であり、この into 句は、ある一種の状態変化を表す結果句としても捉えられる。そこで、結果構文の結果句の特性に焦点を当て、構文 II と結果構文を比較する。

まず、結果構文の結果句には、あるスケールの最終点を表すという意味制約が、Goldberg (1995)、Vanden Wyngaerd (2001)、鈴木 (2007) 等において認められ、提案されている。たとえば、結果句には、(18)のように最終点を示す特性を持つ語は生起する。

(18) flat, smooth, sober, dead, sick

(Goldberg (1995: 195))

一方、(19)では、最終点を示す特性を持たないような語は、結果構文との共起ができない。

(19) a. * The bear growled us afraid.

b. * He encouraged her confident.

(Goldberg (1995:195))

鈴木 (2007) では、この制約を拡張的に解釈すると、前置詞の場合にもその傾向があることを指摘しており、(20) で挙げられる前置詞句は、身体の通常の状態から否定的な方向への変化という、ある意味での最終点への到達を示していると分析する。鈴木 (2007) では、このようなある意味での最終点を機能不全状態であるとしている。

(20) to death, to sleep, to exhaustion, to / into tears

構文 II においても、結果構文で指摘されているような意味的特性が見られるかを考察する。BNC で構文 II の事例を検索すると、(21) のような感情を表す名詞との共起が見つけられ、(22) では、その事例パターンの一部を示す。

(21) a. negative emotion: panic [6], rage [6],

fury [5], despair [4], anger [2], perplexity, apathy, agitation, unhappiness [1]

b. positive emotion: ecstasy [7], enchantment, paroxysm of bliss, a transport of joy, transports of delight [1]

c. neutral emotion: frenzy [20]

- (22) a. DJs are whipping them into a frenzy of anticipation from a stage perched above the masses.
- b. You clever boy!’ she would cry, throwing her arms around him, and sending him into a transport of joy.
- c. What she saw mirrored there threw her into a panic.
- d. Chapman’s famous translation of Homer, which sent Keats into ecstasies, is in twenty-four books, but they are contained comfortably in one folio volume.

(BNC)

(21) の構文Ⅱと共起する感情を表す名詞は、構文Ⅰの場合と異なり、肯定的な感情を表す名詞も否定的な感情を表す名詞など生起例が見られ、感情のカテゴリーにも偏りがあまりないことがわかる。

また、(22) の事例より、構文Ⅱには *frenzy*, *panic*, *fury* などある感情の極度な状態を示す語が生起することが見られる。(22b) での *transports of* 句に注目すると、(23a) で見られるように、*joy* のみの使用は難しいが、*transports of joy* として強い感情を表す場合、容認可能になる。同様に、(23b) と (23c) の例でそれぞれ示されるように、基本的な感情のカテゴリーを表す *fear* や *happiness* は、構文Ⅱに生起することは困難である。

- (23) a. The news sent my wife into {* *joy* / a transport of joy}.
- b. The disaster threw us into {* *fear* / a panic}.
- c. The receipt of this letter threw Clara into {* *happiness* / ecstasy}.

このような構文Ⅱで見られる意味的な特性は、結果構文の一般的な意味特性と関連づけられると考えられる。つまり、結果構文における結果句が状態の最終点を示すという制約との関連性が捉えられる。

特に、*frenzy* は、構文Ⅱでの BNC での生起例では最も頻出するが、自己制御できない強い感

情の状態を示すと考えられる。(24) のような表現においては、*frenzy* を含め極度な感情を表す語は共起することが困難であるとわかる。

- (24) ?? People can behave calmly in {a *frenzy* / a panic / a transports of joy}.

また、構文Ⅱにおける動詞と感情を表す名詞とのパターンに注目すると、*send*, *throw*, *drive* などの使役移動に関わる動詞が生起し、動詞の意味要素が構文の意味や感情を表す名詞の特性との共起性が捉えられる。

- (25) a. send someone into {a *frenzy* / a *fury* / transports of delight}
- b. throw someone into {a *panic* / a *rage*}
- c. drive someone into {despair /* a *paroxysm* of bliss}

(25a, b) のように、*send*, *throw* は感情の肯定や否定に関しては特定しない。一方、(24c) のように *drive* はその働きかけの早さには指定は厳しくないかもしれないが、否定的な感情を表す名詞と共起するという傾向がみられる。つまり、構文Ⅱで見られるパターンは、動詞が特定される *verb-specific construction* で捉えられる。

したがって、構文Ⅱでは、感情のカテゴリーにはあまり制限はないが、自己制御できないような極度の感情を表す名詞が生起すると言える。そして、動詞と感情を表す名詞との適合パターンが見られ、下位のレベルでの構文として捉えることが可能である。

3.3 まとめ

以上の考察より、構文Ⅰと構文Ⅱに生起する感情を表す名詞の特性に注目することで、構文Ⅰは、使役移動構文と、構文Ⅱでは、結果構文と、意味的な性質を関連付けられることがわかる。つまり、構文Ⅰも構文Ⅱも全体として、経験者にある心理状態にさせるという意味を示すのだが、それぞれに生起する感情語の特性を分析すると、関連する一般的な構文の意味特性が異なる。さらに、構文Ⅰ及び構文Ⅱは、Iwata (2008) で提示される構文の階層性を踏まえる

と、個々の動詞が特定される下位のレベルで構文によって構成されていると分析できる。

4. 結語

本稿では、感情を表す名詞が生起する2種類のタイプの構文タイプを一般的な構文の意味特性との比較により、それぞれの関連性を考察した。

まず、主に感情を表す名詞と構文との共起性を分析することで、一般的な使役移動構文と結果構文の意味的特性との関連性を捉えられることを指摘する。次に、具体的なレベルの構文として構文Ⅰと構文Ⅱを捉えると、動詞と感情を表す名詞との相互作用を示しており、下位のレベルで捉える必要性を指摘する。つまり、具体的なレベルの構文を捉えることで、感情を表す名詞と構文との意味的な適合関係を示すことができる。

注

1. 本稿では、*It worked himself into a frenzy* のような再帰代名詞を目的語にとる形式は対象としていない。

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コーパス

British National Corpus. (BNC)

辞書

Longman Dictionary of Contemporary English 5th Edition. (LDOCE)

Verb-Particle Combinations as Seen from Multi-Level Lexical Insertion *

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Keywords: affixation, conversion,
nominalization, semi-lexical categories

1. Introduction

It has been pointed out that verb-particle combinations (VPCs) such as *drink up* and *look up* are in a paradoxical situation in that they behave as words in some cases and as phrases in other cases. One approach to VPCs claims that the verb and particle form a single head. If they constitute morphological units, it is natural that their category can be changed by overt affixation (e.g. *drinkupable*, *look-upable*).

Overt affixation is not the only process of category change. Lexical items also change their category by means of conversion, which does not involve any concomitant change in form (cf. Lieber (2005: 418)). According to Nagano (2008: Ch. 4), previous studies of conversion are divided into five different approaches. One of them is called the zero-derivation approach, which attributes the category-changing function to the attachment of a phonologically null suffix to a stem (Marchand (1969) and Kiparsky (1982), among others). Under this approach, conversion is characterized as a kind of suffixation, more specifically, a process of covert suffixation.

Given the zero-derivation approach to conversion, it is predicted that a zero-suffix as well as overt suffixes like *-able* can also be attached

to VPCs, yielding verb-particle nouns. It seems, however, that this prediction is partially correct and partially incorrect, because the two types of VPCs, aspectual VPCs and idiomatic VPCs, show contrasting behavior in conversion. Idiomatic VPCs, but not aspectual ones, can be converted into nouns. The purpose of this paper is to answer the question of why aspectual VPCs and idiomatic VPCs behave differently within the framework of multi-level lexical insertion proposed by Emonds (2000). After a brief introduction of the two types of VPCs, we summarize the basic facts about their behavior in overt suffixation and conversion in the next section.

2. Aspectual and Idiomatic VPCs and their Behaviors in Derivational Morphology

Aspectual VPCs and idiomatic VPCs are exemplified in (1) and (2), respectively.

- (1) a. John drank up the beer.
(McIntyre (2004: 546))
b. Greg cleaned up the car.
(Dehé (2002: 6))
- (2) a. Mikey looked up the reference.
(Johnson (1991: 593))
b. John coughed up the money.
(Los et al. (2012: 17))

These two types of VPCs differ in semantic compositionality: Aspectual VPCs, but not idiomatic VPCs, have compositional meanings. The particles in aspectual VPCs contribute aspectual information to the meaning of the preceding verb. For example, the particle *up* in *drink up* in (1a) adds the meaning of completion ('completely') to that of the verb *drink*. As a result, the VPC *drink up* as a whole has the compositional meaning 'to drink completely.' On the other hand, the meaning of the idiomatic VPC *look up* 'to consult' is non-compositional in that it is not derived from summing up the meanings of the verb and the particle.

Both aspectual and idiomatic VPCs can be hosts of the overt suffixes *-able* and *-er* (cf. Farrell (2005)), as the examples in (3) and (4) show.

- (3) a. Certainly drinkable, but also drinkupable.
(<http://www.wine-lovers-page.com/forum/village/viewtopic.php?f=3&t=8487>)
- b. a check-offable list,
give-awayable, pay-offable loan
(Taniwaki and Tono (2009: 312))
- (4) a. Every word in the grid should be look-upable somewhere: dictionary, geography [book], movie lists, song lists, somewhere. (Coral Amende, *The Crossword Obsession: The History and Lore of the World's Most Popular Pastime*)
- b. laugh-offable, drop-inner
(Taniwaki and Tono (2009: 312),
Thim (2012: 31))

As a result of overt suffixation, the category of VPCs in (3) and (4) is changed from a verb into an adjective or noun.

Although the two types of VPCs show the same behavior in overt suffixation, the situation is different in the case of conversion, as mentioned above. The examples in (5) and (6) show that idiomatic VPCs, but not aspectual VPCs, can be converted into nouns.

- (5) *a drink-up (of water), *a chew-up (of food), *a finish-up (of the work), *an eat-up (of food) (Miller (2013: 35))
- (6) a look-up, a break-out, a fill-in, a wind-up
(Miller (2013), with modifications)

These facts indicate that overt suffixes can be attached to both aspectual and idiomatic VPCs but a zero-suffix can be attached only to idiomatic VPCs.

The rest of this paper will show that the behaviors of VPCs in suffixation and conversion

are explained within the framework of multi-level lexical insertion proposed by Emonds (2000), which is outlined in the next section.

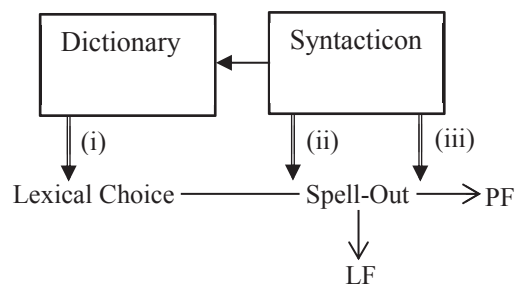
3. Theoretical Assumptions

Emonds (2000) decomposes the lexicon into two subparts: the Dictionary and the Syntacticon. The former stores lexical categories (N, V, A, and P) and the latter stores functional categories including inflectional and derivational affixes. According to Emonds (2000), lexical categories are different from functional categories in that only the former have purely semantic features f , which do not have any role in syntax (Emonds (2000: 7)).

Emonds (2000) assumes that there are subsets of N, V, A, and P that lack f , that is, concrete meanings. These subsets, having only abstract meanings or grammatical roles, are called grammatical or semi-lexical N, V, A, and P (cf. Emonds (2001: 29)). According to Emonds (2000: 9), semi-lexical nouns include *one*, *self*, *thing*, and *stuff*, and so forth. Since semi-lexical categories do not have f , they are to be stored in the Syntacticon.

Emonds (2000) hypothesizes that lexical insertion takes place at three levels and that the elements in the Dictionary and those in the Syntacticon are different in the levels at which they can be inserted. This hypothesis, which is called multi-level lexical insertion, is schematized in (7) (cf. Emonds (2000: 117, 437)).

(7) Multi-Level Lexical Insertion



In (7), downward arrows (i), (ii), and (iii) represent three types of lexical insertion, which are

called Deep Insertion, Syntactic Insertion, and PF Insertion, respectively (Emonds (2005: 237)). Deep Insertion takes place before syntactic derivations. Syntactic Insertion happens just prior to Spell-Out. PF Insertion takes place after Spell-Out. Items in the Dictionary are exclusively introduced to the derivation through Deep Insertion, as indicated by downward arrow (i). Items in the Syntacticon, on the other hand, can be inserted at different stages of a derivation, as downward arrows (ii) and (iii) represent. First, the items that are compositionally interpreted at LF undergo Syntactic Insertion. This type of insertion is exemplified by derivational morphology. Second, the items that do not contribute to LF are subject to PF Insertion. The items inserted at PF are, for example, expletives and inflectional affixes.

In addition, some free grammatical morphemes and derivational affixes can be inserted via the Dictionary, as represented by the leftward arrow in (7). In this case, the items from the Syntacticon undergo Deep Insertion like items in the Dictionary. Unlike the Syntacticon items that undergo Syntactic Insertion, those that undergo Deep Insertion have specialized lexical meanings and can be parts of idioms. Thus, by this hypothesis, the semantic contributions of free grammatical morphemes and derivational affixes differ according to the level where they are inserted.

The different types of insertion have other effects as well. Emonds (2000: Ch. 4.7.2) illustrates the effects, referring to the distinction between the two types of derived nominals: result nominals and complex event nominals in Grimshaw's (1990: Ch. 3) terms, which are exemplified in (8a) and (8b), respectively.

- (8) a. The examination was on the table.
b. The examination of the patients took a long time.

(Grimshaw (1990: 49))

The two types of nominals are different in that the noun *examination* refers to a concrete entity in (8a), but in (8b) it refers to an event. Moreover, the complex event nominal inherits the argument structure of its base verb (cf. *to examine the patients*) but the result nominal does not.

Emonds (2000) explains these contrasts by assuming that the derivational suffix *-tion* can be inserted at different levels; the suffix *-tion* undergoes Deep Insertion in result nominals and it undergoes Syntactic Insertion in complex event nominals. Emonds (2000) assumes that the base of *-tion* serves as a head until the suffix is inserted. Since the suffix of result nominals is inserted at the beginning of derivations, the verbal base does not serve as a head during the derivation, and thus it cannot take arguments. By contrast, since the suffix of complex event nominals undergoes Syntactic Insertion, the verbal base can serve as a head until Syntactic Insertion. It is this verbal head that selects its complement during the derivation. Therefore, only complex event nominals have argument structures. In the next section, I consider how particles in VPCs can be captured within this framework.

4. Particles as Semi-Lexical Categories

I propose that particles are prepositions that lack semantic content, that is, semi-lexical prepositions stored in the Syntacticon. In fact, there are reasons to believe that particles belong to the category P and that they lack purely semantic features *f*.

First, particles should be regarded as prepositions, based on the observations in Emonds (1985). According to Emonds (1985: 257), the emphatic word *right* modifies only prepositions, not other syntactic categories such as adverbs and adjectives, as indicated in (9).

- (9) a. *Bill visits Europe right often, frequently, etc.
b. *Those girls were right attractive.

- c. He lives right up the street.

(Emonds (1985: 257, 258))

He further shows that the word *right* can also modify particles such as *up* as in (10).

- (10) They looked it right up and left.

(Emonds (1985: 258))

This indicates that particles should be characterized as a variety of prepositions.

Furthermore, it can be concluded that particles lack the purely semantic features *f*. Emonds (1985: 261, 262) states that nouns without “specificity” cannot be in focus position. For example, the noun *stuff* cannot be focused in cleft sentences:

- (11) *It was some stuff that I received in the mail.

(≠ I received some stuff in the mail, where some stuff is not drug slang and is not specific.)

(Emonds (1985: 262))

Recall that the noun *stuff* is an example of a semi-lexical noun. Given that the noun *stuff* does not have purely semantic features *f*, we can regard the lack of “specificity” as the absence of *f* in Emonds’ (2000) framework. Assuming that cleft sentences provide a diagnostic for the presence and absence of the *f* feature, let us observe the following cleft sentences where particles are in focus position:

- (12) a. *It was up that I made the exam.
b. *It was up that I looked the word in Webster’s *Third*.

(Delahunty (1984: 76))

The ungrammaticality of these sentences shows that whether the VPC is aspectual or idiomatic, a particle lacks *f*.¹ Therefore, we can conclude that particles belong to the category P but they lack *f*.

In the next section, I distinguish between two types of VPCs, based on the semi-lexical property of particles, and explain their contrasting behavior in conversion shown in section 2.

5. Analysis

5.1. Multi-Level Insertion of Particles

Section 4 showed that particles are stored in the Syntacticon. This means that they can, in principle, be inserted at any of the three levels. I argue that the particles in aspectual VPCs and those in idiomatic VPCs are inserted at different levels. Given that both types of particles obviously contribute to the interpretation, the possibility of PF Insertion of particles is excluded. Then, we have two possibilities: Syntactic Insertion and Deep Insertion.²

To determine which type of particle undergoes which insertion, let us focus on the semantic aspects. Recall that the Syntacticon items that undergo Syntactic Insertion are compositionally interpreted, while those that undergo Deep Insertion have non-compositional meanings. Given that aspectual VPCs have compositional meanings but idiomatic VPCs do not, the particles in the former are inserted at the level of Syntactic Insertion and those in the latter at the level of Deep Insertion. This is represented in (13), where the arrow (\Rightarrow) indicates Syntactic Insertion.

- (13) a. Aspectual VPC:

[_V [_V drink] [_{PRT} Ø (\Rightarrow up)]]

- b. Idiomatic VPC:

[_V [_V look] [_{PRT} up]]

(PRT = Particle)

This analysis is supported by a fact concerning argument structure. Given the derivation of VPCs in (13), it turns out that the head of aspectual VPCs is a simple verb until the insertion of the particle, while that of idiomatic VPCs is the verb-particle complex. If so, we can predict that an aspectual VPC, but not an idiomatic VPC, inherits its argument structure from the verb used therein, in parallel to the case of complex event nominals discussed in section 3. This is in fact the case, as shown in (14) and (15).

- (14) a. drink (up) the beer
 b. clean (up) the car
 (15) a. look *(up) the reference
 b. cough *(up) the money

(cf. Los et al. (2012: 16))

These examples show that aspectual VPCs have the same argument structure as their verbs but idiomatic VPCs do not; that is, they do not inherit the verb's argument structure. This is because the arguments in (14) are selected by the verbs *drink* and *clean*, but those in (15) are selected by a verb-particle complex.

5.2. Two Types of VPCs and Overt Suffixation

As is noted in section 2, there is no difference between aspectual and idiomatic VPCs in overt suffixation. Namely, affixes like *-able* and *-er* can be attached to both types of VPCs. I will explain this fact in this subsection.

First, let us examine the insertion level of the suffixes *-able* and *-er*. I argue that these suffixes are inserted at the level of Syntactic Insertion. In fact, Emonds (2000) assumes that the suffix *-er* of productive agentive nominals like *introducer* in (16) is inserted during the syntactic derivation.

- (16) A nervous student was selected as *introducer* of the panelists to the president. (Emonds (2000: 157))

Since the verbal base serves as the head until the suffix is inserted, the agentive noun is compatible with the elements selected by the verb (cf. *introduce the panelists to the president*). The same is true of the suffix *-able*, as shown in (17).

- (17) These bolts are removable.
 (Randall (1988: 131))

The example in (17), where the argument appears in a subject position (cf. *remove these bolts*), shows that the derivative inherits the argument structure from the underlying verb. The argument-taking property of the suffixes indicates that they undergo Syntactic Insertion.

Given that overt suffixes like *-able* and *-er* are introduced at the level of syntactic derivation, both aspectual VPCs and idiomatic VPCs can be inputs of the derivation involving them, deriving the examples in (3) and (4).

5.3. Two Types of VPCs and Covert Suffixation

Finally, why is it that idiomatic VPCs can be converted into nouns but aspectual VPCs cannot? To answer the question, I propose that a zero-nominalizer undergoes only Deep Insertion. Since the particles of idiomatic VPCs are already inserted at the level of Deep Insertion, the zero-nominalizer can be attached to the combinations as a whole. On the other hand, the particles of aspectual VPCs are not inserted until the level of Syntactic Insertion and aspectual VPCs cannot be inputs of a zero-nominalizer. Therefore, idiomatic VPCs, but not aspectual ones, can be converted into nouns.

This proposal is supported by the following facts. First, zero-derived nouns do not select arguments. As shown by the examples in (18), the zero-derived nouns are incompatible with the arguments that the underlying verbs can take.

- (18) a. *John's reject of her offer
 b. *their drink of much wine
 (Shimamura (2009: 112))

This fact strongly suggests that the zero-nominalizer is a suffix that is only effective in the Dictionary.

Second, zero-derived nominals have specific meanings that seem to be assigned in the Dictionary, but not through a syntactic derivation. For example, while the noun *judger*, where the suffix *-er* undergoes Syntactic Insertion, has various meanings corresponding to the meanings of its verbal counterpart, the zero-derived noun *judge* has the meaning of 'Justice.'

6. Concluding Remarks

In this paper, based on the framework of Emonds (2000), I was concerned with the issue of why aspectual and idiomatic VPCs behave the same way in overt suffixation but not in covert suffixation. To answer the question, I examined the levels of lexical insertion of particles, the suffixes *-able* and *-er*, and a zero-nominalizer. In the analysis proposed here, the behaviors of aspectual and idiomatic VPCs in overt and covert suffixation are a consequence of the different insertion levels at which they operate.

This paper indicates that suffixes can differ from one another in the levels at which they are inserted. This appears similar to the basic assumption of the level-ordering hypothesis (e.g. Kiparsky (1982)); that is, the assumption that derivational suffixes can be classified into Level 1 suffixes, which cause a stress shift, and Level 2 suffixes, which do not cause a stress shift. Given that in the hypothesis, a zero-nominalizer is assumed to be a Level 1 suffix (cf. *recórd_V* > *récord_N*) and *-able* and *-er* are Level 2 suffixes (cf. *recórdable*, *recórder*), Level 1 suffixation seemingly corresponds to Deep Insertion and Level 2 suffixation to Syntactic Insertion. However, this is not correct. Consider the suffix *-tion*. Since the suffix *-tion* is a Level 1 suffix (cf. *exámine* > *examinátion*), one might predict that it undergoes Deep Insertion. As mentioned in Section 3, the suffix can also undergo Syntactic Insertion, forming complex event nominals. The level-ordering hypothesis cannot fully explain the facts, and it thus needs an additional distinction, as Randall (1988) points out. In this sense, the model in this paper is more favorable.

Notes

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¹ Particles are often called intransitive prepositions because they do not take complements (e.g. Emonds (1985)). However, not all intransitive prepositions are particles. For example, the preposition *in* in (i), which takes no complement, can be focused as in (ii).

- (i) The salesman found John in.
- (ii) It was in that the salesman found John.
(Emonds (1995: 11))

The sentence in (ii) shows that this preposition has *f*, and thus it is a lexical preposition. Therefore, in spite of its intransitivity, the preposition in (i) is stored in the Dictionary, unlike particles.

² Emonds (2005) assumes that certain prefixes are Ps inserted at PF. Based on the complementary distribution between the particle *up* and the prefix *re-* as in (i), he assigns them the same grammatical status; in his words, the prefix *re-* “is also a P appearing inside the verb” (cf. Keyser and Roeper (1992)).

- (i) a. Let’s build (up) our defenses.
- b. Let’s rebuild (*up) our defenses.
(Emonds (2005: 259))

According to Emonds (2005), the feature complex of *re-* and that of particles appear in the post-verbal position in syntax. They differ in that while the latter is lexicalized in that position, the former is lexicalized in pre-verbal position by the prefix. He argues that such lexicalization is implemented by PF Insertion. For more detailed discussion, see Emonds (20005: Sec. 5.2.).

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前置詞の補語句として用いられる前置詞句の名詞的用法について*

(Prepositional Phrases as a Complement of
Prepositions)

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キーワード：前置詞句の名詞的用法、
動機づけ、コーパス、非対称性

1. はじめに

本稿では、*The British National Corpus* (BNC) の定量的な調査を通じて、前置詞の補語句として用いられる前置詞句の名詞的用法が持つ文法的・意味的特徴を明らかにする。

前置詞句には、(1)のように名詞句的に振舞い、他の前置詞の補語句となる用法が存在する。

(1) (a) John appeared from *under the table*.

(b) He didn't appear until *after the show*.

(1)では前置詞句の *under the table* と *after the show* が、前置詞 *from* と *until* の補語句となっている。一方、すべての前置詞句が他の前置詞の補語句となるわけではなく、主要部となる前置詞と、その補語句の主要部となる前置詞の組み合わせは限られている。

本稿では、45 個の主要な前置詞を定量的に調査することで、前置詞の補語句として用いられる前置詞句の名詞的用法に見られる文法的・意味的特性を明らかにする。また、コーパス調査によって観察された[前置詞][前置詞][名詞]の組み合わせの傾向を動機づける要因を認知言語学の観点から考察する。

2. 前置詞句の名詞的用法

前置詞句の名詞的用法は、これまでに多くの

文法書で指摘されている (Quirk et al. 1985; Huddleston and Pullum 2002)。前置詞句の名詞的用法には、主に、前置詞句が主語となる(2)のタイプと、前置詞句が前置詞の補語句となる(3)のタイプが存在する。

(2) (a) *Near Boston* has always appealed to me.

(b) *From my house to the station* is a good walk.

(c) *By special delivery* is good for sending letters. (有村 1987: 22)

(3) (a) He picked up the gun from *under the table*.

(b) Food has been scarce since *before the war*.

(c) We didn't meet until *after the show*.

(Quirk et al. 1985: 658n)

(2)の用法は、前置詞句が主語句のように振舞うため、前置詞句主語構文とも呼ばれる。この構文は、統語的・意味的な分析が進んでいる。一例を挙げると、主語となる前置詞句の指示性が高い点が指摘されている (有村 1987; 出原 1998; 岩崎 2009)。一方、(3)の用法では、前置詞句が前置詞の補語句のように振舞っている。前置詞は語源的には、名詞句の前に (pre-) 置かれる (position) ものと定義されるが、前置詞の補語句として名詞句だけではなく前置詞句をとることもある。前置詞の補語句としての用法は主語句としての用法に比べて、文法面でも意味面でも使用が限定的である。例えば、Huddleston and Pullum (2002: 640) は、主要部となる典型的な前置詞は *from*, *since*, *till*, *until* であり、前置詞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。この補語句として用いられる前置詞の用法は、前置詞句主語構文と呼ばれる(2)の用法に比べて、分析が進んでいない。現在でも、一部の文法書で言及されているものの (Huddleston and Pullum 2002)、詳しい記述や意味的な分析は進んでいない。

3. 空間認知と前置詞の振舞い

前置詞が持つ意味は認知言語学の研究パラダイムでは、初期の頃から主要な考察対象である

(Lindner 1981; Brugman 1988)。認知言語学では、人間による空間の捉え方が前置詞の文法的・意味的振舞いをどのように動機づけるかが議論されてきた。これらの研究によって、前置詞は客観的な世界のありようを表すわけではなく、人間が主観的に捉えた世界のありようを表す点が明らかになった。これまでに、メタファー、メトニミー、主体化などの認知能力や、百科事典的知識やフレームに関する知識がどのように前置詞の文法的・意味的振舞いを動機づけるかが議論されている。

現在でも、前置詞の振舞いは、様々な現象と関連付けられながら、研究が盛んに行われている。一例を挙げると、基本的な語彙関係（反義性や類義性など）にある前置詞の分析がある。前置詞を *from-to* や *up-down* などの反義的な対としてみた場合、両者の間には、分布、頻度、有標性、意味拡張などに偏りが見られ、文法と意味の両面で非対称的な特徴が観察される (Stefanowitsch and Rhode 2004; 石橋 2007; 大谷 2012, 2013)。この言語レベルの非対称性を動機づける基盤として、事態を把握し、意味を生成する基盤としての身体的作用が注目されている。(Lakoff 1987, Lakoff and Johnson 1999; Tyler and Evans 2001)。

以上の背景のもと、本稿では、まず、前置詞句の補語句として用いられる前置詞句の名詞的用法に見られる特徴を、コーパスを用いて定量的に分析し、調査の結果明らかになった分布的な特徴を認知言語学の観点から考察する。

4. データと方法論

本稿では、前置詞句の名詞的用法を考察するため、Altenberg and Vago (2010: 65) が挙げる主要な 45 の前置詞を考察対象とし、その前置詞に後続する前置詞句の特徴を、*BNC* (World Edition) を用いて調査する。

- (4) about, above, across, after, against, along, among, around, at, before, behind, below, beneath, beside, between, beyond, by, despite,

down, during, for, from, in, into, like, near, of, off, on, onto, out, over, since, through, throughout, till, to, toward(s), under, until, up, upon, with, within, without

- (4)の 45 の前置詞に後続する前置詞句の名詞的用法の用例 (*from under the bed* など) は *BNC* に付属のコンコーダンサーを用いて(5)と(6)の手順で収集する。

- (5) *BNC* の「共起検索」を用いて、中心語の前置詞と、それに続く前置詞あるいは不変化詞（つまり、前置詞の副詞的用法）を検索することで、[前置詞₁][前置詞₂]のパターンを抽出する。

- (6) 「語(句)集計」を用いて、2 つ目の前置詞後の 1-3 語に現れる名詞 (*from behind Adam, from under the table, from within his own party*) を収集することで、[前置詞₂]に後続する名詞句の傾向を調べる。

以上の手順で収集したデータを用いて 2 点の事例研究を行う。事例研究 1 では、前置詞の組み合わせの傾向を調査し、共起しやすい前置詞の組み合わせを明らかにする。事例研究 2 では、前置詞句補語が最も頻繁に見られる *from* に後続する前置詞と名詞の傾向を調査する。

5. 結果と考察

5.1. 事例研究 1: 前置詞の連鎖

最初に、前置詞の組み合わせの傾向を調べるため、*BNC* の共起検索を用いて、(4)の 45 の前置詞に後続する前置詞と不変化詞を調査した。その結果、頻度が 30 回を超える組み合わせは全部で 145 通り見られた。しかし、これらの組み合わせの具体例を見たところ、前置詞句の名詞的用法ではなく、(7a)のような前置詞を内在する動詞に前置詞の付加句が後続するものが非常に多かった。特に、(7b)や(7c)のような受動態を含む文で用いられる頻度が高かった。

- (7) (a) I will actually be working to start *with in* this area here. [F77: 66]

- (b) Such diagrams are graphically referred *to as*

s-plane diagrams. [K90: 1255]

- (c) This afternoon she was being cared *for by* police and relatives. [K1V: 2088]

一方、前置詞の補語句となる前置詞句も見られたが、先行研究が指摘するように、ほとんどが空間的意味あるいは時間的意味で用いられていた。しかし、具体的な事例を見ていくと、(8a)や(8b)のように、空間・時間以外の意味で用いられる前置詞句や、(8c)のように前置詞句全体が慣用句的な意味を持つ用法が見られた。

- (8) (a) [I]t would all be funded *from within* the contract. [G4H: 756]

- (b) How *about with* a man? [C8D: 2490]

- (c) [I]t is a voice *from beyond* the grave ... [G2V: 1860]

共起頻度による前置詞の集計では、前置詞句の名詞的用法を抽出できなかったため、語句の結びつきの強さを測る T スコアを用いて、前置詞間の結びつきの強さを測ったところ、15 の前置詞の連鎖に有意な関係であることを示す 2 以上の数値が観察された（表を参照）。

T スコアが高い組み合わせを実際に見たところ、前置詞の名詞的用法が見られた。ただし、*onto as* と *onto by* は、T スコアは高いが、ほとんどが前置詞付き動詞の受動態（*be looked onto as*, *be set onto by*）で用いられていたため、表からは除外した。表が示すように、T スコアが高い組み合わせは、*through till* と *like unto* を除いて、*from* が主要部となっていた。

#	前置詞句	T スコア(頻度)
1	<i>from behind</i>	21.89 (610)
2	<i>from within</i>	17.56 (587)
3	<i>from under</i>	12.49 (468)
4	<i>from beneath</i>	12.22 (180)
5	<i>from among</i>	9.92 (233)
6	<i>from across</i>	9.62 (217)
7	<i>from around</i>	9.61 (281)
8	<i>from amongst</i>	6.65 (73)
9	<i>from beyond</i>	4.57 (77)

10	<i>from outside</i>	3.78 (73)
11	<i>from outside of</i>	3.31 (16)
12	<i>from throughout</i>	3.10 (67)
13	<i>through till</i>	2.87 (11)
14	<i>like unto</i>	2.71 (8)
15	<i>from beside</i>	2.35 (33)
16	<i>from underneath</i>	2.25 (11)
17	<i>from atop</i>	2.01 (5)

表 結びつきの強い前置詞の組み合わせ

表から、BNC に見られる前置詞の分布に関して、以下の点が明らかになる。まず、前置詞句の主要部となるのは *from* が圧倒的に多い。また、*from* に後続する前置詞句に注目すると、第一に、形式の面では、二音節以上であり、*under* を除いてはすべて、*a-*, *be-*, などの接辞を含んでいる。第二に、意味の面では、空間的な意味を持つ前置詞が多いが、*at*, *in*, *on* のような典型的な前置詞は用いられない。第三に、上下で見ると、*under* や *beneath* のような基準の下側を表す前置詞は *from* との結びつきが強い。

5.2. 事例研究 2: 前置詞句内の名詞句

次に、表の結びつきの強い前置詞の組み合わせに後続する名詞を調査して、各前置詞の組み合わせが表す意味の傾向を考察した。調査の結果、以下の点が明らかになった。第一に、前置詞の補語となる前置詞句はほとんどが空間的意味で用いられており、時間的な意味を持つものが非常に少なかった（*from throughout the year*, *through till the end* など）。空間的な意味の場合、*behind*, *under*, *beneath*, *beside* は、身体部位（*nose*, *arm*, *brow*）や日常的によく見る事物（*desk*, *door*, *tree*）など、視界の中で区切られる名詞と共起した。一方、*across*, *around*, *throughout* は、国のような広い領域を表す語句（*country*, *world*）と共起した。¹

第二に、先行研究の言及とは異なり、前置詞の補語句となる前置詞句には空間的意味と時間

的意味だけでなく、(9)のように集団や組織を表す意味や、(10)のように値段などの抽象的な領域を表す意味も観察された。

(9) (a) There were one or two escapees from *within* *his group*, however.

(b) Other directors will be appointed from *within the company*, Pegasus says.

(c) The President appoints the Prime Minister and Cabinet from *among the members of the unicameral House of Assembly*.

(d) You have to write about it from *outside experience*.

(10) The price of the base DCE license costs from *between \$150-\$2,400* depending on the number of components chosen.²

(9)や(10)の例では、前置詞句に後続する名詞句が抽象的な概念を表している。集団や組織はまとりとして認識されやすい概念であり、メタファーを通じて空間的な領域に見立てられることも多い。

6. 考察

最後に、[前置詞][前置詞][名詞]の組み合わせにおける偏った分布を動機づける要因に関して認知言語学の観点から考察を行う。

6.1. 有標な事態と無標な事態

第一に、今回の調査では、*from* は *at*, *in*, *on* などの基本的な空間関係を表す前置詞ではなく、*behind* や *beneath* などの形態的にも意味的にも非典型的な前置詞と共起しやすい点が確認された(表参照)。この傾向には、*at*, *in*, *on* が表す位置関係が典型的な空間位置であることが関係すると思われる。つまり、*from* は起点を表す前置詞であるが、*at*, *in*, *on* が表す空間的な位置は典型的であるため、(11a) や (12a) のように明示しなくとも、文脈から推論が可能である。

(11) (a) He wiped off some water from the table.

(b) He wiped off some water from {*underneath* / **on*} the table.

(12) (a) He was chosen from the group.

(b) He was chosen from {*within* / **in*} the group.

(11a) と (12a) の文はそれぞれ「机 (の表側) から」、「集団 (の中) から」と自然に解釈される。そのため、*on* や *in* を用いて、「表面への接触」や「容器の内側」などの空間的な関係を明示する必要はない。一方、自然な推論が難しい有標な事態を表す場合、前置詞が用いられる。例えば、同じ接触を表す場合でも、文脈からの推論が可能な表側ではなく、有標的な裏側を表す場合、(11b) のように、*underneath* を用いて明示的に示す必要がある。³ また、文脈から包摂関係が推論できる (12a) のような場合でも、包摂関係を強調する場合、(12b) のように境界を強調した *within* が用いられる。(11) や (12) は、百科事典的意味や焦点化など、非言語的な知識や捉え方 (construal) が前置詞の分布を動機づける例と言える。

6.2. 二種類の非対称性

第二に、今回の調査から空間関係における二種類の非対称性が示唆される。一つ目は、垂直軸の上下に関する非対称性である。*from* に後続する前置詞では *under*, *beneath*, *underneath* など、基準の下側の領域を表す前置詞が後続する傾向が強い。指示性が高い前置詞句は、名詞的な特性を持つ点を考慮すると、上下では下の方がまとりとして認識されやすい可能性が示唆される。先行研究でも、*over* 句と *under* 句では、*under* 句の方が名詞的な振舞いが強く見られる点が指摘されている (大谷 2012)。これらの調査結果は、我々が認識する世界においては、何かの下領域は、上の領域に比べて、地面や支えなどによって区切られている場合が多いため、まとりとして認識されやすい可能性を示唆する。

二つ目は、起点と到着点の非対称性である。起点を表す *from* には様々なタイプの前置詞句と有意な結びつきが見られたが、着点を表す *to* には前置詞句との有意な結びつきは見られず、

from と *to* は対照的な振舞いを示した。一般的に、移動を表す表現においては、Fillmore (1997) で指摘されているように、起点と到着点は非対称的であり、起点は有標となる。

(13) The cat ran behind the sofa. (*ibid.*: 3)

(13) の前置詞句には、場所の解釈 (= ソファの後ろでネコが走った) と、到着点の解釈 (= ソファの後ろまで猫が走った) が存在する。しかし、(13) は、起点の解釈 (= ソファの後ろから猫が走った) はできない。起点の解釈をする場合、*The cat ran from behind the sofa.* のように、*from* を用いて示さなければならない。このように移動の起点と着点では、着点は無標であるため (*to* を用いて) 示さなくても自然に推論ができるが、起点を表す場合は、言語的に *from* を用いて示す必要がある。このような起点と着点の非対称性によって、*to* とは対照的に *from* は様々な前置詞句と共に起すると考えられる。⁴

6.3. 前置詞句補語の分類

第三に、前置詞の補語句として用いられる前置詞句は、機能に注目すると、(14) で示される、三種類のタイプに分類できる。

(14) (a) **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** するもの

(b) **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** するもの

(c) **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** するもの

以下に、三種類のタイプを順にみていく。一つ目は、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ものである。

(15) (a) Mr. Gonzalez has also come in for criticism from within his own party.

(b) There are numerous varieties of mustards from around the world, ...

(c) So I thought, oh that's great, we've got the business through till April.

(15) では、補語句内の前置詞は主要部となる前置詞の意味を強調する。補語句内の前置詞は新

たに意味を付与するわけではなく、事態の一部を強調するだけであるため、言語化されない場合でも、文の大意は変わらない。(15a) では、*within* が言語化されてもされなくても、仲間から批判を受ける点は変わらない。しかし、*within* を明示的に言うことで、外ではなく、「仲間内から」批判をされたという点が強調される。(15b) も同様に、*around* が言語化されなくても文の大意は変わらないが、*around* があることで「世界中の至る所から」という点が強調される。(15c) では、*till* が言語化されなくても「4 月まで」という意味になるが、*till* が言語化されることで、「4 月の最後まで」という着点が強調される。

二つ目は、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ものである。

(16) (a) He picked up the gun from under the table.

(b) His mother's voice was cold from behind the make-up towel.

(16) の例では、補語句内の前置詞によって、前置詞句全体が表す位置関係が特定されている。すなわち、補語句内の主要部となる前置詞は有標な位置関係を表す。例えば、(16a) では、*under* により、テーブルの周りの領域の中で、下側の領域が特定される。*under* がない *from the table* という場合、銃がある場所としては、「テーブルの上」や「テーブルの (引き出しの) 中」などの一般的な位置関係が喚起されるが、*under* を用いることで、テーブルの下という一般的ではなく、有標な場所が特定される。同様に、(16b) の *behind* もタオルの付近の中でも、「後ろ側」の領域を特定している。特定型の前置詞句補語の場合、前置詞全体が表す位置が通常 of 推論により導かれづらいため、前置詞句補語を用いて有標な位置関係を特定していると言える。

三つ目は、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ものである。この場合、前置詞句の補語句の主要部となる前置詞によって、新たな位置関係が示されるので、補語句の主要部となる前置詞が言語化されない場合とされる場合では表される事態が異なる。

(17) (a) This time they approached from *across the field above the bank*, a roundabout route.

(b) Designed by Hawksmoor in 1731, it was not completed until *after his death*.

(c) People would still be living here who had been in residence since *before the war* and

(17)では前置詞に後続する前置詞句によって新たな意味が付与されている。(17a)では、*from across the field* が「野原の向こう側から」という事態を表すが、「向こう側」の領域は *across* によって示される。次に、時間を表す前置詞の例である(17b)と(17c)では、*until* や *since* だけでは表されない意味が、補語句の主要部となる前置詞によって付与される。(17b)は「彼が死んだ後」という意味になる。*after* があることによって、*until* が表す「～まで」という意味に「～の後」という意味が付与され、全体は「～の後まで」という意味になる。また、(17c)は「戦争の前から」という意味になる。*before* があることによって、*since* が表す「～から」という意味に「～の前」という意味が付与され、全体は「～が始まる前から」という意味になる。

以上のように、前置詞の補語句として用いられる前置詞の機能は、先行する前置詞に対して、(i) 意味を強調する、(ii) 意味を特定する、(iii) 意味を付与する、という三種類に大別できる。

7. まとめ

本稿では、前置詞の補語句となる前置詞句に見られる特徴を明らかにするために、*BNC* を用いて、二種類の定量的な調査を行った。第一の調査では、前置詞の組み合わせを調査して、主要部となる前置詞は圧倒的に *from* が多い点と、*from* に後続する前置詞は *at, in, on* などの典型的な前置詞ではなく、二音節以上の前置詞が現れる点を確認した。第二の調査では、前置詞に後続する名詞を分類することで、前置詞句補語には時間と空間だけでなく、集団、組織、値段などの抽象的な意味を表す用がある点を確認した。

次に、コーパス調査の結果観察された前置詞

の分布の偏りを動機づける要因として、有標性、非対称性、前置詞句補語の機能など、認知言語学の観点から考察を行った。

前置詞は中心的な意味は空間的であるが、文法化が進んだ品詞クラスである。そのため、前置詞の分布の偏りの調査は、空間がどのように認識され言語化されているか、あるいは、抽象的な概念や文法機能の基盤として空間的な位置関係がどのように用いられているかを論じるうえで重要な言語的な手掛かりとなる。

現在、認知言語学や機能言語学において、言語の文法的・意味的振舞いを動機づける様々な動機づけや制約が提唱されている。本稿では主に、*BNC* 内の前置詞の分布を調査したが、大量の言語データに見られる偏りを定量的に分析するという本稿の手法は、言語の機能的な制約に関する仮説を検証するための実証的な分析手法として応用が可能であろう。

注

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(i) [[prep] [prep NP]]

(ii) [[prep prep] [NP]]

(i)では、補語句となる前置詞句が一つのまとまりとなり主要部となる前置詞と共に起する (例 [from][around the world])。 (ii)では、複合的な前置詞が補語句となる名詞句と結びつく。この点については、検証が必要だが、(i)の場合は名詞の種類がある程度限定されるが、(ii)の場合、名詞には比較的多様な種類が入るのではないかと の助言を受けた。

2. この例に関して、フロアから間違いではないかと の指摘を受けたが、インフォーマントのチェックにより問題ない点を確認した。

3. 発表後に竝木崇康先生から語形成では

floor-to-ceiling shelf のように *from* は言語化されずに *to* が現れるというコメントを頂いた。この場合 *from* は明示しなくても、文脈から推論が可能である。文脈から推論が可能な無標な位置関係は言語化されないという点で、上記の例は、*from* の後に *at, in, on* が後続しない点と共通していると考えられる。

4. Fillmore (1997)をはじめとする起点と到着点の非対称性の議論については、中村文紀氏に助言を頂いた。

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(コーパス)

British National Corpus (Available at <http://www.corpora.jp/~scn/bnc.html?page=top>)

補文標識一致と素性継承*
(On Complementizer Agreement and
Feature-Inheritance)

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キーワード : ECM 構文、弱フェイズ、補文
標識一致、遊離数量詞

概要

Richards (2007)は、Chomsky (2007, 2008, 2013)の素性継承に強力な理論的支持を示した。しかし Richards (2007)の想定のもとでは、補文標識一致が説明できない。そこで本論文では主張として素性継承が補部の主要部だけでなく c 統御領域内に存在する主要部にも可能であると主張し、Rizzi (1997)以降の CP カートグラフィに基づいて補文標識一致を説明する。

1. 導入 : 理論的背景

1.1. 素性照合

ミニマリストプログラムでは、諸現象の説明に際し、素性に注目が集まっている。

(1) John likes dogs.

John: [interpretable ϕ -features
(3rd person, singular, masculine)]

T: [uninterpretable ϕ -features]

(1)の *John* のような名詞は三人称、単数、男性として解釈される素性(解釈可能な ϕ 素性)を持っている。しかし、一方で、動詞の屈折に反映されたこれと対応する解釈できない素性(T の解釈不可能な ϕ 素性)も存

在する。本来、インターフェイスで解釈ができないような素性が存在することはミニマリストの完全解釈の概念からは好まれない。これに対しミニマリストプログラムでは、このような解釈不可能素性が、移動や一致などの統語現象の引き金になるという立場がとられている。この立場のもとでは、解釈不可能素性をインターフェイスに至らせないよう統語部門で処理する結果として、統語的移動や一致が生じることになる。従って、本論文で見る補文標識一致のような一致現象は、ミニマリストプログラムでは(2)の想定のもとでとらえられる。なお、以下では紙面の都合上、解釈不可能素性を u-F、解釈可能素性を i-F と表記することにする。

(2) 一致は u-F の照合により生じる

1.2. 素性の統語的な値(value)

しかしながら、Epstein et al. (1998)が指摘したように、厳密には、当該の素性が解釈可能か不可能かはインターフェイスに行くまで明らかではない。これに対し Chomsky (2001)は、統語的な値という概念を導入した。

- | | |
|------------|------------------|
| (3) a. i-F | 解釈 : 可能 |
| | <u>統語的な値 : 有</u> |
| b. u-F | 解釈 : 不可能 |
| | <u>統語的な値 : 無</u> |

(3a)に示されるように、i-F とはインターフェイスで解釈され、統語部門では統語的な値を持っている素性である一方、(3b)に示されるように、u-F はインターフェイスで解釈できず、また統語的な値も持たない。これにより、当該の素性の統語的な値を見ることにより、その解釈の可否を統語部門でも知ることができるということが導かれた。

また、この素性の統語的な値という概念は、次のような利点も有している。

(4) John likes dogs.

(4)には一致が存在し、これは(2)に従い u-F の照合の結果生じると考えられる。しかしここで、u-F が発音に影響を与える以上、統語部門で照合により処理された u-F がどのように音声部門まで到達するのかという疑問が浮上する。

これに対し、Chomsky (2000)までの枠組みでは二重の操作が想定されていた。u-F は、まず照合により「deletion」をされた後、依然として派生に存在し続け、インターフェイスに送られる所で「erasure」により完全に消去されるとされていた。しかしこの枠組みでは Epstein and Seely (2002)が指摘したように、「deletion」と「erasure」という余剰的な操作の想定が必要であるという問題が発生する。「erasure」が u-F を完全に消去できるのならば、なぜ別個に「deletion」という操作が必要なのかが明らかではない。また素性を完全に消去できない「deletion」とはどのような操作なのかも不明である。

しかし統語的な値という概念が Chomsky (2001)により導入された結果、「deletion」、つまり素性の照合は値のコピー操作であるととらえ直される。仮に統語的な値のコピーが生じなければ、u-F は音声部門で適切な発音形式を得られないことから、「deletion」として言及されていた照合操作は、u-F の発音形式を決めるために独自に必要であるということが導かれる。

- (5) a. u-F[] i-F[value]
 b. u-F[value] ●_{Agree}● i-F[value]
 値のコピー

一方で、「erasure」は Spell-Out という素性の消去操作とみなされる。「deletion」が値のコピーととらえ直された以上、u-F は統語的な値のコピーを受けた後も派生に存在し続けることになる。しかし u-F は本質的に意味部門で解釈できないものであるため、Spell-Out は、u-F を意味部門に行かせず音声部門だけに送るために独自に必要となる。

以上のことから、「deletion」と「erasure」という余剰的な操作が独自に動機づけられることになった。

しかしながら、素性の統語的な値という概念の導入の結果、次のような問題が浮上した。

(6)照合された u-F は i-F と区別できない。

(7) a. i-F 解釈：可能

 統語的値：有

 b. u-F 解釈：不可能

 統語的値：無

 c. 照合された u-F

 解釈：不可能

 統語的値：有

(7a)と(7c)に注目したい。照合、つまり値のコピーを受けた u-F は、(7c)のように、依然としてこれが u-F であることからインターフェイスでは読めないものの、統語的な値は持っているということが予測される。従って、統語的な値の導入の結果、u-F は照合後では i-F から区別できないということが導かれる。Chomsky (2001)ではこれに対し、u-F は照合後すぐに転送される必要があるという主張を行っているが、Epstein and Seely (2002)が指摘しているように、照合後すぐに転送されたとしても、依然として、当該素性の照合前の状態を振り返る「look back」が必要となり、ミニマリストプログラムではこれは好まれない。従って、照合と転送は同時に起こらねばならない、という予測が導かれる。

1.3. 素性継承：Richards (2007)の動機づけ

素性継承の説明に当たり、まずはフェイズという概念を説明する必要がある。フェイズは Chomsky (2000)により提案された概念であり、現行のミニマリストプログラムのフェイズ理論では、文はフェイズという単位で派生すると考えられている。またフェイズは CP、v*P であるとされており、フ

フェイズが完成されるとその補部はインターフェイスに転送されると想定されている。このことにより、すでに転送された領域への統語操作の適用を禁じるフェイズ不可侵条件など、理論的な提案が導かれた。これらは(8)に概略で示されている。(8)では Ph はフェイズ、H は主要部を表している。

(8) [Spec [Ph-H [Comp-H...] 転送]]

続いて Chomsky (2008) の素性継承の説明に移る。Chomsky (2008) では、C に選択された T は完全である(すなわち屈折、格付与に関わる)という経験的観察に対し、素性継承の想定による説明が試みられている。Chomsky (2001) で指摘されたように、T は C に選択されたときには屈折が現れ格付与に関わるという完全なものとしての特性を示すが、C に選択されない場合は欠如的なものとしての振る舞いを示す。Chomsky (2001) ではこれに対し、二種類の T 主要部を想定していたが、Chomsky (2008) では、T はそもそも空の欠如的な主要部であると想定し、C から u-F が継承されることで、T が完全なものとして振る舞い始めるという、素性の引き渡しに基づく説明を行った。これにより二種類の T と、C による選択を想定する必要がなくなった。

(9) a. T [] 欠如的 b. C [] T[u-F] 完全
素性継承

またさらに、Chomsky (2008) はこの想定を一般化し、素性継承という想定を行っている。素性継承の想定のもとでは、u-F はフェイズ主要部に存在し、補部の主要部に継承される。しかしながらこの時点では、素性継承は T の選択性を説明するためのアドホックな想定でしかなかった。

ここで Richards (2007) が、この素性継承に対する理論的な裏付けと、1.2 で見た照合と転送の同時性の問題の解決を一息に行う提案を行った。Richards (2007) の提案は(10)

のようなものであった。

(10) 素性継承により u-F は転送領域内において照合される

このことは(11)に概略的に示されている。

(11) a. [Spec [Ph-H [Comp-H...] 転送]]
[u-F]

b. [Spec [Ph-H [Comp-H...] 転送]]

[] → [u-F] 素性継承

まず(11a)に見られるように、Chomsky (2008) に従い、u-F がフェイズ主要部に存在するならば、転送される領域がフェイズの補部であるという想定を踏まえると、u-F は照合された際に転送されない。しかし(11b)のようにフェイズ主要部がその補部の主要部に u-F を継承すれば、この u-F はフェイズの転送領域に含まれ、従って照合されると同時に転送されることができる。

従って、素性継承はフェイズ主要部上の u-F を転送領域内に収める操作であるという結論が導かれた。これにより、素性継承の理論的裏付けと、照合と転送の同時性の説明が一挙になされることとなった。この Richards (2007) の提案は Chomsky (2007) において採用され、最新の Chomsky (2013) においても依然として素性継承の理論的裏付けとして言及されている。

2. 問題提起

これまで、Richards (2007) の提案に至るまでの理論的変遷を見ることで、Richards (2007) の論の重要性を説明してきた。本節ではこの問題点を指摘する。

2.1. Richards (2007) の帰結

Richards (2007) の(10)の素性継承により u-F は転送領域内において照合されるという提案は、(12)の帰結を導くことになる。

(12) 照合される u-F はフェイズ主要部に残ってはいけな

これは、1.3 で見たように、仮に u-F がフェ

イズ主要部に残った状態で照合された場合、この u-F は当該フェイズの転送領域に含まれないため、従って照合と転送の同時性が守られず、u-F を適切に処理できなくなるためである。

しかしながら、これに対する明らかな反例になると思われるのが、以下に見る補文標識一致である。補文標識一致では、フェイズ主要部である C に屈折が表れている。(13)は西フラマン語の例である。

- (13) ...omda-n die venten toen
because-Pl those guys then
juste gebeld een.
just phoned have-Pl
'...because those guys called just then.'

(Haegeman and Koppen (2012: 443))

(13)では C 主要部である補文標識に一致が現れている。ここで CP がフェイズであるという現行の想定に基づくと、(13)の例は、C 主要部に一致を引き起こす u-F が残っていることを示唆しており、これは(12)の Richards (2007)から導かれた帰結に反するものとなる。

これに対し、先行研究で Richards (2007)の論を擁護する試みがなされてきた。例として Chomsky (2007)や Miyagawa (2010)は、補文標識一致は隣接性に基づく音声部門の操作で、統語部門の操作ではないという想定を行っている。これが音声部門の操作である以上、統語部門での問題である照合と転送の同時性は問題とならない。しかし、この想定は、Haegeman and Koppen (2012)の主張により問題を抱えることになる。

2.2. Haegeman and Koppen (2012)の主張

Haegeman and Koppen (2012)は補文標識一致が統語部門の操作であるという主張を行っている。主張の根拠となるのは、補文標識一致が一致対象の内部構造に左右され

るという事実である。これを見るために、まずは(14)に見られる、西フラマン語の所有者の分離という現象に触れる。

(14)に見られるように、西フラマン語では、所有者が被所有物と分離して表現され得る。これを Haegeman and Koppen (2012)は External Possessor (EP)と言及している。

- (14) ...omda-n die venten toen
because-Pl those guys then
juste underen computer kapot
just their computer broken
was.
was
'...because those guys' computer broke just then.'

(Haegeman and Koppen (2012: 444))

(14)では、「their」は「those guys」を指している。ここでは「those guys」と「their computer」の間に「just then」に当たる副詞が入り、所有者が被所有物から分離されている。興味深いことに、所有者が分離した場合としない場合で、補文標識に現れる屈折が異なることが指摘されている。

- (15) a. ... omda-n/*omdat André en
because-Pl/because André and
Valère toen just underen
Valère then just their
computer kapot was.
computer broken was
b. ... omdat/*omda-n André en
because/because-Pl André and
Valère underen computer
Valère their computer
kapot was.
broken was
'...because André and Valère's computer broke (just then).'

(Haegeman and Koppen (2012: 449))

(15a)は「just then」により所有者が分離され

ている例であるが、ここでの補文標識は、分離された「André and Valère」と一致し、複数形の屈折を示している。しかし(15b)では、「just then」が存在せず、所有者が被所有物と分離されていない場合、補文標識の屈折が、「André and Valère」と「their computer」の全体に一致して現れ、従って単数形の屈折が出現するということが示されている。このことは(16)に概略で表されている。

(16) a. [C...EP...[...t DP...]] (= (15a))

一致

b. [C...EP-DP...[...t...]] (= (15b))

一致

ここで、Chomsky (2007) や Miyagawa (2010) が主張するように、補文標識一致が隣接性に基づく音声部門の操作であるという想定のもとでは、これらの現象は多くの問題を抱える。まず、(15a)について考えてみたい。そもそも純粋な隣接性に基づけば、(15a)の例において、補文標識は、並列された「André and Valère」の内、隣接する「André」のみと一致し、単数形の屈折が現れることが予測される。しかし実際の(15a)の屈折は並列関係にある要素「André and Valère」全体と一致し、複数形の屈折を示している。従って(15a)の屈折は補文標識一致が隣接性ではなく構造に基づいていることを示唆しているといえる。ただし、この問題は、当該言語での並列要素は音韻的に一つの塊とみなされると想定すれば、避けることが可能かもしれない。しかしながら、このような想定を行っても、(15b)の例が決定的な問題となる。(15b)では補文標識上の一致は単数形となっているが、これは、所有者と被所有者全体の DP、つまり「computer」を主要部とする DP と一致していることを表している。この事実を音声的な表層語順の観点からとらえ直すと、ここでの補文標識は、隣接する「André and Valère」を無視し、隣接していない「their computer」と一致し

ていることになる。従って、「André and Valère」と「their computer」が一つの構成素をなしていると考えなければ、このような非隣接関係にある要素との一致関係を説明することはできない。構成素の概念は統語部門の特性であることを踏まえると、これらの例は、補文標識一致が統語構造を参照とできる段階、つまり統語部門で生じねばならないことを示している。

まとめると、(15a)、(15b)の例は、音声的隣接性に基づいて分析をしていた先行研究の想定では説明することができない。しかし、少なくともこれらの補文標識一致の例が統語部門の操作であるならば、補文標識一致は(12)に示された Richards (2007) の想定から導かれる帰結に反しており、素性継承を支える Richards (2007) に経験的問題を生じさせることになる。

3. 提案

本節では、Richards (2007) が抱える補文標識一致に関わる問題に対し、素性継承の拡張と CP カートグラフィ構造に基づき説明を試みる。

3.1. 前提：CP カートグラフィ構造

本論文の主張を行う前に、前提となる想定を見ていく。まず本論文では、Rizzi (1997) の提案に基づき、CP はカートグラフィ構造を持つと想定する。また重要な点として、Maeda (2013) に従い、この CP カートグラフィ構造は派生的に生成されると想定する。Maeda (2013) では Chomsky (2013) の「labeling algorithm」に基づき、C 主要部が派生的に左周辺部を形成すると主張しているが、紙面の都合上その詳細は割愛する。

3.2. 本論文の主張

これまで、(17a)に示されるように、Richards (2007) の帰結である、「照合される

u-F はフェイズ主要部に残ってはいけない」という想定のもとに論を進めてきたが、重要な点として、補文標識一致を説明する上で別の方法が存在する。即ち(17b)のように、補文標識上の u-F がそのフェイズに由来するのではなく、次のフェイズレベルで上位のフェイズ主要部から受け取ったものであれば、照合と転送の同時性が保持される。

- (17) a.*[Spec [Ph X [Comp Y…]_{転送}]]
 [u-F]
 b.^{ok}[Ph Z […[Ph X [Comp Y…]]]_{転送}]
 []→[u-F]

これを踏まえ、本論文では(18)を主張する。

- (18) 素性継承はフェイズ主要部から補部の主要部へだけでなく、c 統御領域内に存在する主要部にも適用可能である。

これに基づき、(15a, b)の派生をそれぞれ(19)、(20)で見ていきたい。

- (19) a. [CP C [TP…EP-DP…]_{転送}]
 ↑
 b. [ForceP Force…EP…[FinP Fin [TP…t DP…]]]
 c. [_v*P v* [VP V…[ForceP Force…EP…
 [u-F] ↑ ↑
 [FinP Fin [TP…t DP…]]]]]
 d. [_v*P v* [VP V…[ForceP Force…EP…
 [u-F] ●
 [FinP Fin [TP…t DP…]]]_{転送}]

まず(19a)に見られるように、埋め込み CP の派生が行われる。この際、分離した所有者 EP が CP の指定部に移動し、補部の TP は転送される。その後、(19b)に見られるように、Maeda (2013)に従い、C は「Labeling Algorithm」に基づき、派生的に左周辺部を形成する。分離した所有者 EP は従って左周辺部のどこかに位置することになるが、本論文の主張とは直接関係しないため、ここでの位置が何の指定部になるかは議論しないこととする。なお、ここでの補文標識

は、左周辺部の最上位である Force 位置に存在すると想定する。続いて(19c)に見られるように、(18)の想定に基づき、v*にある u-F が、V だけでなく Force にも継承される。従って(19d)のように、Force 上の u-F は分離した所有者 EP と一致し、またこの u-F は v*によって転送されることにより、照合と転送の同時性が保たれる。²

続いて(15b)の派生に移りたい

- (20) a. [CP C [TP…EP-DP…]_{転送}]
 ↑
 b. [ForceP Force…EP-DP…[FinP Fin [TP…t…]]]
 c. [_v*P v* [VP V…[ForceP Force…EP-DP
 [u-F] ↑ ↑
 …[FinP Fin [TP…t DP…]]]]]
 d. [_v*P v* [VP V…[ForceP Force…EP-DP
 [u-F] ●
 …[FinP Fin [TP…t DP…]]]_{転送}]

派生の大部分は(19)と同様である。しかしこの場合、(20a)に見られるように埋め込み CP 指定部に移動する要素が、分離した所有者 EP だけではなくこれを含む DP 全体となる。再び(20b)に見られるように CP のカートグラフィ構造が形成され、(20c)のように素性継承が Force にまで広域適用される。(20d)のように Force 上の u-F は分離した所有者 EP を含む DP 全体と一致し、これは照合と同時に v*により転送される。

以下に派生の要点を繰り返す。まず西フラマン語の EP/EP-DP は埋め込み CP カートグラフィの左周辺部に存在する。またこの左周辺部は、CP フェイズレベルの操作では転送されずに残ることになる。続いて(18)により v*P フェイズでの素性継承が Force にも適用される。従って Force 上の u-F が左周辺部にある EP/EP-DP と一致することができ、これらは v*により転送される。これにより、照合と転送の同時性が保持されることになる。最後に Force 上の u-F は

屈折として現れるため、補文標識一致が説明される。

4. まとめ

本論文では、素性継承を拡張すれば、CP カートグラフィ構造のもと、西フラマン語の補文標識一致を Richards (2007)の議論を破棄することなく説明することができることを見た。今後の展望として、素性継承を拡張することで他にどのような現象が説明できるか探求していきたい。

注

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² なお、ここでの主張とは直接関係しないため詳細を割愛しているが、V に継承された u-F は主節の目的語 DP と一致し、照合される。その際、照合された V 上の u-F も v*により転送されるため、照合と転送の同時性が保持される。

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- b. Nobody has invited me to dance.
It/*this/*that is that I am not pretty enough.

(*ibid.*:206)

2 種類の it is (just) that 節構文*

(Two Types of the *It is (just) that*-Construction)

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キーワード : it is that 節構文、it's just that 節構文、付加疑問文、副詞 just、補文標識 that

1. はじめに

(1)に示したのは it is that 節構文と呼ばれる構文の例である。この構文には原因・理由を提示する機能があるとされている (Bolinger (1972), Declerck (1992)を参照)。

- (1) a. Nobody has invited me to dance.
It is that I am not pretty enough.
 (Declerck (1992: 209))
- b. He was shot in his house.
It is that he knew too much.
 (*ibid.*: 219)

また、この構文の主語 it は虚辞¹であるとされている (Declerck (1992)を参照)。it is that 節構文の主語 it が虚辞であるということは、次の(2a)と(2b)を比較することで明らかとなる。(2a)のように、it is because であれば it 以外にも this is because や that is because が可能である。一方、(2b)のように、it is that 節構文の場合は it しか許されない。

- (2) a. Nobody has invited me to dance.
It/this/that is because I am not pretty enough.

(3)に示したように、it is that 節構文に副詞 just が介在し it is just that の形をとる例も散見される。このような例は it's just that 節構文と呼ばれる場合がある (大竹 (2002)を参照)。

- (3) a. I didn't mean to upset you.
It's just that I had to tell somebody.
 (*Oxford Advanced Learner's Dictionary*)
- b. No, I do like Chinese food.
It's just that I'm not hungry.
 (*Longman Dictionary of Contemporary English*)

本研究では便宜上、(1)に示した it is that 節構文と、(3)に示した副詞 just が介在している it's just that 節構文を合わせて「it is (just) that 節構文」と呼ぶことにする。

ここで、本研究では次の(4)の問題を提起したい。

- (4) it's just that 節構文を、単に it is that 節構文に副詞 just を加えたものであるとみなし、両者をひとまとめにして取り扱ってよいのか。

2. 提案

ここではまず、Bolinger (1972)による観察を取り上げたい。Bolinger によれば、(5a)のように、it is that 節構文の場合は補文標識 that の省略は許されないが、一方、(5b)のように、副詞 just が介在していれば補文標識 that を省略しても差し支えない。

- (5) a. *It's _____ he can't make up his mind.
 b. It's just _____ he can't make up his mind.
 (Bolinger (1972: 36))

Bolinger (1972:36)によれば、(5a)の be 動詞はコピュラであり、that が because の意味に解釈されるので省略不可能であるのに対し、(5b)の be 動詞は存在動詞、いわば happen の意味であり、that は省略可能である。(5a,b)における be 動詞の意味の違いについて、Bolinger は詳細に議論しているわけではなく、直感に基づいた主張であるように思われる。しかし、本研究は、(5a)のような例において補文標識 that が because の意味に解釈されるので省略不可能である、という主張に注目したい。

it is that 節構文において、補文標識 that が because の意味を担っているということについては、次の(6)のような例から明らかとなる。

- (6) 'It's not because you're loaded that I worry after you,' she shouted.
 'It's that I think you're gay!
 (British National Corpus:
 HTS 2643-2644)

(6)では、It's not because の文に続いて it is that 節構文が現れているので、ここでの It's that は It's because の意味であると理解できる。

本研究は、Bolinger の主張を足掛かりに、it is (just) that 節構文には(7)の表に示したとおり、少なくとも Type A と Type B の 2 種類が存在すると主張する。次の 3 節では、Type A と Type B は意味機能に加え、付加疑問節が照応する節、副詞 just の随意性、補文標識 that の省略可能性において違いがあ

るということを示す。

(7)

	Type A	Type B
意味機能	原因・理由の提示 「(単に) ~だからだ」	事情の説明 「ただ/ ちょっと ~なのだ」
付加疑問文	主節照応/ 従属節照応	従属節照応のみ
副詞 just	随意的	義務的
補文標識 that	省略不可	省略可

3. 検証

3.1. 付加疑問文と副詞 just

ここではまず、Type A と Type B を付加疑問文を通して比較する。具体的には、Type A の場合、付加疑問節は主節と従属節のどちらにも照応するのに対し、Type B の場合、付加疑問節は従属節にのみ照応するということを示す。

次の(8)では、it is (just) that 節構文が Why ではじまる疑問文に対する応答として現れている。

- (8) A: Why doesn't he take the plunge?
 B: It's (just) that he doesn't have the money, {isn't it? / does he?}
 [Type A]
 (Bolinger (1972: 35)を参考)

(8)では、話者 A の「彼はなぜ結婚しないのだろう」という質問に対して、話者 B が「(単に) 彼にはお金がないからだ」というように原因・理由を提示している。このように、

既出の事柄に対して原因・理由を提示する例を Type A とする。Type A の例である(8)では、付加疑問節は主節照応の *isn't it?* も従属節照応の *does he?* も許される。また、Type A の場合、次の(9)のように、*it is (just) that S₁ that S₂* の形で、*it is (just) that* 節構文がどのような事柄に対して原因・理由を提示しているのかを下線部 *S₂* の位置に明示することができる。

- (9) *It's (just) that he doesn't have the money that he doesn't take the plunge.*

(Bolinger (1972: 36)を参考)

次の(10)では、話者 A が話者 B を飲みに誘っているが、話者 B は *I'd love to, but ...* と言って口ごもる。それに対して話者 A は *it is (just) that* 節構文を用いて発話する。

- (10) A: *Do you want to go for a beer?*

B: *I'd love to, but ...*

A: *It's *(just) that you're a little tired, {*isn't it? / aren't you?}*

[Type B]

(Ikarashi (2013: 67)を参考)

(10)では、(9)の下線部にあたるような事柄は現れていない。したがって、(10)における *it is (just) that* 節構文は、原因・理由を提示しているというよりは、「君はただ少し疲れているんだ」といった意味であると考えられる。このような例を Type B とする。Type B の例である(10)では、付加疑問節は従属節照応の *aren't you?* しか許されない。

(10)を次の(11)と比較する。(10)とは異なり、(11)では、話者 A に飲みに誘われた話者 B は、口ごもることなく *I'd love to, but I can't.* と発話する。

- (11) A: *Do you want to go for a beer?*

B: *I'd love to, but I can't.*

A: *It's (just) that you're a little tired, {isn't it? / aren't you?}*

[Type A]

(11)では、話者 B が話者 A の誘いをはっきりと断っているため、後に続く話者 A の *it is (just) that* 節構文は、「話者 B は飲みに行くことができない」という事柄に対して、「(単に) 君は少し疲れているからだ」というように原因・理由を提示することができるようになる。したがって、この例は Type A に分類される。(11)では、(10)とは異なり、付加疑問節は従属節照応の *aren't you?* だけでなく、主節照応の *isn't it?* も許される。

ここで、さらに副詞 *just* にも注目する。原因・理由を提示する Type A の例である(8)や(11)では、副詞 *just* は随意的である。Type A の機能は原因・理由を提示することであるため、*just* がなければ *it is because* の意味に解釈され、*just* があれば *it is just because* の意味に解釈されるだけである。つまり、原因・理由の提示という機能は *just* の有無には関係がないので *just* は随意的である、と考えられる。一方、Type B の例である(10)は副詞 *just* がなければ不完全であるので、*just* が意味的に重要な役割を担っていると推察される。さらに、次の(12)を見る。(12)のように、*it's just that* とだけ発話し、言葉に詰まる例が少なからず見られる。

- (12) “What’s the matter baby?” ...

“Um—” I answered. “Nothing Brooke.

It's just that ... you know I love you right?”

“Of course I do. And I love you too.”

“It's just that.”

“Come on baby, speak to me, speak to me.”

“It's just that. I feel like a loser, you

know, not being able to find out who
is responsible for all this madness.”

(Anthony Ogunware (2007) *Chiller:
Friend at Day, Killer by Midnight*)

(12)の例は原因・理由を提示しているとは考え難いので、Type B とする。このような例では、話者は *it's just that* と発話することで、日本語の「ただ…」や「ちょっと…」といった表現のように、事情を説明しようとしていると考えられる。また、*it's just that* がひとまとまりとなり、事情を説明する際の緩和表現として機能しているようにも見える。つまり、Type B の場合、*it's just that* の部分はひとまとまりとなって副詞化しており、もはや主節としての資格が希薄になっていると考えられる。そのように考えれば、Type B の場合には付加疑問節が主節に照応することができないということにも納得がいく。

3.2. 補文標識 that

ここでは、補文標識 *that* に注目したい。具体的には、Type A の場合、補文標識 *that* は省略不可能であるのに対し、Type B では省略可能であるということを示す。

次の(13)は、話者 A の *I wonder why.* という発話に *it is (just) that* 節構文が後続することから、原因・理由を提示する Type A の例であるべきである。

- (13) A: He was shot in his house.
I wonder why.
B: *It's (just) _____ he knew
too much. [Type A]
(Declerck (1992: 209)を参考)

2 節で触れた Bolinger (1972)の主張によれば、補文標識 *that* は *because* の意味を担っている。しかし、(13)では *because* の意味に

解釈されるはずの *that* が省略されているために容認されないと考えられる。

次の(14)は、副詞 *just* がなければ不完全になることから、Type B であると考えられる。

- (14) a. She felt her face going red —
“I'm sorry Rob, it's *(just) that
I'm, um, overwhelmed.”
(Collins COBUILD Advanced
Dictionary of English
(例文のみ))
b. Your hair is all right;
it's *(just) that you need a haircut.
(*ibid.* (例文のみ))

次の(15a,b)は(14a,b)から補文標識 *that* を省略した例である。

- (15) a. She felt her face going red —
“I'm sorry Rob, it's just _____
I'm, um, overwhelmed.”
[Type B]
b. Your hair is all right;
it's just _____ you need a haircut.
[Type B]

筆者のインフォーマントによれば、(15a,b)のような言い方は非常にくだけた言い方ではあるが、可能であるという。²これは、Type A の *that* が *because* の意味を担っているという点で意味的に重要であるのに対し、Type B の *that* は意味的に重要ではないからであると考えられる。

上記(12)では、話者が *it's just that* とだけ発話して言葉に詰まっている例を見たが、(12)を次の(16)と比較されたい。(16)では、話者は *it's just* とだけ発話して言葉に詰まっている。

- (16) “He’ll do what he needs to do.
He told me he would.”
“Is that all he told you?”
“What do you mean?”
“Nothing. It’s just ... it’s just ...
How can you trust him?”
(*The Vampire Diaries*
(Season 4, Episode 8)
(山内昇氏の指摘による))

(16)の例が、(12)のような例から補文標識 *that* が省略されたものであるとすれば、Type B の場合は *that* が省略可能であるという本研究の主張を支持している。

4. it is (just) that 節構文と付加疑問文

3.1 節において、Type A の *it is (just) that* 節構文の付加疑問節は主節照応も従属節照応も可能であるのに対し、Type B の場合は従属節照応のみであることを見た。ここでは、*it is (just) that* 節構文と付加疑問文についてもう少し深く掘り下げたい。

まず、付加疑問節を従属節照応にする主節表現は、(17)に挙げるものなどがある。

- (17) I believe/suppose/guess/reckon,
it seems/appears, it follows,
this means, etc.
(cf. Huddleston & Pullum (2002: 894))

(17)から、付加疑問節を従属節照応にする主節表現は主に、従属節の内容に対する話者の真偽判断を表すような、いわば意味的に軽い表現であることがわかる。次の(18a)のように、Hooper (1975)は、付加疑問節はその文の主要な部分(main assertion)に照応すると主張している。また、(18b)のように、中右(1994)は、付加疑問節はその文の命題内容に照応すると主張している。

- (18) a. 付加疑問節は文の主要な部分
(main assertion) に照応する。
(cf. Hooper (1975: 104))
b. 付加疑問節は文の命題内容に
照応する。
(cf. 中右 (1994: 169))

具体例として、(19)のような例が挙げられる。

- (19) a. John thinks the war is ending,
{*isn’t it? / doesn’t he?}
(Cattell (1973: 613))
b. I suppose the war is ending,
{isn’t it? /*don’t I?} (ibid.)

(19a)では、主節に照応している付加疑問節 *doesn’t he?*は容認されるが、従属節に照応している *isn’t it?*は容認されない。したがって、主節 *John thinks* は主要な部分もしくは命題内容に含まれる。一方、(19b)では、従属節に照応している付加疑問節 *isn’t it?*は容認されるが、主節に照応している *don’t I?*は容認されない。したがって、(19b)の主節 *I suppose* は主要な部分もしくは命題内容には含まれない。

ここで、*it is (just) that* 節構文に話を戻す。Type A の *it is (just) that* 節構文では、付加疑問節は主節に照応することが可能であった。つまり、Type A の場合、主節は主要な部分もしくは命題内容に含まれるということである。一方、Type B の場合は、付加疑問節が主節に照応することは不可能であった。つまり、Type B における主節は主要な部分もしくは命題内容には含まれないと言える。このことは、Type A が原因・理由の提示という機能を持っているのに対し、Type B の主節はもはや主節としての資格が希薄となっており副詞化している、という本研究の主張を支持している。

しかし、ここで一つの疑問が残る。次の(20)は Type A の例である(8)を再録したものである。(19)で見たように、通例、付加疑問節が主節照応の場合には従属節照応は許されず、従属節照応の場合には主節照応は許されない。しかし、(20)のように、Type A の *it is (just) that* 節構文の場合には主節照応の(20b)も従属節照応の(20c)も許される。

- (20) a. Why doesn't he take the plunge?
 b. It's (just) that he doesn't have the money, isn't it?
 c. It's (just) that he doesn't have the money, does he?

(cf. (8))

筆者のインフォーマントによれば、(20)のように付加疑問節が主節照応と従属節照応のどちらも可能である場合、照応する節によってニュアンスが異なるという。このことについては明確な結論が得られているわけではないが、現時点では、主節照応と従属節照応の意味の違いは「確認の焦点の違い」にあるのではないかと考えている。すなわち、(20b)のように主節照応の場合は「因果関係が成立するか」を確認し、(20c)のように従属節照応の場合は「従属節の内容が真であるか」を確認する、というようにである。しかし、これは現時点における単なる推測にすぎず、この点については今後の課題としたい。

5. おわりに

本研究は、*it is (just) that* 節構文には少なくとも Type A と Type B の 2 種類が存在するということを、付加疑問文、副詞 *just*、補文標識 *that* という 3 つの証拠に基づいて主張した。しかし、現時点では、最も命題的・客観的である Type A と、最もモダリティ的・主観的である Type B の 2 種類のみを

扱ったに過ぎない。この構文の実例を観察してみると、一見したところどちらの Type とも判断できない例が見られる。したがって、さらに多くの Type を設けなければならない可能性や、2 つの Type をさらに細分化しなければならない可能性がある。また、2 つかもしくはそれ以上の Type が、お互いに全く独立したものであるというわけではなく、それぞれの Type の間にはグラデーションがあり、連続体を成している可能性もある。この点を明らかにするためには、数多くの実例を観察し、文脈の中でこの構文がどのような働きをしているのかを見極め、記述していく必要がある。

注

* 本稿は、日本英語学会第 32 回大会(2014 年 11 月 9 日、於：学習院大学)での口頭発表に基づくものである。発表の準備に際し、貴重なご助言とご指摘をくださった大名力先生、成田克史先生、大島義和先生、中右実先生、大室剛志先生、滝沢直宏先生に、発表当日に有益なご意見をくださった岩崎永一先生、大竹芳夫先生、大橋浩先生、柏野健次先生、西田光一先生、野村忠央先生に、発表に際し司会を務めてくださった村田和代先生に、貴重な例を提供してくれた山内昇氏に、この場を借りて厚く御礼申し上げます。なお、本稿における不備や誤りはすべて筆者の責任による。

1. 虚辞という言葉によって筆者が意図しているのは、*it is that* 節構文の主語 *it* は、天候の *it* や外置文の *it* などのいわゆる虚辞の *it* と呼ばれるものに含まれるということだけであり、意味や指示対象を持たないということまで意図しているわけではない。虚辞の *it* が本当に意味や指示対象を持たないのか、ということは重要な問題ではあるが、本稿では紙幅の関

- 係上、扱わないことにする。いわゆる虚辞の *it* が意味や指示対象を持つという主張については、Bolinger (1977: 66-89), 中右 (2013)等を参照されたい。
2. 実際には、補文標識 *that* を省略した例を容認できないとするインフォーマントもいた。しかし、そのインフォーマントは Bolinger (1972)が容認可能であるとしている(5b)の例も容認しなかったため、補文標識 *that* の省略に関しては話者の間で許容度に違いがあるようである。また、そのようなインフォーマントであっても、(15a)の例には *um* という間投詞があることもあり、くだけた場面であることがうかがえるので、容認度が高いと述べている。

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Toward a Unified Explanation of Multiple Dependencies*

Kayono Shiobara

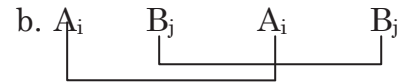
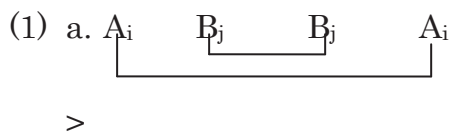
Tokyo Woman's Christian University

Keywords: multiple dependency,
Interwoven Dependency Construction,
prosodic prominence, edge-weight

1. Introduction

The purpose of this paper is to explore the division of labor between syntax and phonology, and more broadly, between the cognitive and performance systems of language, by examining various types of multiple dependencies (MDs) which have been well studied but only independently.

The term “dependency” in this paper refers to the relation between a displaced element and its related (and co-indexed) counterpart. In the context of psycholinguistics, it has been noted that performance preferences regarding MDs are (1a) nested > (= ‘preferred over’) (1b) crossed (Fodor (1978), Rochemont and Culicover (1990), Pickering and Barry (1991)):



I call the MDs in which the occurrence of A and B on the left is pronounced “leftward MDs”, and those in which the occurrence of A and B on the right is pronounced “rightward MDs” respectively. Despite the alleged performance preferences, we find a number of examples with crossed dependencies. Building upon my previous work on MDs including multiple wh-movement, object shift, multiple XP shift, and multiple Extraposition from NP (Shiobara (2009)), I mainly discuss in this paper special cases of multiple wh-movement in English and multiple scrambling in Japanese which represent the so called Interwoven Dependency Construction (IDC) (Zhang (2007) and references therein) as instances of leftward MDs, and the rightward counterpart of IDC in English as instances of rightward MDs. I will argue that leftward or rightward, many properties of MDs are phonological in nature. This suggests that performance-driven phonological principles should play an important role in explaining the properties of crossed as well as nested MDs.

2. Phonological Approach to MDs

2.1. Leftward MDs

First, let us look at examples with leftward MDs.

(2) Wh-movement

a. [How many cakes]_i and [How

many letters]_j (respectively)
 did May bake _i and John write
_j, this morning?

- b. %[How many letters]_i and [How
 many cakes]_j did May bake _i
 and John write _j, this
 morning?

((2a) is from Zhang (2007), and
 (2b) is mine.)


Example (2a) involves multiple
 wh-movement with the Interwoven
 Dependency Construction (IDC). The
 sentence forces a distributive reading,
 whether the adverb *respectively* is
 present or not. Contrary to the
 performance preference mentioned in
 (1), IDC represents crossed MDs by
 definition, and it has been a challenge
 to syntactic approaches (Postal
 (1998:163)) (but see Zhang (2007) for a
 sideward movement analysis of IDCs).

When the order is changed and
 nested MDs are formed as in (2b), the
 sentence becomes unacceptable for
 some speakers (as indicated by % in
 front of the sentence).¹

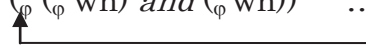
Focusing on the phonological
 property of multiple wh-phrases,
 namely, the fact that English
 wh-phrases are prosodically prominent
 and their multiple occurrences
 construct their own prosodic domain, I
 propose a phonological analysis
 schematized in (3): first, two
 wh-phrases are amalgamated into a
 prosodic unit φ (e.g. phonological
 phrase, intonational phrase) via the
 coordinator *and* introduced in the

phonological component, and then φ
 undergoes a phonological movement
 into the sentence-initial position.
 The prosodic amalgamation does not
 care about the order of two wh-phrases,
 and the nested ordering is allowed as
 shown in (2b) (at least for some
 speakers, see note 1).

- (3) a. prosodic amalgamation

... wh ... wh ...

 $(\varphi(\varphi \text{ wh}) \text{ and } (\varphi \text{ wh}))$

- b. phonological movement

$(\varphi(\varphi \text{ wh}) \text{ and } (\varphi \text{ wh}))$...


The freedom of the wh-phrase ordering
 suggests that sentences like (2a) and
 (2b) should not be derived in the
 syntax where this kind of optionality is
 generally prohibited.

A consequence of the phonological
 approach to multiple wh-movement is
 that wh-phrases should be interpreted
 in their base position, and this
 prediction is borne out by binding
 examples in (4).

- (4) a. [Which man]_i and [which
 woman]_j did respectively the
 doctor talk to _i about
 himself_i, and the lawyer talk
 to _j about herself_j?
- b. [Talking about one man and
 a woman:]
 [Which picture of himself_i]
 and [which story of herself_j]
 did the doctor show him_i _i
 and the lawyer tell her_j _j,

respectively?

- c. [Which picture of himself_i] and
[which story of herself_j] did the
lawyer tell her_j _ and the
doctor show him_i _ ?

((4a) is from Zhang (2007), and
(4b,c) are mine.)^{2,3}

Another welcome consequence of the phonological approach to multiple wh-movement is that it naturally extends to another leftward MD, multiple scrambling in Japanese, which has been independently given a phonological analysis (see Agbayani et al. (2012) and references therein).

- (5) a. Hawai-de_i John-ga [Kiyomi-
Hawaii-in John-NOM Kiyomi-
ga __i Masami-ni purezento-o
NOM Masami-DAT present-ACC
katta to] omotteiru (koto)
bought C think (fact)
'John believes that Kiyomi
bought a present for Masami
in Hawaii'
b. ??Purezento-o_i Masami-ni_j
Hawai-de_k John-ga [Kiyomi-
ga __k __j __i katta to] omotteiru
(koto)
c. (φ Purezento-o Masami-ni
Hawai-de) John-ga [Kiyomi-
ga katta to] omotteiru (koto)
d. (φ Hawai-de Masami-ni
purezento-o) John-ga
[Kiyomi-ga katta to]
omotteiru (koto)
e. (φ Masami-ni Hawai-de)
John-ga [Kiyomi-ga
purezento-o katta to]

omotteiru (koto)

- f. (Sorezore) (φ atarashii huku
(respectively) new clothes
to atarashii kutu-o) John-ga
and new shoes-ACC John-NOM
[Kiyomi-ga ki-te
Kiyomi-NOM wear-and
Masami-ga haita to] itteita
Masami-NOM put.on C said
(koto)
(fact)
'John said that Kiyomi put
on new clothes and Masami
put on new shoes'
g. ?(Atarashii huku to atarashii
kutu-o) John-ga [Masami-ga
hai-te Kiyomi-ga kita to]
itteita (koto)

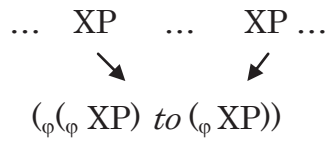
((5a,b,c,e) are from Agbayani et al. 2012, and (5d,f,g) are mine.)

As the contrast in (5a) and (5b) shows, long-distance scrambling of multiple phrases is degraded. However, as Koizumi (2000) and Fukui and Sakai (2006) point out, multiple long-distance scrambling improves if the scrambled element forms a prosodic domain φ, as in (5c). In such a case, the scrambled phrases do not have to stand in a nested dependency (5c), but can be crossed (5d) or partial (5e). The acceptable example in (5f) represents the IDC, and the nested counterpart in (5g) is also acceptable though somewhat degraded.

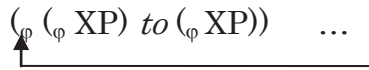
Agbayani et al. (2012) provide a phonological analysis of long-distance multiple scrambling in Japanese,

claiming that the scrambled element forms a recursive prosodic phrase, namely a major phrase.⁴ Based on the facts in (5) and Abayani et al.'s analysis, I analyze long-distance multiple scrambling in Japanese (with or without IDC) as instances of phonological movement, as is schematized in (6).

(6) a. prosodic amalgamation



b. phonological movement



2.2. Rightward MDs

Let us turn to examples involving rightward IDC.

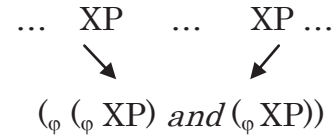
(7) a. ?John normally takes _i and Mary drinks _j at the cafeteria (_φ [a very light breakfast]_i and [two glasses of energy drink]_j)
 ??(respectively).

b. ?John normally takes _i and Mary drinks _j at the cafeteria (_φ [two glasses of energy drink]_j and [a very light breakfast]_i).

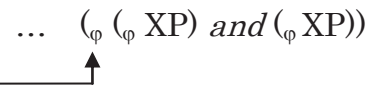
XP shift is a representative of rightward dependency, and it is often argued that it is phonologically constrained. In particular, the moved element must be prosodically prominent and of some weight, say an intonational phrase with more than

one phonological phrase, as proposed by Zec and Inkelas (1990) for XP shift. Generalizing their analysis, I propose a phonological movement analysis of rightward MDs in line with that of leftward MDs, schematized in (8).

(8) a. prosodic amalgamation



b. phonological movement



This explains how the XP shift examples with IDC ((7a)) and without ((7b)) are derived, and naturally extends to Right Node Raising examples in (9) (Postal 1998:134). In fact, multiple XP shift with IDC just is Right Node Raising.

(9) John loves _i and Mary hates _j (_φ [oysters]_i and [clams]_j), respectively.

A phonological movement analysis of rightward IDC is also compatible with the often made observation that rightward dependency is stylistic in nature and does not feed syntax (Chomsky 1995:324).

However, another representative case of RM, Extraposition from Noun Phrase (EXNP), seems more restricted than other MDs, and the example with IDC in (10a) is strictly prohibited. Using different relative pronouns does not help to improve the sentence much, as is shown in (10b).

(10) a. *John normally takes a

breakfast plate $_i$ and a glass of energy drink $_j$ around 6:30 (φ [which includes a boiled egg and two croissants] $_i$ and [which does not contain any additives] $_j$) (respectively).

- b. ?*John normally takes a breakfast plate $_i$ and calls his girlfriend $_j$ in the early morning (φ [which includes a boiled egg and two croissants] $_i$ and [who lives in a small town in Fukushima] $_j$).

At this point, I have no clear explanation of EXNP cases, and only speculate that rightward MDs involving adjuncts like (10) need to be strongly motivated for performance reasons for them to happen and to properly associate the adjuncts with their antecedents (cf. Frazier and Clifton (1996), Hawkins (1994, 2004)).

3. Summary

In sum, MDs, whether leftward or rightward, are analyzed as instances of phonological movement which achieves “edge weight”: sentence-initial weight as in (3b) and (6b), or sentence-final weight as in (8b). The characteristic properties of MDs we looked at are (i) the moved element needs to be “multiple” to achieve a certain phonological weight, and (ii) that the order of the moved phrases is irrelevant. Further investigations

into the differences between leftward and rightward MDs, and why edge positions are related to weight at all, should lead us to further understanding of the nature of the syntax-phonology interface, and the relationship between the language cognitive and performance systems of language.

Notes

* An earlier version of this paper was presented at the 32nd meeting of the English Linguistic Society of Japan held at Gakushuin University in November 2014. I would like to thank the audience at the meeting for valuable questions and comments, though I have not been able to respond to them in the present paper yet. Any remaining inadequacies are my own.

¹ Among the five informants I consulted, two of them accepted (2b) while the other three totally rejected it.

² An informant I consulted prefers putting *respectively* in front of *did* in (4a).

³ The judgment of (4c) is due to an informant who accepted (2b).

⁴ See Agbayani et al. (2012) for six welcome consequences of the phonological approach, including wh-scrambling and binding facts.

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ワード・サーチを伴う指示について (Name Search and Reference Negotiation)

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キーワード: 指示, ワード・サーチ, 会話分析

0. はじめに

本発表では、会話の話し手は聞き手の反応をみながら発話や行動を随時調整しているとして、会話を相互行為と捉える視点から、「ワード・サーチを伴う指示」という現象に注目し、指示が相互行為によって成り立つものであることを主張する。

会話の中で指示が行われるとき、話し手が選択した表現に対して、聞き手が逐一反応を示すということではない。そのため、指示という現象は、話し手の表現選択の問題と捉えられがちである。しかし、相互行為の視座による指示研究(Sacks & Schegloff (1979), Hayashi (2005), 林(2008)など)において指摘されているように、話し手が対象を指示する上で何らかの困難に直面したときに、その問題に対処するやりとりのなかに、指示が相互行為によって成り立つものであることの証拠をみてとることができる。

本発表では、話し手が意図した指示対象の「名前」が思い出せず、適切な指示表現を産出できない状況での相互行為に注目する¹。そのような状況で、話し手は、忘れてしまった「名前」を探しつつ、指示対象を適切に同定しなければならない。一方、聞き手は指示対象の「名前」が提示されないなかで、話し手が意図する指示対象の認識を探索しなければならない。このような問題に、参加者はどのように対処しつつ指示を確立するのだろうか。

分析には、日本語母語話者による対面会話の録画データと、Linguistic Data Consortium 作

成の電話会話コーパス CallHome Japanese, CallFriend Japanese の音声データを用いた (トランスクリプトに使用した記号の意味については、文末に記載した一覧を参照のこと)。

1. 先行研究

本研究が依拠する会話分析の手法を用いた指示研究を紹介し、相互行為の視点から指示を捉えるための基本概念についてまとめる。

1.1. 指示交渉にみる指示表現の選好

Sacks & Schegloff (1979) は、英語の会話において、聞き手が認識できると想定した人物を指示する場合、(1)に示すように、会話者間で指示対象の認識をめぐる交渉が行われることから、指示表現の選好という概念を提唱している。

(1) [Sacks & Schegloff 1979: 19 一部改変 太字・囲みは発表者による]

01 A: ... well I was the only one other
02 than than the uhm tch **Fords?**,
03 Uh **Mrs. Holmes Ford?**
04 You know uh the [**the cellist?**
05 B: [**Oh yes.**
06 She's she's the cellist.
07 A: Yes
08 B: ye[s
09 A: [Well she and her husband
10 were there...

(1)の2行目で、Aは、フォード夫妻のことを言及しようとするとき、**Fords**という「名前」によってBが指示対象を認識できるかどうか確信がもてないため、**Fords?**と、「名前」の形式を上昇調イントネーションで発話し、聞き手の反応をみている。しかし、直後に聞き手から反応がないので、3行目で、指示対象を限定し、**Mrs. Holmes Ford?**と発話する。この直後にも、聞き手から反応がないため、Aは4行目の発話を開始し、**the cellist**という「描写」(description)の形式を提示している。(聞き手が指示対象の認識ができることを示す反応は5行目に遅れて生じている。)

このような事例から、Sacks & Schegloff は、

聞き手が指示対象を認識できると想定している場合には、話し手は、複数の可能性の中から、聞き手がその表現で認識できるとされる指示表現を会話のその場その場でひとつずつ用いる、という指示表現の選好性を見出している。さらに、Schegloff (1996)では、最初に Mrs. Holms Ford という「名前」が提示されるが、聞き手からすぐに反応がなかったのが the cellist という「描写」が提示されていることからわかるように、「描写」よりも「名前」で指示する方が選好すると主張している。

1.2. 指示交渉と進行性

(1)のような指示交渉が示すもうひとつのポイントは、指示が会話の主活動を実現するための副次的な活動として捉えられるということである。Hayashi (2005)、Heritage (2007)、串田(2008)は、指示交渉によって停滞するターンや連鎖の進行性をできるだけ損なわずに指示交渉がどのように実践されるかということについて論じている。Hayashi(2005)は、ターンの進行性と文法の活用という観点から、日英語の指示交渉を比較検討し、そのなかでワード・サーチの分析も行っている。詳細は 2.2 節で述べる。

1.3. 指示対象の認識の追求と進行性

Heritage (2007)は、Sacks (1992)が提案した“demonstration”と“claim”という概念を用いて、聞き手が指示対象を適切に認識できたかどうか相互行為上明らかになる場合とそうでない場合があることを次のように指摘している。

(2) [Sacks 1992, vol2: 141]

- 01 A: Where are you staying?
02 B: Pacific Palisades.
03 A:(a) Oh at the west side of town.
 (b) Oh Pacific Palisades.

1行目でAが質問した場所について、2行目でBがPacific Palisadesと「名前」で返答し、これに対してAが(a)のように Oh at the west side of town.と、別の表現を用いて理解を示し

た場合には、Aが指示対象を適切に理解していることを demonstrate していることになる。なぜなら、仮に in the center of the town と反応を返したならば、Aが誤って指示対象を理解しているということが表面化するからである。一方、Aが(b)のように Oh Pacific Palisades.と、Bの発話と同じ表現を繰り返して理解を示したならば、指示対象の理解を claim することにはなるが、Bが意図した指示対象をAが認識していることを実証することにはならない。

Heritage は、日常会話の指示はほとんどの場合、指示対象の認識は暗黙に claim されると述べている。つまり、会話の進行性が滞ることがない限り、話し手が提示した表現で聞き手が指示対象を認識できるものとみなして、会話が進められるということである。しかし、会話者間で指示対象の認識の共有を追求し、demonstration が行われる場合もあるとし、ワード・サーチの事例もそのひとつとして扱っている。(3)に Heritage(2007)の事例を引用する。Nicは指示しようとした人物の名前を忘れ、3行目で再度 that 名詞句を用いている。

(3) [Heritage 2007: 275 太字は発表者による]

- 01 Nic: I hate **that fuckin guy who**
02 **does those c'mmercials**
03 **that assho[le**
04 Sha: [Weh Al[an:° uh °]
05 **Alan Hammil?**
06 Viv: [Oh **Alan]**

聞き手のShaとVivは、Nicが1-2行目で用いた who does those c'mmercials という「描写」によって提供される情報を資源として、指示対象の名前を記憶から引き出すことに成功し、5行目と6行目で、各自の指示対象の理解を demonstrate している。Heritage は、このように指示対象の認識の共有を追求することで、指示を確立することはできるが、その分会話の進行性が犠牲になるとし、会話者が指示対象の共有認識の追求と進行性とのジレンマのなかで行動することを余儀なくされている実態を捉えている。

2. 日本語のワード・サーチを伴う指示

では、日本語会話にみられるワード・サーチを伴う指示現象にはどのような特徴があるだろうか。

2.1. 指示認識の追求と「あれ」による主活動の開始(再開)

日本語においても、会話者間での認識の共有を追求するため連鎖の拡張が生じる。(4)は、親しい間柄の大学生女子3人による対面会話の一場面である。話し手Aは、自分の好きな漫オコンビのことを話そうとして、「名前」が思い出せない困難に陥っている。1行目の「誰やったっけ」は、Aが「名前」を思い出せない人物を言及しようとしていること、2行目の「なんやったっけ」はAがその名前を探そうとしていることを表している。

(4) [Doo3] ((Aがナイナイの岡村のまねをしてCがコメントした後))

- 01 A: あnの 誰>やったっけ< あのだ:: (0.8)
02 >なん<やったっけ 岡- え ない-
03 ↑ナイナイに n 似とる人おらん?
04 (0.3)
05 A: 新人 [で:
06 B: [キンコン?
07 A: そう[キ ン コ :]::ン
08 C: >[キhングコhングやh]<
09 (0.7)
10 B: ((Cの方を向いて)) [出] [てん ↑な:]
11 C: [出た]
12 A: ↑ [あれ:] [あれ]
13 ↑ありか:と思うんだけど好きなんやけどな
14 ↓見よって::

3行目で、Aは「ナイナイにn似とる人」という「描写」を用いて、指示対象の属性に関する情報を提供している。これが、聞き手の探索の資源となる。この後に、聞き手から、名前候補が提示されないのので、5行目で「新人」という「描写」を提示することによって、聞き手に探索の資源を追加提供する。6行目では、聞き手のひとりBから、「キンコン?」という名前の候補が提示されると、7行目で、Aは、「そうキンコ::ン」と言って、Bが提示した「キンコ

ン」という「名前」がまさに思い出そうとしていたものであるということを承認している。

12行目の「あれ」は、Aが聞き手との間で指示対象の認識を共有できたとみなしていることを指標している。進行性の観点からみると、1-7行目までのワード・サーチのための指示交渉によって遅れた、会話の主活動の開始12行目のターン冒頭に置かれた「あれ」が合図している。これは、日本語では文内の意味役割に関わらず名詞句をターンの冒頭に置くことができるという文法が活用されたものである(cf. 須賀(2007b))。

2.2. Place-holder「あれ」による指示交渉の先送り (Hayashi 2003a, 2003b, 2005)

Hayashi (2003a, 2003b, 2005)は、日本語の文構造(名詞句が述語より先行すること)に起因して生じる、ワード・サーチのための指示交渉によるターンの進行性の阻害を回避するため、「あれ」をplace-holderとして用いることによって、ワード・サーチを先送りするプラクティスがあることを指摘している。例えば、(5)で色々な作家の作風について意見を述べ合う場面で生じた、「あれもあんまり怖くなくさそうじゃないの」(1行目)のような場合である。

(5) [CallFriend Japanese 1841]

- 01 Y: =うん. .hh ↑あれもあんまり怖く
02 なさそうじゃ(ないの あ) 最近の
03 あの有名な.hh あのだ: は-あ:(れ)
04 なんだっけ
05 (0.3)
06 Y: よく映画んなる人
07 (0.2)
08 M: 誰?
09 (0.2)
10 Y: シドニー・シェルダンじゃなくて
11 [なんだっけ]
12 M: [あ : :]えっと::(.)
13 ジョン, (0.5) グリシャム?
14 (0.7)
15 Y: じゃないよ:
16 (0.3)
17 Y: °え°恐怖えい画ばかり
18 (って) () の人だよ.=
19 M: =あ:: スティーヴン・キング

20 (0.3)
 21 Y: そう
 22 (0.3)
 23 M: う::[ん .hh[あ↑れ]↑は: ↑でも:
 24 .hh あれ怖くなかった:えなんか:

1 行目で Y は念頭にある作家の名前がすぐに
 出てこなくても、「あれ」を **place-holder** とし
 て活用することで、ワード・サーチより先に文
 を発話することが可能になっている。

そして、このようなプラクティスは、進行性
 の問題だけでなく、「あんまり怖そうじゃない」
 という述語の部分、ワード・サーチの資源と
 して聞き手に提供することができるという点
 でも、指示の達成に寄与するものであると
 Hayashi は分析している。

以上、本節では、英語と同様に日本語でも、
 「名前」の探索と指示対象の認識を追求するた
 めに相互行為連鎖が拡張すること、阻害されが
 ちな進行性の確保に志向したプラクティスがある
 ことを確認した。

3. 「名前」の探索の成功が危うい状況での対処

ワード・サーチ（「名前」の探索）の成功は、
 会話参加者の知識や経験に負うところが大き
 いため、指示交渉の結果必ずしも成功するとは
 限らない。本節では、聞き手の知識の欠如や、
 話し手の想定はずれなどが原因でワード・サー
 チの成功が危うい状況に注目し、そのような状
 況のなか、会話参加者はどのように指示上の問
 題に対処し、会話を進行させているのかという
 観点から事例を検討することにする。

3.1. 聞き手からの新たな資源の要求・提示による認識追求

話し手は指示対象を聞き手が知らないと思
 定しているとき、ワード・サーチの成功が危う
 い状況に陥ることがある。例えば、(6)は、(5)
 と同じ電話会話であるが、様々な映画の作品が
 話題になっている。Y は M が「シャイニング」
 という映画を見たことがないと知り、監督が誰
 であるか言及し始めたところ、その名前を忘れ
 てしまう。

(6) [CallFriend Japanese 1841]

01 Y: シャイニングはね:, 監督があの
 02 ほら°°(.h[h]°°え:つと::
 03 ::::[:::]誰だっけ((とぎれ))
 04 [(機械音)]
 05 (0.8)
 06 Y: 有名な人
 07 (1.4)
 08 M: え:え
 09 (0.5)
 10 Y: 2001 年作った人.
 11 (0.7)
 12 M: え h と:あの:>ヨシダ<さんの
 13 好きな人::?
 14 (0.3)
 15 Y: <キューブリック.>
 16 M: °.hhhh° あ:知[らない.]

10 行目で Y が提示した「2001 年作った人」
 という描写は、M にその知識がないため、ワー
 ド・サーチを成功に導く資源にはならない。そ
 こで、M が取った行動は、「>ヨシダ<さんの好
 きな人::?」(12・13 行目)と尋ね、別のタイ
 プの資源を要求することである。そうすること
 で、M は過去に Y が好きな監督が誰であるかを
 聞いた経験があれば、その記憶から候補者の名
 前を引き出すことができるかもしれない。

拙論(2014)では、指示対象の「名前」、「属性」、
 指示対象に関わる「共有経験」が、認識探索の
 資源になりうることを主張した。この「吉田さ
 んの好きな人?」という要求は、指示対象に関
 わる「共有経験」を資源として、指示対象の認
 識探索の突破口を開こうとしたものとみなす
 ことができる。さらに、6-12 行目の一連のやり
 とりは、話し手と聞き手が個別に獲得した知識
 が、認識探索及び「名前」の探索の資源として
 有用でない場合は、両者の「共有経験」から得
 た知識が活用される、という可能性を示唆して
 いるといえるだろう。

聞き手が指示対象を知らないと思定してな
 されたワード・サーチの事例をもうひとつみて
 おこう。(7)では、K(男性)が香水を替えよう
 とした話を聞いた後、I(女性)は自分が昔試した
 ティファニー社の香水のことを話そうとして、
 その銘柄名を忘れてしまう。

(7) [CallFriend Japanese 4044]

01 I: .hhh あのね: で 機会があったら
02 ティファニーの: ,
03 K: う: ん あれ?
04 I: .hh
05 (0.3)
06 I: n?
07 K: え? >ティファニー<の何?
08 I: ティファニーの:
09 K: うん
10 I: ° え: と なんだっけ名前>あ<
11 忘れちゃった ° ((ささやき声で))
12 <ティファニーの香水>があるの<ね?=
13 K: =うん 知ってる あの色: n の(.)した
14 (0.3)
15 K: (.) ティファニー(.)ブルー?
16 I: そう そう そう そう <そう>
17 I: .hh あれ: も>すごい<私の候補にあった
18 のね,
19 K: う: ん

I は、8 行目の「ティファニーの:」の後に言おうとした香水の「名前」を探そうとしたが思い出せないことを、10-11 行目で明示している。その後すぐさま、12 行目で、「香水」という普通名詞を代入するという策により表現産出の問題に対処し、「…があるのね」という、聞き手が知らない想定した対象を指示するフォーマット (cf. 須賀(2007b))を用いて、会話を進行させている。

これに対して聞き手 K は、13 行目で「あの色: n の(.)した」と言い、その香水の「色」を知っていることから I が意図する対象を認識できると主張するが、その承認は得られていない(14 行目)。そこで、15 行目では「ティファニー・ブルー」という、カンパニー・カラーの正式名称を提示している。K はこの香水の「名前」も知らず、最も重要な属性である「におい」も知らないが、カンパニー・カラーの正式名称という、この香水がどんなものか理解できるだけの知識があるということを主張し、I から「そうそうそう<そう>」と承認を得ている。

この事例が示すように、聞き手の知識に関して、話し手が実際とは異なる想定をしていることが、会話の中で判明することがある。(7)では、この想定のをずれを解消するために、聞き手の方

から指示交渉の続行を求めたことで、指示を達成することが可能となっている。この場合も、「あれ」を用いて、会話の主活動が再開されている。

3.2. 「名前」探索の断念と会話の進行

1.1 節で述べた「名前」の選好は、人がある対象を「名前」で同定することができるならば、あえて「属性」を知っているかどうか確認しなくても、対象を認識できるものとみなして会話を進めることができるということを意味する。ここで、「名前」の探索を追求しようとした事例を取り上げる。

(8)は、日本にいる B が、アメリカに住んでいる幼少の孫(娘 A の子)のために日本のビデオを送ってあげようとして、どのようなものがよいのかを娘の A に相談している。B が『ひょっこりひょうたん島』を候補に挙げ、A がそれに同意した後の会話である。

(8) [CallHome Japanese 2208]

01 A: なんかこの間ほらパパが買って来た(.)
02 西遊記のビデオにも:
03 A: [じゃじゃ丸]が出てく-
04 B: [うん うん].
05 A: じゃじゃ丸じゃないや >なんだっけ<
06 .hhh えっと: 何とか鬚? [赤鬚: ?]
07 B: [うん うん].
08 A: [赤鬚]じゃなくてな(h)んだ(h)つけ(heh)
09 B: [うん]
10 B: な: んか出て来るよ=う[ん.
11 A: [う: ん.
12 (0.5)
13 B: .hh あ: ↑<そうね>, .hh
14 ↑そんなのもまあいいかも知れないね?
15 A: う: ん

A は 3 行目で一度発話した「じゃじゃ丸」という名前の誤りに気づき、訂正しようとして、5-6 行目と 8 行目で「名前」探索を行うが、聞き手 B からの提示は得られない。10 行目の B の不定代名詞を用いた「な: んか出てくるよ」

という発話は、A が探している名前を自分も思いつかないことを示すとともに、「名前」探索を止めて会話を先に進めることを奨励するように聞こえる。その直後に、A は「名前」探索を続行しようと思えばできるはずであるが、A はそれを断念している。B にとっては、孫がどんなビデオを好むかがわかればよく、西遊記の登場人物の「名前」が何であるかがわからないとしても、何かそういう雰囲気的人物が存在するという程度の理解ができれば十分である。それは、12 行目の「そんなのもまあいいかもしれないね」という発話に示されている。この事例は、聞き手の行動によって、話し手が名前の探索を断念して、会話の主活動の進行性が優先されうるということを示している。

4. 結語

本発表では、「ワード・サーチを伴う指示」という現象を記述し、指示が相互行為として成り立つものであることを示す証拠事例のひとつを提示した。3.1 節では、聞き手が指示対象を認識できないと想定している場合でも、聞き手の側から指示交渉（すなわち名前探索と認識探索）を続行するよう要請があることを示した。3.2 節では、会話の主活動を遂行するために十分な程度の指示対象の理解が得られれば、「名前」の探索より進行性が優先されることを観察した。

また、本研究では、会話者の実践の中に、言語の相互行為上の役割を見出すことができることを示した。

・進行性に関わる機能として、「あれ」は、指示交渉によって分断された主活動の開始を合図する(e.g. (4))。指示交渉を先送りして進行性を優先する (Hayashi 2003, 2005)。

・指示対象の認識に関わる機能として、「あれ」は「聞き手が指示対象を認識できると判断していることを指標する(e.g.(4)(7))。普通名詞は、聞き手は指示対象を認識できないと想定していることを指標する(e.g.(7)の「香水」)。不定代名詞「なんか」は、指示対象（の存在）を認識できることを指標する(e.g. (8))。

さらに、本研究は、次のことがらを示唆している。

- 1) 指示は、必ずしも言語形式上の結びつき (e.g. Halliday & Hasan (1976)) によって保証されるものではなく、活動として成り立つものである。
- 2) 話し手は聞き手の認知状態に合わせて対象を指示する表現形式を選択している (cf. Prince (1992), Gundel et al. (1983))。ただし、常に話し手が聞き手の認知状態を前もって想定できるわけではなく、聞き手の承認を得て初めて確定することがある。時間の流れの中で変化するものである (e.g. (7))。
- 3) 単に特定の対象を同定するだけでなく、どのような対象であるのかを聞き手に認識・理解させる属性指示的側面(cf. Donnellan (1966))も指示活動の一部である (e.g. (3-7))。

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注

1. 「ワード・サーチ」は、通常様々な言葉を探すことを意味するが、本研究では、特定の指示対象の「名前」を探す行為に限定する。

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トランスクリプトに使用した記号一覧

[重複の始まり
]	重複の終わり
=	切れ目ない接続
(0.7)	間隙 (秒)
(.)	0.1 秒前後の間隙
:	音声の引き延ばし
—	音声の中断
↑/↓	直後の音調が高い
./?/ε/,	下降調・上昇調・やや上昇調・継続を示す抑揚
文字	周辺と比べて大きい音量, 高い音
°文字°	周辺と比べて小さい音量, 低い音
hh	呼気音
.hh	吸気音
<文字>	周辺と比べて速度が遅い
>文字<	周辺と比べて速度が速い
(())	転記者による注釈
(文字)	不明瞭な音声
()	聴き取り困難な音声

An Argument Structure Alternation of Psych Verbs under VP-Deletion*

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Keywords: argument structure alternation, voice mismatch, syntactic identity

1. Introduction

This paper is concerned with psych verbs that exhibit the following alternation:

- (1) a. John worried about Mary's poor health.
- b. John was worried about Mary's poor health.
- c. Mary's poor health worried John.

(1a) shows that the verb *worry* has an intransitive variant. (1b) shows that it has a passive variant. In both variants, *John* is interpreted as an experiencer, and *Mary's poor health* as a subject-matter of emotion. In addition, the verb has a causative variant, as shown in (1c), where *Mary's poor health* is interpreted as a causer and *John* as an experiencer. In this paper, we will explore the VP structure of the variants by looking at the behavior they show under ellipsis.

The paper is organized as follows: in section 2 we will propose a VP structure for the three variants. In section 3 we will briefly review Merchant's (2013) syntactic approach to morphosyntactic mismatches in ellipsis. Based on his approach, we will then provide novel data of little *v* mismatches in VP deletion as evidence for the structure proposed in section 2. In

section 4 we will discuss several consequences that our analysis has for (i) sluicing of *worry*-type psych verbs, (ii) VP deletion of another psych verb, *bother*, and (iii) VP deletion of change-of-state verbs. In section 5 we will present concluding remarks.

2. A Proposal

We propose the following VP structure for *worry*-type psych verbs following the constructivist view of thematic roles (Folli and Harley (2005, 2006), Harley (2011)).¹

- (2) a. [_{VP} John *v*_{stative} [_{VP} worry about Mary's poor health]]
- b. [_{VP} Mary's poor health [_{v'} *v*_{cause} [_{VP} John *v*_{stative} [_{VP} worry \emptyset]]]]]

Since both the intransitive alternant in (1a) and the passive one in (1b) realize the same thematic roles, we propose that they have the same VP structure (2a), where the little *v*_{stative} head requires that its specifier be interpreted as an experiencer and the lexical verb *worry* requires that its complement be interpreted as a subject-matter. The causative alternant in (1c) has the structure (2b), which embeds *vP* in (2a) under the little *v*_{cause} head, whose specifier is interpreted as a causer.²

We assume that the subject-matter role in (2b) is realized as a null argument (\emptyset). According to Pesetsky (1995), a causer role and a subject-matter role are not permitted to be realized simultaneously, as illustrated in (3a).

- (3) a. *The television set worried John about the veracity of Bill's alibi.
(Pesetsky (1995: 60))
- b. The television set made John worry about the veracity of Bill's alibi.
(ibid.: 61)
- c. The television set worried John.
(ibid.: 57)

He argues however that (3a) is semantically coherent because the content (3a) intends to cover can be expressed with the syntactic causative in (3b). Furthermore, in (3c), although the television set causes John to experience worry, the subject matter of the thought itself may have nothing to do with the television set. That is to say, the television set may provoke worries about itself or other matters related to it. Considering these facts, we assume that the subject-matter argument appears covertly in the complement of V and this null argument is interpreted in some way as identical to or different from the causer argument.

3. An Analysis

In this section, we adopt Merchant's (2013) theory of VP deletion and argue that our proposal is supported by some novel facts about the VP deletion of psych verbs.

3.1. The Syntactic Identity Condition on VP Deletion

First, we review Merchant's (2013) approach to ellipsis. Merchant (2013) points out that VP deletion permits voice mismatches between the antecedent and the elided verb phrase, while voice mismatches in larger ellipsis types like sluicing are not tolerated. The contrast leads him to argue that the identity relation in ellipsis is sensitive not only to semantics but also to syntax. Then, to account for the former fact, he proposes that the head that encodes voice morphology is external to the verb phrase. Specifically, VP ellipsis can allow voice mismatches because it targets a structure that excludes the voice head (i.e. complement of Voice). On the other hand, sluicing does not allow voice mismatches, because it targets a

larger structure that includes the voice head (i.e. complement of C). Furthermore, Merchant (2013) observes that argument structure alternations are not found between antecedent verb phrases and elided verb phrases. That is to say, if one diathesis variant is found in an antecedent phrase, then that same variant must occur in the elided phrase under VP ellipsis. He claims that these facts fall into place if there exist heads that govern argument structure alternation and are placed below the voice head. To illustrate, let us consider the example in (4), which illustrates voice mismatches in VP ellipsis. We indicate the elided material in angled brackets in the example and the target of ellipsis in the box notation.

- (4) a. The janitor must remove the trash
whenever it is apparent that it should be
<removed>. (Merchant (2008: 169))
- b. i. [VoiceP Voice_[+Active] [VP the janitor v_{cause}
[VP remove the trash]]]
- ii. [VoiceP Voice_[-Active] [VP *pro*_i v_{cause} [VP
remove it]]] (by XP_i)

(4bi) shows the antecedent verb phrase structure and (4bii) the elided verb phrase structure. The same functional head, *v_{cause}*, is used in both vPs and in this sense they are syntactically identical. Thus, the example is acceptable. Next consider the example in (5), which shows little *v* mismatches in VP ellipsis. The change-of-state verb *melt* has an intransitive variant and a causative one, and enters the causative/inchoative alternation (Levin (1993)).

- (5) a. *Bill melted the copper vase, and the
magnesium vase did <melt>.
(Sag (1976: 160))
- b. i. [VoiceP Voice_[+Active] [VP Bill v_{cause} [VP
melt the copper vase]]]
- ii. *[VoiceP Voice_[+Active] [VP v_{unaccusative} [VP
melt the copper vase]]]

(5bi) and (5bii) indicate the causative antecedent and intransitive elided verb phrase structure, respectively. They have different little v heads: v_{cause} and $v_{\text{unaccusative}}$. As a result, the syntactic identity relation is no longer maintained and ellipsis is not permitted.

3.2. The VP Deletion of Psych Verbs with Little v Mismatches

In the previous section, we have seen that argument structure alternations are found between antecedent VPs and elided VPs if both diathesis variants have the same type of little v head, and that such alternations are not found if they have different types of little v head. In light of this, in this section we explore whether the structure we proposed in (2) is correct.

First, consider the intransitive variant and the passive variant. Recall that they have the same structure up to Voice and include the same little v head, v_{stative} , as illustrated in (6a) and (6b), respectively.³

- (6) a. [VoiceP Voice_[+Active] [_{VP} John v_{stative} [_{VP} worry about Mary's poor health]]]
 b. [VoiceP Voice_[-Active] [_{VP} John v_{stative} [_{VP} worry about Mary's poor health]]]

As such, VP ellipsis should be possible in either, and either of them could be the antecedent. This is shown in (7a) for the intransitive-to-passive combination and in (7b) for the passive-to-intransitive combination.

- (7) a. John worried about Mary's poor health_i, and Bill was <worried about it_i>, too.
 b. John was worried about Mary's poor health_i, and Bill did <worry about it_i>, too.

Second, consider the case where the causative variant is the antecedent and the intransitive or passive variant is elided. The intransitive or passive variant has the structure in

(8b), where ellipsis targets the boxed structure, the complement of Voice. The causative variant has the verb phrase structure in (8a), which embeds the elided vP structure (8b) under the little v_{cause} head.

- (8) a. [VoiceP Voice_[+Active] [_{VP} Mary's poor health [_{v'} v_{cause} [_{VP} John v_{stative} [_{VP} worry \emptyset]]]]]
 b. [VoiceP Voice_[±Active] [_{VP} John v_{stative} [_{VP} worry about Mary's poor health]]]

In this case, the syntactic identity condition between the elided part and the antecedent is satisfied because the antecedent structure embeds the elided vP structure. Furthermore, if the null subject-matter argument is identified with the causer argument in (8a), semantic identity is also maintained. Thus, we predict that ellipsis should be possible. This prediction is borne out by the data below.

- (9) a. Susan said that Mary's poor health_i would worry John_j, and he_j did <worry about it_i>.
 b. Susan said that Mary's poor health_i would worry John_j, and he_j was <worried about it_i>.

(9a) shows that the intransitive variant can be deleted. In (9b), the passive variant is deleted.

Finally, consider the reverse pattern of (8), where the intransitive or passive variant is the antecedent and the causative one is elided. Each verb phrase structure is schematized in (10).

- (10) a. [VoiceP Voice_[±Active] [_{VP} John v_{stative} [_{VP} worry about Mary's poor health]]]
 b. *[VoiceP Voice_[+Active] [_{VP} Mary's poor health [_{v'} v_{cause} [_{VP} John v_{stative} [_{VP} worry \emptyset]]]]]

In the causative structure in (10b), the boxed structure includes the little v_{cause} head, which is not included in the intransitive or passive

antecedent. This means that the elided part and the antecedent are not syntactically identical. Therefore, we predict that ellipsis should be impossible. This is confirmed by the following data.

- (11) a. *Susan believed that John_i worried about Mary's poor health_j, but it_j did not <worry him_i>.
 b. *Susan believed that John_i was worried about Mary's poor health_j, but it_j did not <worry him_i>.

In (11a), where the antecedent is the intransitive variant, ellipsis of the causative verb phrase is not allowed. For (11b), where the antecedent is the passive variant, the same result obtains.

In summary, assuming the syntactic identity condition on VP ellipsis we have argued for two points: First, we have shown that the intransitive alternant of the psych verb has the same *v*P structure as the passive one. Second, we have established that the causative alternant includes the *v*P structure of the intransitive (or passive) alternant as a subset.

4. Consequences

In this section, we will discuss several consequences that our analysis has for (i) sluicing of *worry*-type psych verbs, (ii) VP deletion of psych verbs such as *bother* under little *v* mismatches, and (iii) VP deletion of change-of-state verbs under little *v* mismatches.

4.1. Argument Structure Mismatches in Sluicing

In section 3.2, we argued that VP ellipsis is permitted in intransitive or passive sentences with *worry* when the causative acts as antecedent, because the elided *v*P is a subset of the antecedent *v*P. Let us consider then the case where the target of ellipsis is extended to

the complement of C. In this case, the target of ellipsis always includes Voice phrase, as illustrated in (12b).

- (12) a. $[\text{VoiceP } \text{Voice}_{[+Active]} [\text{vP } \text{Mary's poor health } [\text{v}' \text{v}_{\text{cause}} [\text{vP } \text{John } \text{v}_{\text{stative}} [\text{VP } \text{worry } \emptyset]]]]]$
 b. $[[\text{VoiceP } \text{Voice}_{[\pm Active]} [\text{vP } \text{John } \text{v}_{\text{stative}} [\text{VP } \text{worry about Mary's poor health}]]]]]$

(12b) is no longer a subset of the antecedent (12a), because the former does not include the *v*_{cause} head that the latter possesses. Thus, we make a further prediction that sluicing in this case should be impossible. This prediction is borne out by (13a), where the intransitive variant is elided, and (13b), where the passive variant is elided.

- (13) a. *I know something worried John_i but I don't know about what <he_i worried>.
 b. *I know something worried John_i but I don't know about what <he_i was worried>.

4.2. The Psych Verb *bother* and VP Deletion

The verb *bother* belongs to the same psych verb class as *worry* (Levin (1993)). However, according to our informant, the former is slightly different from the latter in argument realization, as shown in (14).

- (14) a. *Lucie bothered about a math problem.
 b. Lucie was bothered about a math problem.
 c. The math teacher bothered Lucie.
 d. The math teacher bothered Lucie about a math problem.

Although our informant allows the verb *bother* to have the passive use in (14b) and the causative use in (14c), he does not allow it to have an intransitive use, unlike the verb *worry*. Additionally, the verb *bother* is allowed to realize all its three thematic roles simultaneously,

as shown in (14d). In this section, putting aside the reason for the fact that the intransitive variant is unacceptable, we consider the VP structure of the remaining acceptable variants by looking at the behavior they show under VP ellipsis. Let us first consider the data in (15).

- (15) John said that the math problem_i would bother Lucie_j, and she_j was <bothered about it_i>.

According to our informant, when the causative variant (14c) is the antecedent and the passive one is deleted, the sentence is acceptable. Second, consider the reverse pattern below.

- (16) *John said that Lucie_i would be bothered about a math problem_j and it_j did <bother her_i>.

When the passive alternant appears in the antecedent verb phrase and the causative one is used in the elided verb phrase, the sentence is unacceptable. These facts may lead us to the same conclusion as in the case of *worry*: the passive and causative variants in (14b, c) have the structures in (17a, b), respectively.

- (17) a. [VoiceP Voice_[-Active] [vP Lucie v_{stative} [VP bother about a math problem]]]
 b. [VoiceP Voice_[+Active] [vP the math teacher v_{cause} [vP Lucie v_{stative} [VP bother Ø]]]]

Lastly, consider the second causative variant in (14d). If this variant had the same structure as that of (14c) with the null argument overtly realized as the prepositional phrase *about a math problem*, the causative antecedent should license VP deletion of its passive counterpart. However, this prediction is contradicted by the data in (18).

- (18) *John said that the math teacher would bother Lucie_i about a math problem_j, and she_i was <bothered about it_j>.

Thus, it appears that the variant in (14d) does not have the same structure as that of (14c). We

tentatively propose the following structure.

- (19) [VoiceP Voice_[+Active] [vP the math teacher v_{cause} [VP bother Lucie] about a math problem]]

The crucial point is that the experiencer argument *Lucie* is not introduced by the little v_{stative} head but by the lexical V. Under this proposal, we can explain why (18) is unacceptable: because the causative antecedent does not include the little v_{stative} head but the passive ellipsis target does.

4.3. Subject and Auxiliary Focus in VP

Deletion

We dealt with morphosyntactic mismatches in the VP ellipsis of change-of-state verbs like *break* and *melt* in section 3.1. In this section, we will show that morphosyntactic mismatch phenomena are more complex than they might appear at first but that the same complexity is not replicated in the case of *worry*-type psych verbs. First, consider (20), where the unaccusative alternant is used in the antecedent and the passive one in the ellipsis target.

- (20) a. *The VASE didn't break though the WINDOW was <broken>.
 b. The snow DIDN'T melt yesterday though it WILL be <melted>.

As discussed in section 3.1, the condition on syntactic identity between the antecedent and the elided verb phrase is not satisfied because they have different v heads: v_{unaccusative} and v_{causative}. This is shown again in (21).

- (21) a. [VoiceP Voice_[+Active] [vP v_{unaccusative} [VP V NP]]]
 b. [VoiceP Voice_[-Active] [vP pro_i v_{cause} [VP V NP] (by XP_i)]

Thus, both (20a) and (20b) would be predicted to be unacceptable. In fact, acceptability varies depending on the location of focus (Kertz

(2010)). Specifically, voice mismatches in VP deletion are ruled out if focus is put on the subject of the elided clause, as shown in (20a). On the other hand, they are permitted if focus is put on the auxiliary verb, as in (20b). The same contrast is found in the following examples.

- (22) a. *The WINDOW was broken and the VASE did <break>, too.
 b. ?The snow is GOING to be melted though it DIDN'T <melt>.
- (23) a. *John broke the WINDOW and the VASE did <break>, too.
 b. Everyone TRIED to melt the snow, but it DIDN'T <melt>.
- (24) a. *There, the vase broke. — I bet JOHN did <break the vase>.
 b. The snow DIDN'T melt though everyone TRIED to <melt it>.

Example (22) is the reverse pattern of (20). Examples (23) and (24) utilize the causative alternation. The same point can be made about them.

Here let us reconsider the example in (7), as repeated in (25).

- (25) a. John worried about Mary's poor health_i, and Bill was <worried about it_i>, too.
 b. John was worried about Mary's poor health_i, and Bill did <worry about it_i>, too.

In (25), in spite of subject focalization, VP ellipsis is possible. This suggests that different conditions are at work in VP Deletion of change-of-state verbs and psych verbs of *worry*-type, which leads us to assume that the alternations the two verbs participate in should be structurally differentiated.

5. Conclusion

In this paper, we have proposed two VP

structures for the psych verb *worry*: its intransitive and passive variants have the same structure, and its causative one has a structure which includes the intransitive (or passive) vP structure as a subset. We have shown that the structures we propose are supported by novel data concerning VP ellipsis. We have also shown that (i) the structures we propose are corroborated by data from sluicing, and (ii) they can be extended to the psych verb *bother*, and (iii) the VP deletion of psych verbs is subject to a different condition from that of change-of-state verbs.

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Notes

¹ In this framework, thematic roles are defined by the interaction of the syntactic positions that the arguments occupy and the functional heads that introduce them. Then, verb alternations are captured by hypothesizing different functional heads on top of a single

verbal root.

² At the ELSJ meeting, Professor Koji Fujita pointed out that we should first offer a definition for psych verbs. He suggested to us that it is crucial for them to select causer roles. However, this definition itself cannot apply only to psych verbs, but is also applicable to change-of-state verbs like *break* and *melt*, which take causer roles as their subjects. As discussed in section 4.3, the latter behaves differently from the former in VP ellipsis. Therefore, in this paper, we will define the relevant verbs as being able to select experiencer roles and causer roles.

³ At the ELSJ meeting, Professor Miki Obata asked us what the difference is between the intransitive variant and the passive one. In this paper, we simply assume that the crucial difference lies in the value of the voice head: the former has the plus value and the latter has the minus value. Subsequent derivations of both variants are left for future research, though.

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**Production of an Allophonic Variant
in a Second Language: The Case of
Intervocalic Alveolar Flapping**

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Keywords: alveolar flap, American English,
corpus analysis, production experiment,
language experience

1. INTRODUCTION

Intervocalic alveolar flapping, the realization of intervocalic /t/ and /d/ as an alveolar flap, is commonly observed in American English (AE), in intervocalic position, e.g. *letter*, *ladder*, after a nasal or liquid, e.g. *winter*, *shelter*, and across word boundaries, e.g. *get on*, *see you tomorrow*. Alveolar flaps do not lexically contrast with other sounds in English, but flapping is known to occur highly regularly in certain dialects. Meanwhile, production of alveolar flaps by second-language (L2) learners has not been extensively investigated, since they are not contrastive. Nevertheless, it might still be to the learners' advantage to be able to produce them appropriately, especially if they want to sound native-like.

The purpose of the present study is to investigate how often native Japanese learners of English produce alveolar flaps in English and how language experience influences their production of alveolar flaps. Three specific questions were pursued: (1) How consistently

do native AE speakers produce alveolar flaps in spontaneous speech in the first place? (2) How well can Japanese learners of English (JE) produce alveolar flaps in English? (3) How strongly is JE speakers' production of alveolar flaps related to English language experience? These purposes were pursued by analyzing speech corpora containing productions by AE and JE speakers, and by conducting a speech production experiment with JE speakers.

2. CORPUS ANALYSES

2.1. Buckeye Corpus

The Buckeye Corpus of conversational speech (Pitt et al. (2007)) contains recordings from 40 AE speakers from Columbus, OH, USA, conversing freely with an interviewer. The corpus contains approximately 300,000 words of speech with orthographic transcriptions and time-aligned phonetic labels. Based on the phonetic labels, flap rate was calculated by dividing the number of productions of a given word that were transcribed with a flap by the total number of productions of that word. Flap rate was also calculated for two-word phrases such as *get on*.

Out of all words that appeared at least five times in the corpus and were produced with a flap at least once ($N=346$), flap rate was 48.6% on average, and ranged from 0.02% to 100%. Similarly, for two-word phrases ($N=534$), flap rate was 38.4% on average, and ranged from 0.2% to 100%. It should be pointed out that tokens that were not counted as flapped include those produced with a regular non-flapped /t/ or /d/, as well as those with massive reduction, e.g. *letter* produced with no perceivable intervocalic consonant. These overall results indicate that AE speakers regularly produce alveolar flaps on a regular basis, but that flap rate varies widely across words and phrases.

The 65 target items were each embedded in the carrier sentence “Say ____ now”.

3.1.3. Procedure

Participants were recorded individually in a quiet room. Each participant read aloud two different randomized lists of the 65 sentences. The materials were presented on a laptop computer screen using a sentence presenter program implemented on Praat (Boersma and Weenink (2014); Dellwo (2014)). Recordings were made using a head-mounted microphone or a desktop microphone and saved onto a digital recording device at 44.1-kHz sampling frequency and 16-bit resolution, which were later saved as audio files.

3.1.4. Analysis

Of the two randomizations read by each participant, the first randomization was analyzed in the present study, for a total of 2,600 utterances (40 speakers \times 65 items). For each utterance, a judgment was made as to whether the target segment was produced as an alveolar flap using two methods: (1) phonetic transcription by one of the three co-authors based on auditory inspection of each utterance, (2) acoustic analysis of each utterance based on acoustic parameters that are often said to be associated with alveolar flaps. The present study focuses on the phonetic transcriptions given by the transcribers; for details on the acoustic analysis, see Kitahara et al. (2014).

3.2. Results and discussion

3.2.1. Transcription by item type

Figure 2 shows the distribution of phonetic transcriptions given by the transcribers for the JE speakers’ utterances, shown separately for different item types. Percentages of tokens

transcribed as a flap (dx) or a weak flap (dxx) are shown in darker shades.

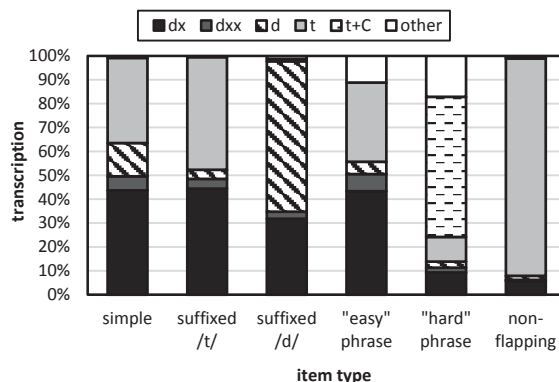


Figure 2. Distribution of phonetic transcriptions as a function of item type. The label “dx” stands for a flap, and “dxx” for a weak flap. “t+C” indicates /t/ followed by a consonant.

When flap rate is taken as the percentage of tokens transcribed either as a flap (dx) or a weak flap (dxx), results indicated that flap rate was approximately 50% for simple words (49.6%) and suffixed words with /t/ (48.5%). Suffixed words with /d/ showed a somewhat lower flap rate (34.7%). The lower flap rate for /d/ is contrary to studies that reported that flap rate was higher for /d/ than for /t/ (e.g. Herd, Jongman, and Sereno (2010)). The lower flap rate for /d/ in the present study may be due to the possibility that the transcribers were more conservative in labeling a /d/ as a flap than a /t/ as a flap, as /d/ is more perceptually similar and therefore confusable with a flap than /t/ is. Flap rate for “easy” phrases such as *get it* was 50.5%, which was as high as that for simple words and suffixed words with /t/. This result was somewhat surprising, since flapping across word boundaries was expected to be more difficult for JE speakers than flapping within a word. In contrast, flap rate for “hard” phrases such as *get her* was 11.3%, which was considerably lower than that for “easy”

phrases. This result suggests that some phrases, particularly those that require an additional phonological process of consonant reduction or deletion e.g. *get her* → *get 'er*, were indeed difficult for JE speakers to exhibit flapping in. Finally, flap rate for non-flapping words such as *thirteen* was 6.2%, suggesting that JE speakers sometimes over-generalized and produced alveolar flaps in words that native AE speakers do not produce flaps in.

3.2.2. Flap rate by speaker group

The JE speakers were found to vary greatly in the degree to which they produced alveolar flaps in the experiment. Flap rate varied from 1.6% to 78.1% depending on the speaker. Given such variability across speakers, it may be possible to examine which item types were relatively easy to flap and which item types were relatively difficult to flap. For example, it might be the case that speakers with relatively high overall flap rates exhibited flapping in most words and phrases, whereas speakers with relatively low flap rates exhibited flapping in only certain item types, such as words, but not in others, such as phrases. In order to examine such potential differences across item types as a function of the speakers' overall flap rate, the JE speakers were divided into five equal subgroups (N=8 in each subgroup) according to their overall flap rate. The highest 20% of the speakers was designated J5, the next 20% was designated J4, and so on, down to the lowest 20% which was designated J1.

Figure 3 shows flap rates for the five subgroups of JE speakers as a function of item type. Also shown are flap rates of native AE speakers, obtained by searching for the 65 target items in the Buckeye Corpus and calculating the rate at which these items were flapped in the corpus. The AE speakers' data should only be

taken as a rough estimate of flap rates by native AE speakers because the JE and AE data are based on different speech styles (lab speech vs. conversational speech).

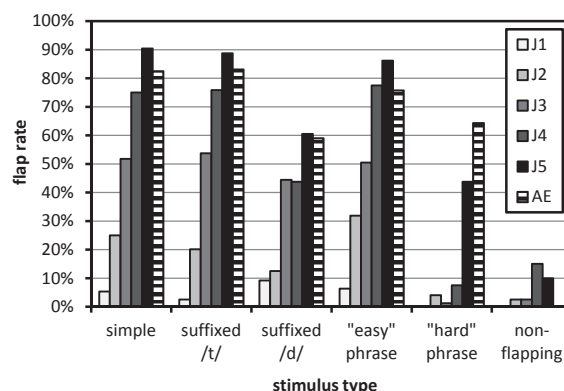


Figure 3. Flap rate of JE speaker groups J1-J5 and AE speakers as a function of item type.

Figure 3 indicates that flap rate showed a staircase-like increase from J1 to J5 for most item types, i.e. simple words, suffixed words with /t/ and /d/, and easy phrases. This staircase-like pattern was to be expected from the way the subgroups were defined, and demonstrates that flap rate in fact varied substantially across speakers. As in Figure 2, flap rates for suffixed words with /d/ were lower than those for suffixed words with /t/; this trend was observed also for native AE speakers. Mean flap rates for some of the higher subgroups, e.g. J4 and J5, appear to be comparable to that for native AE speakers. Flap rates for “easy” phrases were similar to those for simple words and suffixed words with /t/ for all five subgroups, suggesting that JE speakers showed the same degree of flapping in words and “easy” phrases, regardless of their overall flap rate. In contrast, for “hard” phrases, flap rate was extremely low (below 10%) for groups J1-J4, and was higher (43.8%) only for group J5, suggesting that except for JE speakers who showed the highest overall flap rates (J5), most

JE speakers did not show flapping in “hard” phrases. For non-flapping words, flap rate was either zero or close to zero for most groups including native AE speakers, but was 15.0% for group J4 and 10.0% for group J5, suggesting that JE speakers with higher flap rates tended to over-generalize and produced alveolar flaps even in words in which native AE speakers do not produce flaps.

A two-factor analysis of variance with subgroup (5 levels: J1-J5) as a between-subjects factor, item type (6 levels) as a within-subject factor, and flap rate as the dependent variable was conducted. Results showed significant main effects of subgroup [$F(4,35)=119.9, p < .001$] and item type [$F(5,175)=69.9, p < .001$], and a significant interaction between subgroup and item type [$F(20,175)=7.1, p < .001$]. Further analysis of the subgroup-by-item-type interaction was carried out by testing the simple effect of subgroup for each item type. Results revealed that the simple effect of subgroup was significant for all item types except non-flapping words ($p < .001$). Multiple comparisons indicated the following significant differences at the $p < .05$ level for each item type: simple words: J1 < J2 < J3 < J4, J5; suffixed words with /t/: J1, J2 < J3 < J4, J5; suffixed words with /d/: J1, J2 < J3, J4, J5; “easy” phrases: J1 < J2 < J3 < J4, J5; “hard” phrases: J1, J2, J3, J4 < J5. For non-flapping words, no significant differences were found among the five subgroups.

In short, flap rate varied substantially across JE speakers. Flap rates for “easy” phrases were similar to those for words for most speakers, but flap rates for “hard” phrases were very low for most speakers except group J5, the speakers with the highest overall flap rates.

3.2.3. Correlations with speaker-related factors

Given the substantial inter-speaker variability in flap rate among the JE speakers, it is instructive to find out the degree to which flap rate was related to the speakers’ language experience and proficiency, as depicted in Figure 1. Table 1 shows pairwise correlations among four variables of interest: age of first arrival in the US (AOA), total duration of stay in the US (DOS), TOEFL iBT score, and flap rate. Statistically significant correlations are indicated with asterisks.

Table 1. Correlations among age of first arrival in the US (AOA), duration of stay in the US (DOS), TOEFL iBT score, and flap rate. Asterisks indicate statistically significant correlations.

	AOA	DOS	TOEFL	flap rate
AOA	1.000			
DOS	-0.851***	1.000		
TOEFL	-0.548***	0.564***	1.000	
flap rate	-0.362*	0.392*	0.500**	1.000

* $p < .05$, ** $p < .01$, *** $p < .001$

Results show that flap rate was significantly negatively correlated with AOA, indicating that speakers who arrived in the US at a younger age (including US-born speakers) tended to have higher flap rates. Results also show that flap rate was significantly positively correlated with DOS and TOEFL iBT score, indicating that speakers who lived in the US for a longer period of time and speakers who scored higher on TOEFL iBT tended to have higher flap rates. All of these correlations are in the expected direction. Among the three speaker-related factors, TOEFL iBT score showed the highest correlation with flap rate, suggesting that standardized test scores that reflect learners’ overall English proficiency was a better predictor

of flap rate than simple measures of English language experience such as age of arrival and duration of stay. However, it should be pointed out that these three speaker-related factors were all highly correlated with one another, as shown in Table 1. Thus, it would be misleading to attempt to identify a single factor that explains the observed variability in flap rate.

4. DISCUSSION

The purpose of the present study was to investigate how well native Japanese learners of English can produce alveolar flaps in English and how language experience might affect the extent to which they produce alveolar flaps. Three specific questions were pursued.

The first question asked how consistently native AE speakers produced alveolar flaps in spontaneous speech. Analysis of the Buckeye Corpus of conversational American English suggested that AE speakers did produce flaps frequently. However, flap rate varied widely and continuously across items. These results suggest that while flapping is indeed common in American English, it is not a categorical all-or-none phenomenon, but rather a gradient process.

The second question inquired how well Japanese learners of English can produce alveolar flaps in English. Analysis of the English Read by Japanese (ERJ) Corpus suggested that Japanese university students typically did not produce alveolar flaps. However, the production experiment in the present study demonstrated that learners with some experience living in America did produce alveolar flaps. Learners were able to produce alveolar flaps within words such as *letter* and *writing* as well as across word boundaries in “easy” phrases such as *get in* and *set up* to about the same degree. However, learners produced alveolar flaps much

less frequently in “hard” phrases such as *get her* and *hit them*, which require an additional phonological process of consonant reduction or deletion. Some learners even over-generalized and produced alveolar flaps in words that AE speakers typically do not produce flaps in, e.g. *thirteen* and *return*.

Finally, the third question had to do with the extent to which learners’ production of alveolar flaps was related to language experience. While Japanese university students in the ERJ Corpus, who had no reported experience of living in North America, almost never produced alveolar flaps, learners in the speech production experiment, who spent at least 0.5 months in the US, did produce alveolar flaps to various extents. This suggests that spending time in an English-speaking community may play a crucial role in improving certain aspects of English pronunciation such as alveolar flapping. Furthermore, correlation analysis between flap rate and speaker-related factors suggested that the age of first arrival in the US, duration of stay, and TOEFL iBT score were all moderately correlated with flap rate. That is, flap rate tended to be higher for JE speakers who arrived in the US early in their life (including US-born speakers), who stayed in the US for a long period of time, and who had high scores on TOEFL iBT.

The present study has certain limitations as well as suggestion for future research. First, flap rates of JE and AE speakers in Figure 3 cannot be straightforwardly compared because the AE speakers’ flap rates were based on a conversational speech corpus rather than lab speech. For a more direct comparison, a similar production experiment needs to be conducted with AE speakers. Second, TOEFL iBT scores for some JE speakers were derived from a conversion formula because the speakers did not

report TOEFL scores or have not taken the test before. It would be ideal to use actual test scores for analysis of speaker-related factors. Third, as shown in Figure 1, many JE speakers' age of arrival was clustered near age 20, with duration of stay under 12 months, reflecting the fact that many of the speakers in the production experiment lived in the US during college for one or two semesters on a study abroad program. It would be ideal to have a more evenly distributed sample of JE speakers.

Bearing these limitations in mind, results of the present study suggest that living or studying in an L2-speaking community may have a significant impact on learners' development of pronunciation skills in L2.

ACKNOWLEDGEMENTS

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NOTES

¹ TOEFL iBT scores were not available for all 40 of the JE speakers in the experiment. In such cases, conversion formulas were used to convert scores of other standardized tests to TOEFL iBT scores. For TOEIC scores, the following formula was used to first convert them to TOEFL PBT scores: $\text{TOEFL PBT} = \text{TOEIC} \times 0.348 + 296$. Then, TOEFL PBT scores were converted to TOEFL iBT scores based on the table in the following site: <http://www.conversation.jp/faq/faqenglish/TOEIC-TOEFL.html>. For EIKEN scores, they were converted to TOEFL iBT scores based on the table in the following site: http://ieltsnavi.com/score_conversion.html.

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可能を表す *ar* 動詞における接尾辞 *ar* の形態統語的役割について*

(On the Morphosyntax of the Affix *ar* in Potential Forms in Japanese)

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キーワード：可能動詞, 接尾辞 *ar*, 分散形態論, 重層的 *v* システム, 潜在的出来事項

0. はじめに

動詞の自他交替において問題となることの1つは、交替が派生的であるかどうか、ということである。すなわち、自動詞と他動詞の間で方向性を持った派生関係が存在するのか、あるいは、同じ語根(Root)から自動詞と他動詞がそれぞれ形成されるのかが問題である。そして、そのような方向性の有無と共に、どういった文法的操作が自他交替に関与するのが、もう1つの大きな問題である。

影山(1996)によれば、他動詞から自動詞を派生する2種類の語彙的操作が存在するとされている。1つは反使役化と呼ばれ、動詞の語彙概念構造上で外項と内項を同一化させるものであり、日本語の *e* 自動詞をはじめ、通言語的に自動詞を派生させる操作であるとされている。もう1つは、脱使役化と呼ばれ、他動詞の語彙概念構造上で外項が抑圧されることで自動詞化がなされるというもので、日本語の *ar* 動詞がそれに該当すると考えられている。

本稿は、*ar* 動詞がどのように派生されるのか、という問題について再検討を行うものである。特に、西尾(1954)が指摘した「可能」を表す *ar* 動詞に焦点を当て、分散形態論における基本的枠組みと重層的な動詞句構造を採用した上で、接尾辞 *ar* が Cause の主要部を占めると提案する。そして、接尾辞 *ar* の生起と外項の認可との間の形態統語的な相互作用によって、自動詞化の効果がもたらされることを論じる。さらに、接尾辞 *ar* から成る動詞句構造におけるアスペクト性が、*ar* 動詞類が示す「可能」の解釈の出自であることを主張する。

1. 接尾辞 *ar* による可能形式

「可能」とは、「人間や動物などの有情物(ときに非情物)が、ある動きを行おうとするとき、それを実現することができる(肯定文)/できない(否定文)」といった意味を表す、動詞の文法的・意味的なカテゴリー(渋谷(2006:59-60))である。その中で、とりわけ生成文法の枠組みで、これまで集中的に議論されてきたのは、主として助動詞(*r*)*are* を用いた形式である。この形式では、与格主語と主格目的語を許すにも関わらず、「*太郎にピーマンを食べられない」のように、与格主語と対格目的語が共起することはできない。

それに対し、*ar* 動詞の中に「可能」の意味を表すものがあることを西尾(1954)が指摘している。西尾が挙げているのは「務まる」のような二項動詞であるが、「募金がなかなか集まらない」や「無風では帆は簡単に上がらない」のように、たとえ項が1つしか具現しない場合も含めて、*ar* 動詞は須く潜在的に「可能」の意味を表し得る。助動詞(*r*)*are* との関連で特に興味深いことは、「太郎に大役が/*を務まらない」が示すように、*ar* 動詞も対格目的語を認可しない点である。

このような助動詞(*r*)*are* と *ar* 動詞の間に見られる平行性が、モジュール形態論を前提

とする影山(1996)においては容易に予測されず、むしろ、単なる偶然としか捉えられないことを見逃すべきではない。以下では、影山(1996)の意味論的分析の問題点を指摘し、形態統語的アプローチによる代案を提示していく。

2. 脱使役化分析の問題点

影山(1996)の分析は、語彙意味論の研究を中心に広く受け入れられてきたが、その中心的主張 (1)は経験的にも理論的にも妥当とはいえない。

- (1) a. *ar* 動詞は、対応する他動詞から(語彙概念構造に適用される脱使役化により)派生的に形成される。
b. したがって、*ar* 動詞において動作主は抑制されており、それは統語的に具現しない。

まず第一に、次の(2)と(3)が示すように、(1b)に反して、*ar* 動詞文において、対応する他動詞文の動作主主語が抑制されない事例が存在する。

- (2) 太郎が大学に受かった
(3) a. 太郎が つり革に 掴まった
b. *太郎が 幸運に 掴まった

(2)と(3a)では、脱使役化の適用の結果として抑制されるはずの動作主が、依然として *ar* 動詞「受かる」「掴まる」の主語として生起している。影山(1996)のように、語彙概念構造から項構造への写像を仮定するならば、この事実は全く予測されない。さらに、(3b)では、「つり革に」とは対照的に「幸運に」が「掴まる」と共起できないことが示されているが、この対比も、影山(1996)の分析では特別な規定なしに捉えることができない。何故なら、他動詞の内項「幸運」は、意味構造か

ら統語構造に至る写像の過程で、いかなる影響を被ることもないはずだからである。

動作主に関する問題は、次の(4)においても見られる。

- (4) 仲間は/*募金はわざとと集まらなかった
(cf. 仲間を/募金をわざと集めた)

脱使役化の適用によって、対象(Theme)である内項「仲間」と「募金」は共に *ar* 動詞の主語として昇格するにもかかわらず、両者は副詞「わざと」との共起関係において差異を示す。名詞句が意味的に担う有生性に由来すると考えられるこの差異も、影山(1996)の分析では無条件で予測することはできない。語彙概念構造において、「仲間」と「募金」は、主題役割が対象として同定されているのみであり、副詞「わざと」の認可に要求される意味的要素「意図性/動作主性」の認可については不明だからである。

さらに、自他において慣用句的な意味が異なる事例も、影山(1996)の分析に対する大きな挑戦と言える。

- (5) a. 頭を下げる(=謝罪する)/ 頭が下がる
(=感服する)
b. 口を塞ぐ(=始末する)/ 開いた口が塞がらない(=驚く) (cf. Takehisa (2013))

慣用句の形成において、統語構造と意味解釈を結びつけるいかなる理論を想定しても、他動詞から *ar* 動詞が派生されると仮定する限り、自他の間での慣用句解釈の不一致は全くの謎となってしまう。

もっとも、現代語では接尾辞の形態と意味が理想的なあり方で対応していないことは確かなようである。しかし、だからと言って、上述の一連の問題に直面した際に、「(古語とは異なり) 現代日本語では、接尾辞 *ar* と脱使役化の間には完全な一致はなく、個々の動

詞について規則の操作の適用可能性を指定しておく必要がある。(日高(2012: 3))」と述べることで批判を回避することも、接尾辞 *ar* の生産性という観点からは著しく言語学的直感に反している。

さて、影山(1996)のアプローチは、このような経験的問題に加えて、理論的にも妥当性を欠くと思われる。Koontz-Garboden (2007, 2009)は、語の形成と意味の関係に、次の(6)の制約が働くことを論じている。

(6) *Monotonicity Hypothesis*: 語形成規則は意味を取り除かない。(cf. Kiparsky (1982))

ところが、脱使役化規則は、他動詞の語彙概念構造から動作主/使役主を削除するという点で、明らかにこの制約に抵触するため、語形成規則として適格とは言えないことになってしまう。

ここで、*ar* 動詞の解釈について詳細に検討すると、意味要素の削除ではなく、むしろ接尾辞 *ar* による意味要素の「付け足し」を伺わせる事実が存在する。独立した議論として、須賀(1980)は、*ar* 動詞化では「外的要因による何らかの状態変化が含意される」と論じている。次の(7)と(8)の例を見られたい。

(7) a. 条件が 緩んだ/緩まった

b. 緊張が 緩んだ/*緩まった

(8) a. 糸が棒に 絡んだ/絡まった

b. 客が店員に 絡んだ/*絡まった

*ar*自動詞である「緩まる」「絡まる」では、「緩む」「絡む」では認められないような、外的要因(*External Cause*)による状態変化という、ある種の使役関係が成立していることが分かる。この事実は、接尾辞*ar*のもたらす意味的効果が、単に動作主の抑制のみではないことを示唆している。すなわち、接尾辞*ar*が状態変化を引き起こす外的要因を導入し

(そして、それと引き換えに、実際に動詞が表す行為を遂行する動作主が背景化されるため)、*ar*動詞の解釈においては状態変化の最終局面での結果状態が前景化している、と見るのが正しいと言える。その意味で、動作主の抑制は外的要因の導入とトレード・オフの関係となっており、それを単純な意味要素の削除と見做すことはできない。実際に、次の(9)に見られるように、問題の外的要因は時として「で」格の付加詞として具現する。

(9) a. ナイフで入れた切れ目のおかげで、
パンにチーズが挟まった

b. SNS の力で、その噂が広まった

c. 必死の努力で、太郎にその大役が務まった(こと)

ここで重要なことは、接尾辞 *ar* の付加によって導入される外的要因が、解釈の上で含意されるだけでなく、付加詞としての実体を伴って統語構造上に具現し得る点である。次節で提示する本稿の分析では、この外的要因について、非頭在的な統語的実体である出来事項(*Event Argument*)であると仮定する。

さて、須賀(1980)の観察を踏まえると、「集める」のほうが *CONTROL* 型の事象構造に対応する他動詞構造を有し、一方で、*ar* 動詞「集まる」では脱使役化の適用によって *BECOME* 型の事象構造を表す自動詞構造に変換されている、という語彙意味論的な分析は著しく妥当性を欠くものと結論づけられる。むしろ、「集める/集まる」はいずれも「他動詞」構造の動詞句を構成するが、前者では動作主が、後者では非頭在的な出来事項がそれぞれ外項として生起している点で異なるのみであると考えるのが正しい。

3. 形態統語的アプローチ

3.1. 基本的前提

具体的な分析のメカニズムを提示するの

に先立って、必要となる前提事項について簡潔に列挙する。まず、本稿では、分散形態論の基本的想定である、(10a)の Single Engine Hypothesis と、(10b)における Late Lexical Insertion を採用する。

- (10) a. 語形成を含む全ての構造は統語論で形成される。
 b. 統語論における併合の対象となる原始項は、範疇未指定の語根と機能範疇主要部であり、語彙挿入はPFで起こる。

本稿の分析は、脱使役化分析が立脚するモジュール形態論とは異なり反語彙主義的立場をとる。したがって、自他交替に関して、それを形態的に具現する接尾辞の統語的特性に還元しようとする方向性を指向する。それはすなわち、自他交替について、一方から他方への派生関係ではなく、共通の語根と異なる接尾辞の組み合わせから得られる相互作用の帰結として捉えることを意味する。

本稿で採用するその他の前提事項は、以下の(11)に示す通りである。

- (11) a. 動詞句は v , Cause, Voiceによる構成される重層的な構造をとり、内項は v により認可される。
 b. 動作主性/意図性は有生性と結びついたVoiceの素性であり、その意味において主題役「動作主(Agent)」はVoiceから認可される。(cf. Reinhart (2002))

(11a)における v は、派生の第一段階で語根と外的併合される機能範疇であり、いわゆる動詞化子(Verbalizer)としての役割を担うと同時に内項を認可する。一方、(11b)を前提とすることで、単純な他動詞構造においてVoiceに外的併合される外項が動作主として認可されるのに加えて、 vP 内に導入された有生性を示す内項が、派生の過程でVoiceに内

的併合(Internal Merge)されることで動作主として認可されることも、原理的に可能となる。ここで、本稿で想定する動詞句の基本構造は、次の(12)のようになる。

- (12) [VoiceP 外項 [CauseP [vP 内項 [$\sqrt{\text{Root}}$] v] Cause] Voice]

3.2. 分析

これらの前提を踏まえて、本稿では次の(13)を主張する。

- (13) a. 接尾辞 ar はCauseの主要部として具現する。
 b. 接尾辞 ar として具現するCauseは非頭在的な出来事項を外項として導入する。

すると、例えば、 ar 動詞「集まる」を含む節の統語的派生の一部は(14)と(15)のように示されることになる（非頭在的な出来事項を e として示す）。

(14) 募金が集まる (こと)

- a. [CauseP e [vP 募金 [$\sqrt{\text{atsum}}$] v] ar]
 b. [TP 募金 _{i} が [CauseP e [vP t_i [$\sqrt{\text{atsum}}$] v] ar] T]

(15) 仲間が集まる (こと)

- a. [CauseP e [vP 仲間 [$\sqrt{\text{atsum}}$] v] ar]
 b. [TP 仲間 _{i} が [VoiceP t'_i [CauseP e [vP t_i [$\sqrt{\text{atsum}}$] v] ar] Voice] T]

語根 $\sqrt{\text{atsum}}$ が動詞化子 v によって範疇 V としての資格を得て、 v はさらにCause (=ar)によって選択され、全体の構造がCausePまで拡張される。Causeの主要部である ar は非頭在的な出来事項を外項として認可するため、対応する他動詞の主語となるような名詞句が無条件で導入されないこと (*学生が募金が集まった) は自明と言える。また、(14)と(15)

共に内項が最終的に主語位置に繰り上がる派生を辿るが、(11b)にしたがって、有生性を備える(15)の「仲間」のみが、Voiceによって意図性に関わる意味素性の認可を介して、動作主として解釈される。

- (16) 仲間は/*募金はわざと集まらなかった
(= (4))

このように、本稿の分析では、主題役「動作主」の認可について、動詞句を構成する特定の機能範疇 v の特性に還元するため、影山(1996)の分析とは異なり、(16)に見られる主語名詞句による差異は全く問題にならない。

次に、2つの項が具現する「務まる」のような ar 動詞の場合に目を転じてみたい。これらの動詞類は、以下の3つの点で助動詞(r) are と平行的な性質を持つ。まず、本稿の冒頭で触れたように、これらの ar 動詞は対格目的語を認可しない。

- (17) 太郎が/に 大役が/*を 務まる (こと)

そして第二に、与格または主格により標示される外項は主語性を示す。

- (18) a. 太郎_iに [自分_iの可能性を広げる大役]が 務まった (こと)
b. 先生にあの大役がお務まりになった
c. [PRO_i 育児をしながら] 花子_iにこの大役が務まるだろうか

再帰代名詞「自分」の束縛、尊敬語の認可、そして「ながら」節の主語 PRO の認可という診断法のいずれにおいても、与格標示された外項は主語としての資格を有する。最後に、問題の外項は動作主性を示さない。

- (19) *太郎が/にわざと大役が務まった (こと)

本稿では、Appl(licative)主要部が与格認可に関与するという Aoyagi (2014)の主張を採用し、接尾辞 ar が随意的に Appl を選択すると仮定して、 ar 動詞「務まる」の動詞句に対して次の(20a)の構造を提案する。

- (20) 太郎に大役が務まる (こと)
a. [_{CauseP} e [_{ApplP} 太郎 [_{VP} 大役 [_{√tsutom} v] Appl] ar]
b. [_{TP} 太郎_i [_{CauseP} e [_{ApplP} t_i [_{VP} 大役が [_{√tsutom}] v] Appl] ar] T]

(20a)から(20b)への派生において、「太郎」は Appl から主語位置に直接繰り上がるため、それが主語性を示す一方で動作主として認可されないことが首尾よく捉えられる。ここで、Ura(1996)において、助動詞(r) are が本動詞の対格付与の能力を奪う機能範疇と仮定されていた点は、非常に示唆的と言える。本稿の分析が正しければ、接尾辞 ar は、Ura(1996)における助動詞(r) are の場合と平行的に、節の格パタンの決定に役割を果たす機能範疇と言えるからである。

では、上で脱使役化分析の反例としてあげた(2)と(3) ((21)として再掲)に立ち返り、本稿で提示した分析の下で改めて検討したい。

- (21) a. 太郎が大学に受かった
(cf. 太郎が大学を受けた。)
b. 太郎が つり革に/*幸運に 掴まった
(cf. 太郎が つり革を/幸運を 掴んだ)

(21)について、脱使役化分析の下では、他動詞から自動詞が派生されるので、他動詞文の主語名詞句が ar 動詞で生起することは原理的にあり得ないはずである。その意味で、(21)の ar 動詞文の主語として「太郎」が生起することは、脱使役化分析では全く予測されない。一方、本稿の分析では、自他交替においていかなる派生関係も存在せず、問題の名

詞句「太郎」は、*ar* 動詞の内項として構造に導入されたものが派生の最終段階で T に繰り上がったと分析されるのみである。実際に、(21a)における「太郎」は、自らの意思で大学を「受ける」主体とも見ることができるが、一方では、設定された入学選抜を通過しさえすれば(言い換えると、その段階ではもはや、自らの意思にすら関わらず)「受かる」という意味では、対象(Theme)として同定されると言える。また、本稿の分析では、「掴まる」の内項である(21b)の「太郎」は、(15)の「仲間」の場合と平行的に、派生の過程で、Voice における意図性に関する素性の認可を介して動作主性を獲得するわけで、脱使役化分析では捉えられない日本語話者の持つ解釈上の直感を正しく反映していると言える。さらに、(21b)における「に」句の容認度に関する差異についても、統語と意味の適切な対応という観点から、自然な説明が与えられる。すなわち、「太郎」は、何らかの外的要因によって「つり革」を着点(Goal)/場(Locative)とした位置変化を被る対象である意味で、内項として正しく認可される。一方で、「幸運に掴まる」という事象は、外的要因の関与に関わらず「太郎」にとっていかなる位置変化も含意しないため、対象として同定されない名詞句「太郎」が最終的に意味解釈上の破綻を引き起こす。

同様に、(5) ((22)として再掲)のように、*ar* 動詞とそれに対応する他動詞の間で慣用句としての意味に不一致が生じる事例についても再考したい。

- (22) a. 頭を下げる(=謝罪する)
 a'. 頭が下がる(=感服する)
 b. 口を塞ぐ(=始末する)
 b'. 開いた口が塞がらない(=驚く)

慣用句の意味が動詞句の領域によって規定される(cf. Marantz (1997))とすると、(22)におけるそれぞれの慣用句で「意味の合成性

(compositionality)」が成立している限りにおいては、本稿の分析の下では、慣用句としての解釈は(23)に示されるそれぞれの動詞句構造と結びつくはずである。

- (23) a. [_{CauseP} [_{VP} 頭 [_{√sag}] v] *er*]
 a'. [_{CauseP} [_{VP} 頭 [_{√sag}] v] *ar*]
 b. [_{CauseP} [_{VP} 口 [_{√husag}] v] ϕ]
 b'. [_{CauseP} [_{VP} 口 [_{√husag}] v] *ar*]

本稿の分析では、自他交替を派生関係として捉えないため、「下げる/下がる」と「塞ぐ/塞がる」における自他の間で、それぞれ全く別個の慣用句が形成されることは全く問題にはならない。むしろ、想定される(23)のいずれの構造においても、CauseP を領域として、その内部に生起した内項、語根、そして接尾辞の組み合わせに対して固有の慣用的な意味が割り当てられると仮定することは、十分に蓋然性があると言える。

4. *ar* 動詞における可能の解釈の出自

最後に、*ar* 動詞における可能の解釈の問題について考察したい。本稿では、*ar* 動詞の動詞句構造が示す事象構造のアスペクト性に説明の鍵を求めたい。

まず、*ar* 動詞は、「ている」形における解釈や、時間を表す副詞との共起関係から、「到達(Achievement)」としてのアスペクト性を持つと言える。

- (24) a. 空に風が上がっている (結果/*進行)
 a'. 空に風が 5分で/??5分間 上がった
 b. 亀裂が広がっている (結果/*進行)
 b'. 亀裂が 5日で/*5日間 広がった

(24a, b)は「ている」形と共起した *ar* 動詞が結果状態の継続の解釈を持つことを示し、また、(24a', b')では *ar* 動詞の動詞句が表す事象が限界性を有することが示されている。実際

に、この事実は、行為動詞や達成動詞とは異なるものであり、到達動詞の場合と平行的である。こういった *ar* 動詞における「到達」としてのアスペクト性は、*ar* 動詞の外項が出来事項であるために、(通常であれば)動作主を使役主とするはずの使役事象の側は背景化され、それに相反して被使役事象が前景化されることに還元されると説明できるかもしれない。

ここで、独立した議論として、渋谷(2006)は、多様な地域の方言に関する調査から、行為の「完遂」を表す形式に関して、「自発」としての用法を経由して、最終的に「可能」の用法に至るという連続性が存在すると論じている。

すると、接尾辞 *ar* が、(i)機能範疇 *v* の具現として外的要因を外項/使役主とする動詞句を形成し、(ii)その事象構造の最終局面における被使役事象を前景化させ、(iii)「到達」というアスペクト性を決定しているという本稿での議論が正しい限りにおいて、*ar* 動詞が潜在的に「可能」の解釈を持つことは、方言形式の観察からの敷衍により自然に導かれると言える。実際に、「(気分が) 上がる/下がる」や「(髪が) 決まる」のような、*ar* 動詞を用いた自発表現が少なからず見られることは、その傍証と言えるかもしれない。

5. 結語

結びとして、本稿の議論をごく手短に振り返りたい。まず、影山(1996)の脱使役化分析の経験的および理論的な問題点を示した。次に、分散形態論の基本的枠組みの下で、接尾辞 *ar* を独立した機能範疇 *Cause* として同定する代案を提示した。そして、*ar* 動詞の特性が、重層的に拡張された動詞句構造における接尾辞 *ar* の形態統語的性質から直接的に導出されることを論じた。

本論の分析が正しければ、*ar* 動詞においては、表層的に具現する項の結合価の減少が

見られるにもかかわらず、統語的には「他動詞」としての動詞句構造を有することとなる。

最後に、方言文法における事実から、*ar* 動詞が示す「可能」の解釈が、本稿で提案した接尾辞 *ar* の統語的および意味的特性に自然に還元できる可能性について論じた。

注

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The Syntactic Structure of Possession and Prenominal Adjectives in Japanese

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Keywords: possessives, adjectives, direct
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1. Introduction

Larson and Cho (2003) offers a structural analysis of the ambiguity of a temporal adjective in a possessive nominal. Although their analysis captures the semantic ambiguity in English, their analysis faces some empirical problems when it comes to Japanese. In this paper, I argue that the ambiguity found in Japanese comes from the internal structure of prenominal adjectives. My proposal supports the argument that Japanese adjectives can make use of both direct modification and indirect modification.

2. Larson and Cho (2003)

Larson and Cho (2003) observes that a temporal adjective in a possessive has the semantic ambiguity as in (1). On an N-modifying reading, *John's old car* “can refer to an object that John possesses and that is an old car.” (Larson and Cho (2003: 219)) On a POSS-modifying reading, it refers to “a car that John formerly owned.” (*ibid.*) Since under the POSS-modifying reading the adjective *old* does not directly modify the common noun, “there is no need for the car to be old in absolute term.” (*ibid.*: 220)

- (1) a. This is John's old car.
- b. *N-modifying reading*
John's & old(car)
- c. *POSS-modifying reading*
former(John's & car)

(Larson and Cho (2003: 219))

They further point out that there is a correlation between interpretation and the position in which an adjective occurs. When a sentence contains two temporal adjectives, the one immediately preceding a common noun has the N-modifying reading. For instance, in (2a) the adjective *old* receives only the N-modifying reading, and the POSS-modifying reading such as (2c) is not allowed.

- (2) a. John's new **old** car
 - b. an old car that John has newly come to own
 - c. * a new car that John used to own
- (Larson and Cho (2003: 220))

On the other hand, when the word order of two temporal modifiers is reversed as in (3a), the possible interpretation is altered. The adjective *old* in (3a) receives only the POSS-modifying reading, and the N-modifying reading such as (3b) is ruled out.

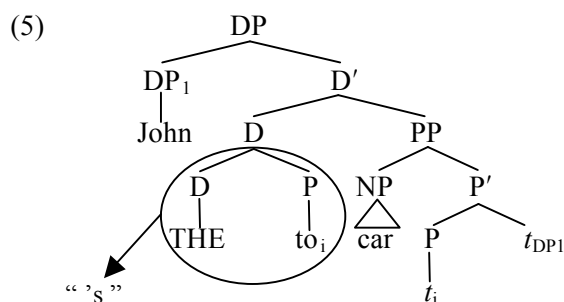
- (3) a. John's **old** new car
 - b. * an old car that John has newly come to own
 - c. a new car that John used to own
- (Larson and Cho (2003: 220))

Based on this contrast, Larson and Cho (2003) proposes that the semantic ambiguity of a temporal adjective can be reduced to the structural ambiguity, as shown in (4).

- (4) **XP's** **A1** **A2** **N**
 a. John's old car
 b. John's old car
 (Larson and Cho (2003: 220))

If a temporal modifier is located in the position of A1, it is interpreted as the POSS-modifying reading. On the other hand, if the adjective is in A2 position, it receives the POSS-modifying reading.

Following the analysis that a possessive nominal contains a form of disguised locative, Larson and Cho (2003) offers the following syntactic structure.



First, the possessor phrase *John* is Merged with the head of locative PP. Second, the possessee phrase *car* is Merged as the specifier of the PP. At this point, a possession relation is formed. The head of the locative PP is incorporated into the definite determiner. This aggregate is pronounced as the Saxon genitive 's in English. In addition to the incorporation of the head of the PP, the possessor phrase is moved to Spec,DP. Under this analysis, the two positions of a temporal modifier as in (4) can be represented as follows.

- (6) a. [DP *THE* [PP [NP **old** car] [P' *TO* [DP
 John]]]] (N-mod.)

- b. [DP *THE* **old** [PP [NP car] [P' *TO* [DP
 John]]]] (POSS-mod.)

In (6a), the temporal modifier attaches directly to the possessee phrase, and it receives the N-modifying reading. On the other hand, in (6b) the temporal adjective attaches to the PP, which represents the possession relation between *John* and *car*. In this position, the temporal adjective *old* modifies the possession relation, and has the POSS-modifying reading.

3. Japanese

Larson and Cho (2003) accounts for the N-modifying/POSS-modifying ambiguity by assuming that the semantic ambiguity of a temporal adjective can be reduced to the structural ambiguity. As shown in (7), the ambiguity similar to the one found in English is observed in Japanese.

- (7) a. Taro-no hurui kuruma
 Taro-GEN old car
 'Taro's old car'
 b. **N-modifying reading**
 Taro's & old(car)
 c. **POSS-modifying reading**
 former(Taro's & car)

When the temporal adjective is interpreted as the N-modifying reading, the car that the noun phrase refers to must be an old one. On the POSS-modifying reading, the noun phrase refers to the car which John used to own, and it is not necessarily interpreted as an old one.

Given this ambiguity, we may expect that Larson and Cho's analysis will be extended to the ambiguity found in Japanese. However, their analysis faces some problems when it comes to Japanese possessives.

First of all, the word order of prenominal adjectives has little effect on the ambiguity in Japanese, as shown in (8a, b).

- (8) a. Taro-no atarasii hurui kuruma
 Taro-GEN new old car
 (√N-mod., √POSS-mod.)
 b. Taro-no hurui atarasii kuruma
 Taro-GEN old new car
 (√N-mod., √POSS-mod.)

Remember that Larson and Cho's (2003) structural analysis relies crucially on the observation that there is a correlation between interpretation and the position in which an adjective occurs. The examples in (8) show that in contrast to English the ambiguity found in Japanese is not tied to the positional difference.

Larson and Cho (2003) points out that when a temporal adjective co-occurs with a color adjective as in (9), Korean shows the same correlation between the word order and interpretation as in English. Only when the temporal adjective immediately precedes the common noun, it receives the N-modifying reading as in (9a).

(9) *Korean*

- a. John-uy palan say cha
 John-GEN blue new car
 'the car of John's that is blue and that is a new model' (N-mod.)
 b. John-uy say palan cha
 John-GEN new blue car
 'the car that John has newly come to own and that is blue' (POSS-mod.)
 (Larson and Cho (2003: 221))

As shown in (10), Japanese exhibits a clear contrast with Korean in this respect. The temporal adjective is ambiguous regardless of whether or not it precedes a color adjective.

- (10) a. Taro-no aoi atarasii kuruma
 Taro-GEN blue new car
 'Taro's new blue car'
 (√N-mod., √POSS-mod.)
 b. Taro-no atarasii aoi kuruma
 Taro-GEN new blue car
 (√N-mod., √POSS-mod.)

Thus, the examples in (10) also show that it is difficult to apply Larson and Cho's structural analysis to the ambiguity found in Japanese.

In addition to the absence of the correlation between the word order and the ambiguity, there is evidence that Japanese possessives is not tied to the presence of DP, in contrast to English. It is well-known that a Saxon genitive is blocked by the presence of a demonstrative in English, as shown in (11a). On the other hand, Japanese possessor phrases can co-occur with demonstrative elements such as *kono* 'this', as shown in (11b). In this respect, Japanese behaves like Serbo-Croatian, in which possessor phrases are morphologically adjectives, according to Bošković (2005).

- (11) a. *this my book (English)
 b. kono watasi-no hon (Japanese)
 this I-GEN book
 c. ta moja slika (Serbo-Croatian)
 this my picture (Bošković (2005: 6))

Moreover, an attributive adjective cannot be followed by a possessor phrase in English, as shown in (12).

- (12) a. * round John's table
(Sproat and Shih (1991: 571))
b. * red my pen (Radford (1988:143))

Japanese adjectives are not subject to this restriction, as shown in (13).

- (13) a. hurui Taro-no kuruma
old Taro-GEN car
'Taro's old car'
($\sqrt{\text{N-mod.}}$, $\sqrt{\text{POSS-mod.}}$)
- b. atarasii Taro-no kuruma
new Taro-GEN car
'Taro's new car'
($\sqrt{\text{N-mod.}}$, $\sqrt{\text{POSS-mod.}}$)

All the above examples of ordering of prenominal modifiers indicate that there is little evidence that Japanese possessives are tied to the presence of DP. Rather, Japanese possessor phrases behaves like adjectives. Given that Larson and Cho's (2003) structural analysis relies crucially on the presence of DP, I conclude that it is difficult to extend their analysis to the ambiguity found in Japanese.

4. Proposal

In the previous section, I argued that Larson and Cho's structural analysis suffers from some problems when it comes to the ambiguity observed in Japanese. Given this, the question immediately arises as to how we can explain the ambiguity in Japanese. In this section, I offer an analysis of the ambiguity focusing on the internal structure of prenominal adjectives.

4.1. Intersective/Nonintersective Adjectives

It is well-known that only intersective adjectives allow a predicative use. As shown in (14a), if an adjective is used attributively, it

b. Taro-no [_{CP/IP} *pro*_i hurukat-ta]kuruma_i
Taro-GEN old-PAST car

Further evidence comes from the behavior of the word *tokubetsu* 'special'. Basically, the word *tokubetsu* can modify a noun phrase or a predicate of the sentence by using the suffix *-ni* and *-na*. The examples in (18) show that the suffix *-na* must be attached to *tokubetsu* in order to modify a noun phrase. On the other hand, the suffix *-ni* must be used so that *tokubetsu* obtains an adverbial interpretation, as shown in (19b).

(18) a. Hanako-ga [NP Taro-no
Hanako-NOM Taro-GEN
tokubetsu-na uta]-o kii-ta.
special-NA song-ACC listen-PAST
'Hanako listened Taro's special song.'

- b. * Hanako-ga [NP Taro-no
Hanako-NOM Taro-GEN
tokubetsu-**ni** uta]-o kii-ta
special-NI song-ACC listen-PAST

(19) a. * [s Taro-ga tokubetsu-na utat-ta].
Tar-NOM special-NA sing-PAST
b. [s Taro-ga tokubetsu-ni utat-ta].
Tar-NOM special-NI sing-PAST
'Taro specially sang.'

(17) a. Taro-no hurukat-ta kuruma
Taro-GEN old-PAST car-NOM
'Taro's car that was old.'
(√N-mod., *POSS-mod.)

- (20) a. Taro-no tokubetsu-**na**
Taro-GEN special-NA

hurui kuruma
old car
'Taro's special old car'

(√N-mod., √POSS-mod.)

- b. Taro-no [NP [tokubetsu-na]
Taro-GEN special-NA
[NP [AP hurui] kuruma_i]]
old car
- c. Taro-no [NP [tokubetsu-na]
Taro-GEN special-NA
[NP [RC *pro*_i hurui] kuruma_i]]
old car

The structure (20b) is interpreted as the POSS-modifying reading, whereas the structure (20c) receives the N-modifying reading. Thus, the ambiguity of (20a) is accounted for.

The proposed analysis further predicts that if *tokubetsu-ni* is used with a temporal adjective and a possessor phrase as in (21a), the temporal adjective must be interpreted as the N-modifying reading. This is because of the presence of the suffix *-ni*.

- (21) a. Taro-no tokubetsu-ni
Taro-GEN special-NI
hurui kuruma
old car
'Taro's car that is especially old'

(√N-mod., *POSS-mod.)

- b. *Taro-no [NP tokubetsu-ni
Taro-GEN special-NI
[NP [AP hurui] kuruma_i]]
old car
- c. Taro-no [NP [RC *pro*_i tokubetsu-ni
Taro-GEN special-NI
hurui] kuruma_i]
old car

The suffix *-ni* is not allowed to occur within a noun phrase, and the structure (21b) is ruled out. Since only the structure (21c) is available, the noun phrase (21a) has an intersective reading (i.e. the N-modifying reading). Thus, the proposed analysis correctly captures the unambiguity of (21a).

5. Possessives in Japanese

So far, I have argued that the ambiguity between the N-modifying reading and the POSS-modifying reading can be analyzed in terms of the internal structure of a prenominal adjective. If a prenominal modifier is used as indirect modification, the noun phrase receives the N-modifying reading.

Note that the proposed analysis relies on neither the presence of DP nor a locative PP. Instead, I assume that Japanese prenominal modifiers such as adjectives and possessor phrases adjoin to a noun phrase. This assumption is consistent with the freedom of the word order of prenominal modifiers in Japanese discussed in section 3.

For the semantic computation, I assume, following Larson and Cho (2003), that a Japanese possessor phrase is of type $\langle e, t \rangle$. Instead of a covert postposition, I assume that there is a meaning-shifting operator which introduces the extrinsic possession relation POSS. Thus, the semantic computation can be represented as follows (cf. Barker (1991)).

- (22) a. [NP \emptyset_{poss} + Taro]
→ $\lambda x \lambda y [\text{POSS}(x)(y)](\text{Taro})$
= $\lambda y [\text{POSS}(\text{Taro})(y)]$
- b. [NP u kuruma]
→ $\lambda y [\text{kuruma}(y)]$

- c. $[_{NP} \text{ Taro-no kuruma}]$
 $\rightarrow \lambda x[\lambda y[\text{kuruma}(y)](x)]$
 $\wedge \lambda y[\text{POSS}(\text{Taro})(y)](x)]$
 $= \lambda x[\text{kuruma}(x) \wedge \text{POSS}(\text{Taro})(x)]$

In step (22c), I make use of Predicate Modification, which is defined as follows.

(40) *Predicate Modification*

If α is a branching node, $\{\beta, \gamma\}$ is the set of α 's daughters, and $[[\beta]]$ and $[[\gamma]]$ are both in $D_{\langle e, t \rangle}$, then

$$[[\alpha]] = \lambda x \in D_e. [[\beta]](x) = [[\gamma]](x) = 1.$$

(Heim and Kratzer (2000: 65))

The proposed analysis can account for the fact that the interpretation of Japanese prenominal modifiers is not tied to their word order. This is because a possessor phrase in Japanese is related to a common noun via Predicate Modification, just like adjectives.

6. Conclusion

In this paper, I have argued that Larson and Cho's (2003) structural analysis of the ambiguity between the N-modifying reading and the POSS-modifying reading cannot be applied to the ambiguity found in Japanese. Instead, I proposed that the ambiguity in Japanese comes from the internal structure of prenominal adjectives, rather than the syntactic position in which they occur. The proposed analysis relies on the distinction between direct modification and indirect modification. Although there is much more to be said about the formalization of the semantic computation of the POSS-modifying reading, I leave this complex issue for future research.

Notes

¹ I leave open the issue as to whether *hurui* can be divided into a stem and the inflection *-i*.

² See Yamakido (2000) for the independent argument that Japanese prenominal adjectives can make use of indirect modification.

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連結的知覚動詞の使い分けと認知プロセス：

look と *appear* のテキスト内生起順序を
めぐって

(A Choice between Two Copulative
Perception Verbs and Its Cognitive Process :
On the Order of *Look* and *Appear* that
Appear in the Same Text)

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キーワード：連結的知覚動詞、*look* と *appear*
の使い分け、認知プロセス、選好注視

1. はじめに

英語には(1)のように、義務的に形容詞あるいは名詞句の補語を伴い、主語である対象の属性や状態を判断・評価する知覚動詞文があり、連結的知覚動詞構文 (Copulative Perception Verb Construction : 以下 CPV 構文) と呼ばれている。

- (1) (a) John looks happy.
- (b) This cake tastes good.
- (c) This cloth feels soft.
- (d) That sounds reasonable.
- (e) This flower smells sweet.

(Taniguchi 1997: 270-271)

この構文についての先行研究には Rogers (1971)、Taniguchi (1997)、谷口 (2005)、本多 (2005)、Gisborne (2007, 2010)などがある。

CPV 構文では、1つの知覚モダリティに対して1つの主要な知覚動詞が選択されるのが基本

であるが、視覚に関しては(2)のように *look* と *appear* が生起可能であり、実際に(3)のように、2つは問題なく使い分けられている。

(2) a. John *looks* happy.

b. John *appears* happy.

(3) In this modified Mercator Projection some of the curvature of the earth is accepted into the map, bending the lines of latitude in order to reduce distortion of land areas relatively far from the equator. Nonetheless **Alaska still looks much larger than Mexico**, and **the former Soviet Union appears larger than Africa**, which is roughly 25% larger in land area.

(*American Studies International*, 2000)

英語母語話者はこの2つを無意識に使い分けているようであるが、*look* がゲルマン語由来で *appear* がラテン語由来であるという語源の違いや、*look* が単音節で *appear* は複音節という音韻的要因、また重複を避けるための表現上の工夫という理由以外に、その認知的動機づけについては、これまで明確に言及されていなかった。

そこで徳山 (2013)では、コンテキストを伴うデータとインフォーマント調査から、*look* と *appear* が認知的な動機づけに基づいて分業されていることを示した。

本稿は、徳山 (2013)に以下の2点について新たな考察を加え、英語母語話者が無意識に行う両者の使い分けの傾向性を、より明らかにすることを目的とする。

① 同一場面での *look* と *appear* の出現順序に着目し、*look* 先行が *appear* 先行より量的に多い事実を示し、質的な分析から、それが心理学で言われている「選好注視」に見られる、私たちのデフォルトの認知プロセスが言語事実にも反映されていることを明らかにする。

- ② 形容詞補語の比較級が *look* より *appear* において多く見られるという事実から、知覚主体が判断・評価した対象の「見えと実質との乖離」がより大きい場合を *appear* が受け持つ傾向があることを示す。

2. 徳山 (2013)

視覚に関する CPV 構文における *look* と *appear* の意味は、どちらも「～のように見える」というように似かよっている。しかし、それぞれの語が持つ元来の意味は(4)のように異なっている。

(4) a. *look* : to direct one's sight; to apply one's power of vision. (OED)

b. *appear* : to come forth into view, as from a place or state of concealment, or from a distance; to become visible; to seem.

(OED)

(4a)のように *look* には「対象に視線を向けて、意識してその対象を見る」という意味があるのに対して、*appear*には(4b)のように「見えなかったものが現れて見えるようになる」という意味がある。つまり、*look*には能動的知覚の意味があるのに対し、刺激の放出・出現を表す *appear*には元来能動的知覚の意味はなかった。これをもとに CPV 構文への意味拡張を推定すると、*look* が選択される場合は主体が対象を能動的に知覚した結果、それを判断・評価し、*appear* の場合は対象が現れた結果、主体がそれを知覚して判断・評価するという見方が妥当であろう。つまり、CPV 構文における *appear* と *look* は、形式は同じであっても認知のあり方が異なり、この違いが分業に反映されていると考え、以下のように整理した。

(5) *look*: 知覚主体の能動性が相対的に高い知覚経験に基づく判断/評価を行うとき。

- (a) 評価される属性が、対象の内在的属性であると判断される場合。
(b) 知覚主体にとって心理的距離がより近い

対象の属性・状態を判断する場合。

- (c) 知覚主体にとって確信度の高い判断を対象の属性・状態に付与することができる場合。

appear : 知覚主体の能動性が相対的に低い知覚経験に基づく判断/評価を行うとき。主に、(a)(b)(c)以外の場合。

(5)はインフォーマント調査と実例(BNC など)を観察した際に見えた傾向を整理したものであって、すべての用法のルールを示すものではない。つまり、*look* 選択では、主に(5a)-(5c)の3つが絡み合って、知覚主体が対象に能動的に視線を向ける場合があるという傾向について示したものである。

3. 分析方法

本稿における実例は、すべて COCA からのものである。*Appear*を用いた CPV 構文 5536 例のうち、*look* と共起する CPV 構文が 270 例見られた。その中で、前後の文脈が不明、あるいは2つの対象が比較・対立するものではない32例を除いた238例を分析対象とした。

1つの実例の中に *look* と *appear* の2つの CPV 構文が共起するので、扱う CPV 構文は全部で 576 である。それぞれの形容詞補部の内訳は、*look* に共起する形容詞が 135 タイプ、*appear* に共起する形容詞が 146 タイプであった。CPV 構文の形容詞補部に着目すると、*look* とのみ、あるいは *appear* とのみ共起しやすい形容詞が見られるが、本稿で扱ったこれらの形容詞は、すべて *look* と *appear* の両方と共起が可能であることを COCA と BNC などを確認済みである。つまり、これらの形容詞は *look* とだけ、あるいは *appear* とだけ共起する種類の形容詞ではない。言い換えると、分析を行った CPV 構文は *look* と *appear* の入れ替えが完全に可能であると言える。したがって、文レベルの観察だけでは、両者を選択する際の動機づけについて言及することはできない。そこで、本

稿ではそれぞれの文脈的要因に焦点を当て、知覚主体が対象をどのように捉えているかについて詳細に観察することで、*look* と *appear* の選択における動機づけについて考察を行う。

4. *Look/appear* の出現順序と認知プロセス

本節では、CPV 構文の *look* における能動的知覚を、発達心理学における選好注視と関連付けて説明を試みる。

4.1 *Look* と *appear* の出現順序

同一場面で *look* と *appear* を伴う CPV 構文が共起する 238 例を観察すると、[表 1]のように *look* が *appear* よりも先に出現する方が量的に多いことがわかった (二項検定 $p<.01$)。

[表 1]

look 先行	appear 先行	計
163	75	238

では、この差は何を意味するのであろうか。

4.2 選好注視 (preferential looking)

一般に人は、より好む方に視線を頻繁に向ける。このように、一方より他方を好んで注視する一貫した反応を、発達心理学では「選好注視」と呼ぶ (Fantz 1963、無藤 1994、下條 2000、2006、2008、Park, Shimojo & Shimojo 2010、山口 2010 など)。つまり、2 つの対象を見る場合、その時点において観察者にとって、より興味・関心の高いものや際立つものに対して、能動的に視線を向けるという認知の傾向がデフォルトである。このように視線などが偏るカスケード現象は、視覚だけに特別ではなく、聴覚や触覚における探索活動や定位反応(刺激に対して能動的に選択し行動する反応)にも共通することがわかっている (下條 2008: 31)。また、認知言語学的観点における分析でも、CPV 構文の *look* は探索活動を表す (本多 2005: 74)。このことから、2 つの対立する対象が存在する場合、能動的知覚を表す *look* を選択する際の認知的動機づけを示した (5a)-(5c)と選好注視は、ど

ちらも知覚主体にとって最も興味・関心のある際立った対象に対して、能動的に視線を向けるという点で共通していることがわかる。言い換えると、(5a)-(5c)のような条件によって、選好注視という能動的視覚が誘発される (谷口一美先生のご指摘による)。以上のことから、本稿では *look* における能動的知覚(5a)-(5c)を選好注視と関連付けて扱う。

(6)は疲れきっている夫を見て、いつもは若々しく見えるのに、今日は 15 歳年上という年齢差を痛感したという内容である。

(6) **He looked his age today.** She was acutely aware of the fifteen-year distance between them at this moment, seeing the wrinkles around his eyes, the deep laugh lines framing his mouth. **Usually he appeared younger** -- there was a bounce to him, an energy, a brightness that radiated youth. Not today. Not now.

(Robert Ferrigno, *Dead Man's Dance*, 1995)

この場合の 2 つの対象とは、一人の夫がもつ 2 つの異なる属性である。下線部 “at this moment” からわかるように、観察者である妻は今この場面で、「年齢差を痛感した」という、いつもと違う夫の内在的・本質的な属性に気づいた。この予想外の新たな発見は、今まで見てきた夫の属性よりも、妻にとって際立っている。言い換えると、脱馴化によって新奇刺激に対する選好が上昇したと言える。したがって、このような条件によって選好注視という能動的視覚が誘発され、*appear* ではなく能動的知覚の *look* が選択されている。一方、最後の “Not today. Not now.” からわかるように、「いつもは実際の年齢より若く見えた」という目の前の現実とは異なる、(5a)-(5c)以外の夫の見かけの属性については *appear* を選択している。5 人のインフォーマントに *look* と *appear* の箇所を空所にして確認したところ、全員がこの順序の

方が好ましいと答えた。このことは *look* と *appear* の選択に関する(5)の分析が、心理学的な観点からも補強されたことになる。

では、なぜ選好注視という能動的知覚を表す *look* が *appear* に先行する頻度が高いのであろうか。

4.3 *Look* 先行が表す意味

同一場面において *look* 先行が *appear* 先行よりも量的に多いということは、2つの対象が存在するときには、(5a)-(5c)の動機づけによって誘発された選好注視という能動的知覚によって、興味・関心の高いものについて先に述べ、次に他方について言及するのが自然の流れであるということになる。つまり、私たちが対象を認知する際のデフォルトのプロセスが、言語にも反映されていると言える。

(7)も *look* 先行の例である。

- (7) A man's wardrobe has gained a new set of rules, one of which is that **we all want to look taller and thinner**. A coat that falls below the knee shortens a man. This is a mathematical issue and not a philosophical one! It's what I call the Napoleon and Mussolini problem -- **those two men did all they could to appear bigger than they were**.

(*Town and Country*, 2008)

“(W)e all want to *look* taller and thinner.”のように、背が高くてスリムであるという好ましい状況は、男性を見る主体にとって親近感があり、心理的距離が近いことから *look* が選択されている。一方、“those two men did all they could to *appear* bigger than they were.”のように「実際より太って見える」という相対的に好ましくない状態には *appear* が選択されている。但し、好ましい属性が必ず *look* で、その逆が *appear* であるということではない。(7)はあ

くまでも、知覚主体と対象の心理的距離の違いを表す1例であることに注意されたい。

4.4 *Appear* 先行の実例

では逆に、*appear* 先行のものはどのように説明できるだろうか。以下では、量的には *look* 先行の半分以下である *appear* 先行においても、*look* の選択が能動的な知覚に基づくことを明らかにする。

(8)では、“*appear* colored”と“*look* colored”が使い分けられている。

- (8) Ninety nine percent of the stars appear white. ... **Several bright stars do appear colored to the naked eye**, however -- orange Arcturus, blue Rigel, yellow Capella, red Betelgeuse, and others. **More stars look colored through telescopes**, which collect much more light than our eyes. The bigger the scope, the more colored stars it will show.

(*Astronomy*, 2004)

紙幅の都合で省略した文脈を説明すると、肉眼で99%の星が白く見えるのは実際に白いからではなく、星自体の光量が充分でないために色覚が生じないからである。ところが、ぎょしゃ座のカペラなどのように非常に明るい星であれば、望遠鏡を使うまでもなく、肉眼で何の労力も伴わずに黄色や赤に見えるというのは、*appear* が選択されている。一方、肉眼より多くの光を集めることが可能な望遠鏡を使って観察すれば、より多くの星が色づいて見えるというのは、能動的な観察を表す *look* が選択されている。つまり、知覚主体の能動性が相対的に高い知覚経験に基づく判断/評価を行う際には *look* が選択されている。

では、なぜ *appear* が *look* に先行しているのだろうか。(8)では望遠鏡のスコップが大きければ大きいほど、光量が増加することによって、

視覚細胞を刺激した結果、色覚が生じると結論づけている。つまり、テキストの中で最も主張したい事柄を後に持ってくる方が、この場合は説明として効果的だからである。

[表 1]に示したように、全体的には私たちの自然な認知の流れである *look* が先行するケースが多いが、その逆を動機づけるレトリック上の要因がある場合には、その限りではない。実際に *appear* 先行のデータを観察すると、(8)以外にも *appear* による説明の後に *by the same token* や *all in all* などを伴って *look* で結論づける例や、*although* や *even though* ((10)を参照)などと共起して、前置きや断りのような注釈的発話を付加する機能をもつ前位節を *appear* で表したあとに、知覚主体にとって確信度の高い内容を表す後位節を *look* で示す例も見られる。

そこで、*look* 先行・*appear* 先行と COCA の各ジャンルとの関係を[表 2]に示した。COCA は Academic Journal, Magazine, Newspaper, Fiction, Spoken の 5 つのジャンルからなるが、Magazine については経済・報道・科学技術のような、より専門的なものから、娯楽・美容・ファッションのような大衆的なものまで範囲が広く、すべての雑誌を同様に扱うには問題がある。そのため以下の 2 つに分類した。

Magazine1: *TIME, Newsweek, Forbs, Smithsonian, Science News, Astronomy...*

Magazine2: *Men's Health, Cosmopolitan, Shape, Harper's Bazaar, Boys Life...*

[表 2] (カッコ内：相対頻度)

	L 先行 163	A 先行 75
Academic J.	11 (6.7)	9 (12.0)
Magazine1.	32 (19.6)	24 (32.0)
Magazine2.	45 (27.6)	7 (9.3)
Spoken	15 (9.2)	4 (5.3)
Newspaper	14 (8.6)	6 (8.0)
Fiction	46 (28.2)	25 (33.3)

それぞれの相対頻度を見ると、Academic J(ournal)とより専門的な Magazine1 では *appear* 先行の方が高く、より大衆的な Magazine2 と Spoken では *look* 先行の方が高いことがわかる。選好注視などに基づく *look* 先行という私たちのデフォルトの認知プロセスが、フォーマルな場合よりも、話し言葉や大衆雑誌のようなインフォーマルな場面で多く見られるのはごく自然な現象である。逆に、学術雑誌などのフォーマルな媒体では、たとえデフォルトの認知プロセスから逸脱しても、主張や説明に効果的なレトリックを使用するケースが多いことがわかる。このことはこれまで一般に、「*look* は基本語であるからインフォーマルな場に」「*appear* はラテン語由来であるからフォーマルな場に」というように、どちらかと言うと直感的に言われて来た使い分けについて、具体的な理由のひとつを実際に使用の場面から確認できたことになる。

5. *Appear* 選択の傾向性：形容詞補語比較級

2 つ目の目的である、形容詞補語の比較級から見た *appear* 選択の傾向性について述べる前に、まず実例から CPV 構文における *appear* の意味を確認する (*appear* についての詳しい考察には深田 (2005)がある)。

5.1 “You look cold.” vs. “I look cold.”

(9)はクリスマスイヴの夜にプレゼントを買い求める人たち取材する CNN の番組であるが、キャスターとレポーターの二人の間で“*look cold*”と“*appear cold*”を使い分けている。

(9) Carol Costello: ...we decided to send Sam Greenfield to Rockefeller Center in New York City to find out what everyone is buying in these last hours of Christmas Eve. **Oh, you *look* cold.**

Sam Greenfield, CNN Correspondent: No, I just *appear* cold. Everybody else is cold.

Carol, it's beautiful out here. (CNN, 2002)

放送局内にいるキャスターがロックフェラーセンターで寒い中取材しているレポーターの様子を見て、“Oh, you *look* cold.”と判断している。一方のレポーターは下線の“*No,*”と“Everybody else is cold.”からわかるように、「私が寒いのは見かけだけで、実際は寒くない」というのを“I just appear cold.”としている。自分のことは自分でわかるはずなので、普通はわざわざCPV構文を使うまでもなくbe動詞で“I’m not cold.”と言うところであるが、おそらくこの場面では、レポーターもモニターを見ながら、あるいはモニターに映る自分の姿を意識しての発話であるため、CPV構文を選択していると考えられる。

CPV構文の*look*と*appear*はどちらも視覚による見えを表すが、*appear*は場合によっては錯覚による印象を表す(小西 1970: 246)ことから、実質とは異なった状況を表す可能性が*look*よりも高いと言える。つまり、どちらも外見を表すが、このように2つが併用されている場合には、*look*より*appear*の方がより実質とかけ離れた見かけを表していることになる。この場合の“just”はまさに「寒そうに見えるだけ」というように、両者の対立を強調しているのがわかる。

5.2 *Appear* と比較級

CPV構文全体を見れば、データ数の多い*look*に比較級が多く共起するのは当然であるが、本稿のように*look*と*appear*が共起する中で比較すると、以下のような興味深い結果が見られた。[表 3]

look+比較級	26
appear+比較級	70
(そのうち両方比較級)	(19)

[表 3]から、*look*と*appear*では*appear*の方が比較級と多く共起することがわかる。比較級の

表現には、“John looks / appears younger than Bill.”のように、主語の属性を他の対象の属性と比較するものも当然あるが、“John looks / appears younger than his age.”のように、他の対象との比較ではなく、主語の属性をその対象自体の実質(John の実際の年齢)と比較して、違いがあることを表す場合にもしばしばみられる。[表 3]の「appear+比較級」70 例中 61 例がこの用法である。つまり、対象の見えがそれ自体の実質と乖離している度合いが大きい場合で、2つの動詞を使い分ける際には*appear*を選択する傾向があるということになる。

(10)はテレビで放映されたエリツインの演説の様子に関する記事である。

(10) On the screen was an old broadcast of Yeltsin addressing a crowd. Even though he had a way of thrusting his neck out in order to hide his double chin and **make his jaw appear stronger**, he didn't **look good on camera**. (New Yorker, 2004)

下線部“Even though”を伴う前位節である「二重あごを隠して、(強さの象徴である)あごを実際より強く見せるために…」というのは“make his jaw *appear* stronger”(appear+比較級)で実質との違いを表している。一方、そのような努力にもかかわらず、結果として全くうまく行かなかったという、話し手が主張したい確信度の高い内容の後位節は“he didn't *look* good on camera.”というように*look*を選択している。このことは*appear*選択が(5)の「知覚主体の能動性が相対的に低い知覚経験に基づく判断・評価を行う場合」に見られるという分析とも密接に関連している。

6. おわりに

*Look*と*appear*双方と共起できる形容詞補語を伴うCPV構文の場合、文レベルの観察だけでは、その繊細な使い分けの動機づけについて

判断するのは難しい。しかし、分析をテキストレベルにまで広げて情報量を増やすと、精度の高い観察が可能になり、知覚主体が対象をどのように捉えているかを見ることができる。その結果、このような使い分けは語源・音韻的要素の違いや単なる重複を避けるためだけではないことがわかる。つまり、言語使用者が自覚していない認知的動機づけを、そこに見出すことができる。

本稿では、これまで認知言語学において、必ずしも実証的に研究されて来なかった直感や内省に基づく説明の妥当性を、客観的で共有可能なデータによって示すことができた。さらに、隣接分野である文体論、テキスト分析などに、認知言語学の観点から貢献できる可能性を示すことができた。

今後は、主語である知覚対象の人称の偏りに着目し、補部における形容詞の種類との関連から、対人関係にも *look* と *appear* の選択が関わっていることについて考察する。

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(<http://corpus.byu.edu/bnc>).
COCA: The Corpus of Contemporary American English
(<http://corpus.byu.edu/coca>).

英語の「左方転位」構文における転位要素と 照応表現の意味関係について*

(The Semantic Relations between the
Anaphoric Expressions and the Dislocated
Elements in Left Dislocations of English)

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キーワード: 左方転位, 転位要素, 照応表現,
意味関係, カテゴリー化

1. はじめに

左方転位 (Left Dislocation; 以後 LD と略記) 構文とは, ある要素が文頭に生起し, 後続節でその要素を受ける照応表現が使用されるという構文である。¹ LD 構文には, (1) と (2) で示すように, 1 個の要素が生起するものと, 複数個の要素が生起するものがある。

- (1) Her parents, they seem pretty uncaring.
(Huddleston and Pullum (2002: 1408))
- (2) Initiative, self-reliance, maturity —
these are the qualities we're looking for.
(*ibid.*: 1751)

(1) では 1 個の要素が, (2) では複数個の要素が生起している。本研究では (1) のように 1 個の要素が生起する LD 構文を Single XP Left Dislocation (以後 SLD と略記) 構文と呼ぶことにする。また, (2) のように複数個の要素が生起するものを Multiple XP Left Dislocation (以後 MLD と略記) 構文と呼ぶことにする。²

典型的な SLD 構文では転位要素と照応表現に同一指示の関係が成立するとされている。しかし, 次の (3) で示すように, MLD 構文では

その関係が同一指示に限られていない。³

- (3) Windows, doors, beds, dressers — everything in the room was burned to a crisp.
(Long (1961: 31))

(3) では everything が照応表現として機能している。MLD 構文に限らず, 複数個の要素からそれらをまとめる上位カテゴリーが推論され, その上位カテゴリーを everything で受ける場合がある (大名 (2008) を参照)。同様に (3) においても, 転位要素から上位カテゴリーが推論され, everything はその上位カテゴリーを受けていると考えられる。従って, (3) では転位要素と照応表現には同一指示以外の関係が成立している。

本研究は, なぜ MLD 構文では転位要素と照応表現に同一指示以外の関係が成立するのかを考察する。本研究の主張は次に示す通りである。

- (4) 転位要素と照応表現の関係づけには認知的な推論操作が働いているため, 同一指示以外の関係が成立する。

この分析に従うと, MLD 構文では, 複数個の転位要素から上位カテゴリーが推論される。照応表現はその推論された上位カテゴリーを受けることで, 転位要素と照応表現に同一指示以外の関係が成立する。

本稿の構成は次の通りである。第 2 節では, LD 構文における転位要素と照応表現の関係づけに関して, 先行研究における主張を概観し, 本研究の問題提起を行なう。第 3 節では, 上記 (4) の分析の根拠となる事例を考察する。第 4 節では, 同一指示性の条件を満たさない SLD 構文に対しても, 本研究の分析が適用可能であることを示す。第 5 節ではまとめを述べる。

2. 先行研究の概観

最初に, Lambrecht (2001) は LD 構文の定義の中で転位要素と照応表現の関係に関して, 次の (5) のように述べている。

- (5) “The role of the denotatum of the dislocated constituent as an argument or adjunct of the predicate is represented within the clause by a pronominal element which is construed as coreferential with the dislocated phrase.”

(Lambrecht (2001: 1050))

- (5) から、Lambrecht (2001) は転位要素と代名詞等の照応表現には同一指示の関係が成立すると捉えていることが分かる。⁴

次に、Huddleston and Pullum (2002) は転位要素と照応表現に同一指示の関係が成立していない事例として (6) を挙げている。

- (6) Bill, Paul, Harry — managers like them should get the boot.

(Huddleston and Pullum (2002: 1413))

(6) では Bill, Paul, Harry という人名が転位要素となり、照応表現として managers like them が使用されている。Huddleston and Pullum (2002) は (6) に関して、次の (7) のように述べている。

- (7) “... the relation between prenuclear constituent and the subject of the nucleus is no longer one of coreference: Bill, Paul, and Harry form a subset of the managers.” (ibid.)

(7) で述べられているように、上記 (6) の転位要素と照応表現には、同一指示の関係ではなく、下位/上位の関係が成立している。従って、MLD 構文では転位要素と照応表現に同一指示以外の関係が成立する場合があることが分かる。

上記 (3) や (6) のような事例は、LD 構文の認可条件を定める上で示唆的である。転位要素と照応表現の同一指示性を必要条件とすれば、(3) や (6) のような事例は認可されなくなってしまう。かといって、同一指示性を十分条件に過ぎないとするだけでは、どのような関係が成

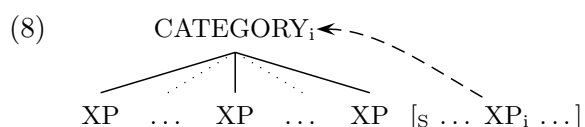
立してもよいことになってしまう。また、SLD 構文では同一指示性を必要条件とし、MLD 構文では十分条件とすれば、転位要素の数で条件が異なることが偶然として扱われることになってしまう。LD 構文のより妥当な認可条件を定めるには、なぜ MLD 構文では転位要素と照応表現の間に同一指示以外の関係が成立するのかを考察する必要がある。

3. 転位要素と照応表現の意味関係

前節で提起した問題に対して、本研究は (4) で示した分析を提案する。

- (4) 転位要素と照応表現の関係づけには認知的な推論操作が働いているため、同一指示以外の関係が成立する。

MLD 構文において、この分析を図示すると次の (8) のようになる。



まず、複数個の転位要素から認知的な推論操作により一種の上位カテゴリーが推論される。⁵ 照応表現は転位要素ではなく推論された上位カテゴリーを同一指示的に受けることで、転位要素と照応表現には同一指示以外の関係が成立する。以下では、(4) の分析における認知的な推論操作には少なくとも 4 つのタイプがあり、推論操作の働き方が異なると、転位要素と照応表現に成立する関係も異なることを示す。

第一に、上記 (3) では、転位要素と照応表現の関係づけに、代表例から上位カテゴリーを推論するという操作が働いている。

- (3) Windows, doors, beds, dressers — everything in the room was burned to a crisp.

(3) の後続節は「部屋の中にあるすべてのものが燃えてしまった」という意味である。部屋の中には転位要素以外のものもあるはずなの

で、転位要素は部屋の中にあるものの代表例であると考えられる。また、(3) には but chairs, tables, and racks were not burned という節を後続させることができないため、照応表現の everything は転位要素だけではなく、転位要素に含まれていない情報も受けている。⁶ 本研究では (3) における転位要素と照応表現の関係を group-membership の関係と呼ぶことにする。(4) の分析に従うと、転位要素から「部屋の中にあるすべてのもの」というカテゴリーが推論され、そのカテゴリーを everything で受けることで group-membership の関係が成立する。

第二に、次の (9) では、転位要素の共通性に基づいて上位カテゴリーを推論するという操作が働いている。この例はある海外ドラマに登場する悪の組織に関して述べている箇所である。

- (9) Even though the Company may not be morally blameworthy for adopting the goal of mastery, it is blameworthy for many of the things it's done. Kidnapping, spying, imprisonment, not to mention the nuclear explosion plot — these activities are villainous by almost all moral standards.

(*Heroes and Philosophy*)

(9) では共通性を持つ要素が転位要素となり、その共通性に基づく一般化により導かれた名称 activities が照応表現に含まれている。⁷ 本研究では (9) におけるような関係を kind-membership の関係と呼ぶことにする。(4) の分析に従うと、転位要素から共通性に基づく一般化により「組織的な秘密活動」というカテゴリーが推論され、そのカテゴリーを these activities で受けることで kind-membership の関係が成立する。

第三に、次の (10) では、メトニミー解釈によって、事物からその属性を推論するという操作が働いている。この例は主人公が過去に犯した殺人よりも自分の将来を案じている場面の地

の文である。

- (10) James Vane, Basil Hallward, Sybil Vane — these deaths were not important to him now. Nothing could change that. He must think of himself.

(*The Picture of Dorian Gray*)

(10) では、作中で死亡した人物の名前が転位要素となり、それらの人物が共通して持つ属性名 deaths が照応表現に含まれている。そのため、転位要素と照応表現には事物/属性の関係が成立している。(4) の分析に従うと、転位要素から「人の死」という属性がメトニミー解釈により一種のカテゴリーとして推論される。そして、その推論された「人の死」というカテゴリーを these deaths で受けることで、事物/属性の関係が成立する。

第四に、(11) では、部分光景から全体光景を推論するという操作が働いている。この例は発展途上国のソマリアにあるレストランが西洋風になりつつあるという新聞記事の冒頭一文目である。

- (11) Beachfront dining, fresh lobster, and a European clientele: Somalia's restaurant scene is quickly changing for the better.

(*The Daily Yomiuri*)

(11) では、部分光景を表わす要素が転位要素となり、全体光景を表わす Somalia's restaurant scene が照応表現として機能している。そのため、転位要素と照応表現には部分/全体の関係が成立している。(4) の分析に従うと、転位要素から「洗練されたレストランの光景」という全体光景が推論され、その推論された光景を Somalia's restaurant scene で受けることで、部分/全体の関係が成立する。⁸

上記 4 つの事例から、MLD 構文では転位要素と照応表現に多様な意味関係が成立できることが分かる。MLD 構文を LD 構文に関する研究の考察対象に含めるとすれば、多様な意味関

係を考慮して、LD 構文の認可条件を定める必要がある。(4) の分析に従い、転位要素と照応表現は認知的な推論操作により関係づけられているとすれば、具体的にどのような認知的な推論操作が可能なのかを明らかにすることで、成立可能な意味関係を規定できるようになる。

4. 同一指示性を満たさない SLD 構文

SLD 構文では、転位要素と照応表現に同一指示の関係が成立するとされている。しかし、SLD 構文においても、転位要素と照応表現には同一指示以外の関係が成立する場合がある。同一指示性を満たさない SLD 構文に対しても、上記 (4) の分析を適用可能である。

第一に、次の (12) では、転位要素と照応表現の関係づけに属性から事物を推論するという操作が働いている。

(12) The ham sandwich in the corner, he
wants some more coffee.

(Cf. Jackendoff (1997: 54))

(12) の転位要素 the ham sandwich in the corner はメトニミー解釈により「ハムサンドを注文した客」を意味している。照応表現 he は転位要素ではなく「ハムサンドを注文した客」を受けている。従って、転位要素と照応表現には属性/事物の関係が成立している。(4) の分析に従うと、転位要素から「ハムサンドを注文した客」という事物が推論され、その事物を he で受けることで、属性/事物の関係が成立する。

第二に、次の (13) では、転位要素と照応表現の関係づけに全体から部分を推論するという操作が働いている。⁹

(13) Most children flourish. Most children
live and grow up. Even the children in
the hospital, most get well and go home
and live happily. Pediatrics is a comparatively happy field, a field full of happy
endings. (Prince (1997: 138))

(13) では全体を表わす the children in the hospital が転位要素となり、部分を表わす most が照応表現として使用されている。そのため、(13) では転位要素と照応表現に全体/部分の関係が成立している。(4) の分析に従うと、転位要素から「入院中の子どもたち」という構成員が部分として推論され、その構成員の一部を most で受けることで、全体/部分の関係が成立する。

第三に、次の (14) では、転位要素と照応表現の関係づけに上位カテゴリーから下位カテゴリーを推論するという操作が働いている。¹⁰

(14) [From a TV interview about the availability of child care]

That isn't the typical family anymore. The typical family today, the husband and the wife both work.

(Lambrecht (1994: 193))

Lambrecht (1994) は (14) を代名詞等の照応表現が後続節で使用されていない事例として挙げている。しかし、後続節の the husband and the wife を転位要素 the typical family today と関係づけられる照応表現とみなせば、転位要素と照応表現には上位/下位の関係が成立していると考えられる。(4) の分析に従うと、the typical family today という転位要素からその下位カテゴリーが推論され、そのカテゴリーの一部を the husband and the wife で受けることで、上位/下位の関係が成立する。

上記の事例からも、従来の LD 構文の研究で分析されている同一指示の事例は全体の一部に過ぎないことが分かる。MLD 構文と SLD 構文において、同一指示以外の関係が成立する事例に対して (4) の分析を適用できるため、LD 構文は転位要素と照応表現に有意味な関係づけが成立すれば構文として認められると考えられる。このことは LD 構文の認可にはヒトの認知機能の一つであるカテゴリー化の仕組みが関与していることを意味している。

5. おわりに

最後にまとめを述べる。第2節では、SLD構文では典型的に転位要素と照応表現に同一指示の関係が成立するとされているのに対して、MLD構文ではその関係が同一指示に限られないことを示した。さらに、MLD構文をLD構文の考察対象とする上で生じる問題を提起した。第3節では、MLD構文では転位要素と照応表現の関係づけに認知的な推論操作が働いているため、同一指示以外の関係が成立するという分析を提示した。さらに、認知的な推論操作には4つのタイプがあり、推論操作の働き方が異なると、転位要素と照応表現に成立する関係も異なることを示した。第4節では、MLD構文に対して提示した分析は、同一指示性の条件を満たさないSLD構文に対しても適用可能であることを示した。

注

* 本論文は、日本英語学会第32回大会(2014年11月9日、於学習院大学)において口頭発表された原稿に加筆、修正を行ったものである。本稿をまとめるに際して、大名力先生、大島義和先生、中右実先生、大室剛志先生、滝沢直宏先生、佐藤翔馬氏より、貴重なご指摘やご助言を賜った。また、口頭発表当日に貴重な質問とコメントを戴いた浅野一郎先生、小野創先生、塩原佳代乃先生、西田光一先生、本多啓先生にこの場を借りて厚く御礼申し上げる。なお、本論文における不備や誤りは全て筆者の責任による。

¹ 本研究では構文名として「左方転位」という用語を使用するが、生成統語論におけるような移動操作を想定するわけではない。また、文頭に生起する要素を「転位要素」と呼び、後続節で転位要素の指示対象と意味的に関係づけられる要素を「照応表現」と呼ぶことにする。

² NPではなくXPとする理由は、NP以外にAPやPPなども文頭に生起するためである。SLD構文においてNP以外の要素が生起する事例については、関(2001: 66-67)を参照され

たい。また、MLD構文においてNP以外の要素が生起する事例については、山内(2014: 250, 253)を参照されたい。

³ Long(1961)は(3)の例を挙げてはいるが、転位要素と照応表現の間に成立する関係については言及していない。

⁴ Lambrecht(2001)は、(14)の例を示し、転位要素と照応表現に成立する同一指示性は十分条件であり、必ずしも満たす必要がないとしている。

⁵ 複数個の要素から上位カテゴリーが推論されるという点に関しては、人間の認知機能の一つであるカテゴリー化に関する研究を手がかりとしている。カテゴリー化の基本的な概念に関しては、Rosch(1978)、Barsalou(1983)等々を参照されたい。

⁶ (3)は転位要素が代表例となるカテゴリーに含まれるものはすべて燃えてしまったという解釈になるため、そのカテゴリーに含まれると考えられる椅子やテーブルが燃えていないとなると矛盾文になってしまう。なお、(3)の照応表現がtheseの場合は矛盾文にならない。

⁷ MLD構文に限らず、例えば、ビール、ウィスキー、ワインという要素が並べられると、共通性に基づき酒という上位カテゴリーが推論される。3つ以上の表現が並び、表現されている以上のものを表すことに関してはOverstreet(1999)を参照されたい。

⁸ (11)では、転位要素から推論される「洗練されたレストランの光景」をあえて「(発展途上国の)ソマリアにあるレストラン」で受けることにより意外性の効果が生じている。

⁹ Prince(1997)は(13)の事例を考察の対象には含めていない。なお(13)の転位要素にはevenが含まれているが、Gundel(1974: 89)はevenを含むNPは転位できないとしている。この点に関しては今後の課題とする。

¹⁰ Lambrecht(1994)は(14)の例を挙げてはいるが、転位要素と照応表現の意味関係に関しては言及していない。

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日本人大学生英語学習者の英語の /ɪ/ と /I/ の知覚における相対的語彙親密度の影響について

(The Effect of Relative Lexical Familiarity on English /ɪ/ and /I/ Phoneme Perception by Japanese University English Learners)

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キーワード：音素認識，相対的語彙親密度，主観的語彙親密度，第二言語，英語学習

1. はじめに

日本語母語話者にとっての英語の /ɪ/ と /I/ の知覚の困難さはこれらの音が日本語に存在しないことに起因していることは広く知られているが (e.g., Goto, 1971; Dickerson, 1974; Sheldon and Strange, 1982), その知覚に語彙親密度が関与していることも報告されている (e.g., Yamada, Tohkura and Kobayashi, 1992)。この場合の語彙親密度は個人がある単語に対してどの程度なじみがあるかを示す指標である「主観的語彙親密度」をさすことが多いが、例えばミニマル・ペアといった聴覚的に類似した単語間の語彙親密度の差を示す「相対的語彙親密度」という指標も存在する。

Flege, Takagi and Mann (1996) は米国に滞在する日本語母語話者を対象とした英語の語頭の /ɪ/ と /I/ の二肢強制選択法による同定実験を行い、/ɪ/ と /I/ の語頭の音素認識は相対的語彙親密度に影響を受けることを米国に滞在する

日本語母語話者を対象とした知覚実験から明らかにした。被験者群は米国滞在歴が長い日本人母語話者 (Experienced Japanese (EJ) : 米国滞在期間平均 21 年) と米国滞在歴が短い日本人母語話者 (Inexperienced Japanese (IJ) : 米国滞在経験平均 2.4 年) であった。収集された刺激語に対する語彙親密度と音素認識正答率の分析から以下の 3 つの結果を得た。

【結果 1】 /ɪ/ と /I/ の音素認識正答率はミニマル・ペアを形成する 2 つの単語においては、相対的語彙親密度の高い語彙 (“positive” set) の場合よりも相対的語彙親密度の低い語彙 (“negative” set) の場合よりも高い

【結果 2】 英語力の違いにより、相対的語彙親密度は英語力の低い人ほど影響を受ける

【結果 3】 相対的語彙親密度は曖昧性が高い音の方がそうでないものより強く影響する

実験結果から、Flege *et al.* (1996) は主観的語彙親密度ではなく相対的語彙親密度が英語の語頭の /ɪ/ と /I/ の認識に影響していることを主張した。しかしながら、相対的語彙親密度が主観的語彙親密度から間接的に計算されたものであることを理由に、Flege *et al.* (1996) は相対的語彙親密度の測定方法の検証の必要性も指摘している。本研究では Flege *et al.* (1996) で提案されている語彙親密度の測定方法を採用し、日本人大学生英語学習者を対象とした Flege *et al.* (1996) の実験 1 を実施することで相対的語彙親密度の妥当性を再検討する。

2. 実験

2.1 実験方法

被験者は聴覚に問題のない 24 人の日本人大学生英語学習者である (男性 9 名, 女性 15 名)。24 名の被験者のうち 1 名 (女性) は 9 ヶ月の間米国留学経験者であるが、残りの被験者は 3 ヶ

月以上の英語滞在経験はない典型的な日本人大学生英語学習者である。Flege *et al.* (1996) の米国滞在歴が短い被験者 (IJ) の米国滞在期間は平均 2.4 年であることから、本研究の被験者 24 名は Flege *et al.* (1996) の IJ よりもさらに英語力が低い英語学習者群として位置付けることができる。

刺激語は Flege *et al.* (1996) の実験 1 で使われた語頭に /ɹ/ と /l/ の音素対立を持つ 23 組の英語の一音節語ペアである (e.g., *red - led, room - loom*)。そのうち 3 つのペアは無意味語を含んでいる (*line - rine**, *luck - ruck**, *run - lun**)。

二肢強制選択法による同定実験では、被験者はヘッドフォンから単語を聴き、その単語の語頭の音が /ɹ/ か /l/ のどちらだったかを正確かつ迅速に判断し、指定されたキーボード上のキーを押すよう指示された。

同定実験終了後、刺激語 46 語に対する語彙親密度も合わせて被験者より収集した。その際、Flege *et al.* (1996) の指摘の通り、収集方法に修正を加えた。本実験では、ミニマル・ペアの単語を同時に被験者に提示し、それぞれの単語に語彙親密度評価を行うことで、相対的語彙親密度を直接的に得ることとした。セッションは 2 つあり、セッションでは 23 組のミニマル・ペアに対応するトライアルが行われた。各トライアルでは、ミニマル・ペアを画面上に 2 つの単語が視覚的・聴覚的に呈示され、被験者は単語ごとに 1 から 7 のスケールで語彙親密度を判断した。例えば、*room - loom* というミニマル・ペアの場合、*room* に対しての語彙親密度判断と *loom* に対しての語彙親密度判断をそれぞれ 1 から 7 のスケールで判断した。刺激語呈示の順番も考慮し、1 つのミニマル・ペアに対して語彙の順番が異なる 2 回の試行を行った (e.g. 1 回目 : *room - loom*, 2 回目 : *loom - room*)。各

単語に対する 2 回の判断の平均から主観的語彙親密度と相対的語彙親密度を算出した。

2.2 主観的語彙親密度と相対的語彙親密度

ここでは、語彙親密度のデータと同定実験から得られた音素認識正答率の分析を通して、Flege *et al.* (1996) で指摘されている相対的語彙親密度の有用性について再検討する。

図 1 に主観的語彙親密度と相対的語彙親密度の相関を示す。図 1 から、主観的語彙親密度と相対的語彙親密度は互いに強い相関を示すことがわかるが (*Spearman* $\rho = 0.69$, $df = 44$, $p < 0.01$)、その相関は Flege *et al.* (1996) で報告されているほどではなかった ($r = 0.75$, $df = 90$, $p < 0.01$)。

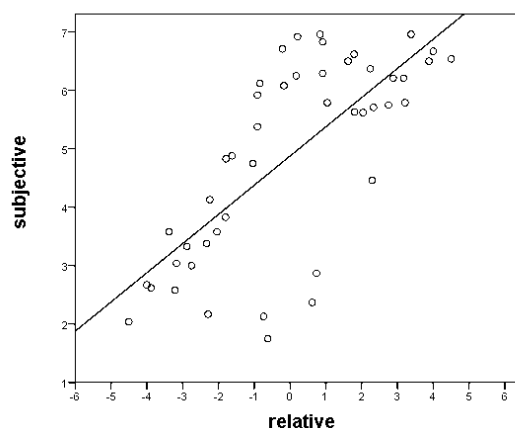


図 1: 主観的語彙親密度と相対的語彙親密度の相関

/ɹ/ と /l/ の音素認識正答率と 2 種類の語彙親密度との相関を図 2 と図 3 に示す。スピアマンの順位相関係数から /ɹ/ と /l/ の音素認識正答率は相関的語彙親密度 (*Spearman* $\rho = 0.70$, $df = 44$, $p < 0.01$) の方が主観的語彙親密度よりも強く相関があることが明らかになった (*Spearman* $\rho = 0.55$, $df = 44$, $p < 0.01$)。このことは、上述の通り相対的語彙親密度と主観的語彙親密度では互いに強い相関を持っているが、相対的語彙親密度の方が /ɹ/ と /l/ の音素認識正答率を予測するよりよい要因である

ことを示していると解釈できる。

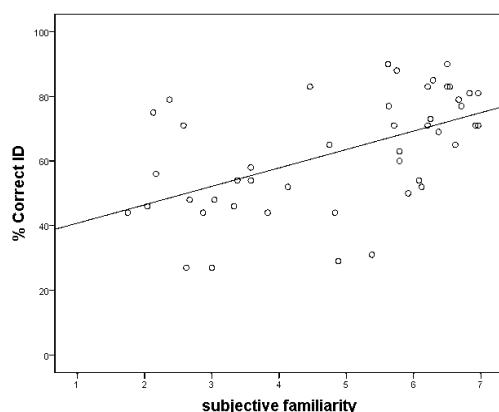


図 2: 主観的語彙親密度と平均音素認識正答率 (%)

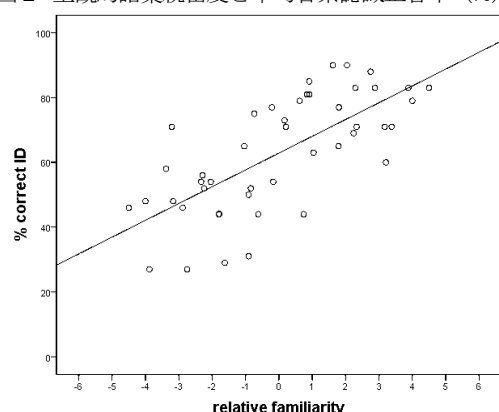


図 3: 相対的語彙親密度と平均音素認識正答率 (%)

2.3 音素認識正答率分析

まず、刺激語の音素認識正答率を刺激語の語頭音に分けて比較した。図 4 に本研究の日本人大学生英語学習者 (UJ) のデータを Flege *et al.* (1996) の日本人米国滞在経験者の 2 つのグループのデータ (EJ と IJ) と共に示す。Flege *et al.* (1996) の日本人米国滞在経験者のデータとは異なり、2 つの音素に対する音素認識正答率の差は認められなかった ($F(1,23) = 0.586, p = 0.452$; 語頭が /ɹ/ の刺激語: 61.7%; 語頭が /l/ の刺激語: 64.1%)。このことは、日本人大学生英語話者は Flege *et al.* (1996) の被験者群とは異なり、/ɹ/ と /l/ のどちらの音素に対しても、等しく曖昧な音である可能性が高いと言える。

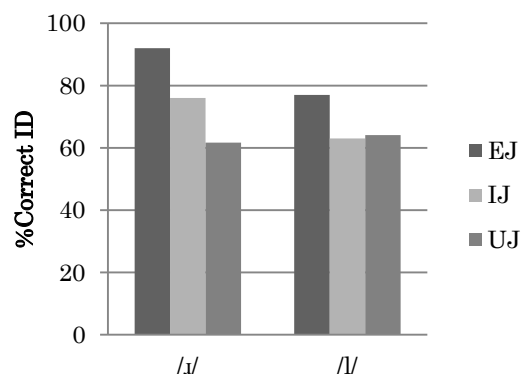


図 4: 被験者グループと音素別刺激語の音素認識正答率

2.2 の分析から相対的語彙親密度の有為性が再確認されたので、本論文では刺激語を語頭の音素と相対的語彙親密度に基づいて音素認識正答率の分析を行うこととする。初めに、刺激語を 6 つのグループに分類した。ミニマル・ペアの 2 つの単語について一方の単語が他方よりも相対的親密度が高いグループをポジティブセット、一方の単語が他方よりも相対的親密度が低いグループをネガティブセット、2 つの単語が同等の相対的親密度を持つグループをニュートラルセットの 3 つに分類し、更にそれぞれ語頭の音素ごとに下位分類した (ポジティブセット: /ɹ/-positive, /l/-positive; ネガティブセット: /ɹ/-negative と /l/-negative; ニュートラルセット: /ɹ/-neutral と /l/-neutral)。

ここからは、Flege *et al.* (1996) で得られた 3 つの結果について検証を行う。初めに、相対的語彙認識度は音素認識度に影響はあるかどうかという点について検討する。図 5 は 3 段階の相対的語彙親密度の音素認識正答率を語頭の音素ごとに示したものである。語頭が /ɹ/ で始まる刺激語の音素認識正答率は相対的語彙親密度の下位グループによって異なることが明らかになった ($F(2,26) = 26.257, p < 0.05$; /ɹ/-positive: 79.3%; /ɹ/-neutral: 53.6%; /ɹ/-negative: 51.1%)。下位検定の結果、

/ɹ/-positive は /ɹ/-neutral と /ɹ/-negative との間の有意差は認められたが (ともに $p < 0.001$ レベル), /ɹ/-neutral と /ɹ/-negative との間の有意差は認められなかった。

また, 語頭が /l/ で始まる刺激語の音素認識正答率は相対的語彙親密度の下位グループによって異なることが明らかになった ($F(2, 26) = 27.091, p < 0.05$; /l/-positive: 78.3%; /l/-neutral: 68.8%; /l/-negative: 46.3%)。下位検定の結果, 全てのグループ間で有意差が認められた ($p < 0.001$ レベル)。これらの結果は, 日本人大学生英語学習者の英語の語頭の /ɹ/ と /l/ の音素認識正答率は相対的語彙親密度の低い語彙よりも相対的語彙親密度の高い語彙の方が高いことから導き出される結果 1 と一致するものである。

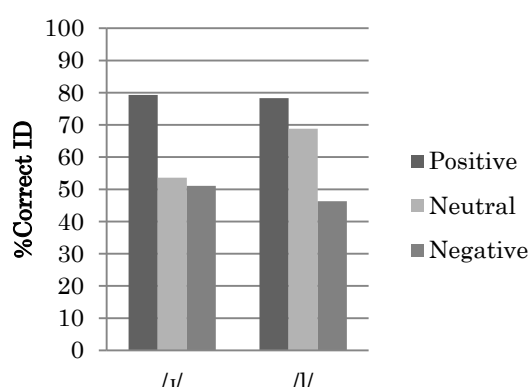


図 5: 音素と 3 段階の相対的語彙親密度 (Positive, Neutral, Negative) 別音素認識正答率

次に, 英語力の違いにより, 相対的語彙認識度は英語力の低い人ほど影響を受けるといふ結果 2 の検証は, ポジティブセットとネガティブセットの平均音素認識正答率の差を比較することで可能となる。表 1 は本研究の日本人大学生英語学習者 (Undergraduate Japanese, UJ) のポジティブセットとネガティブセットの平均音素認識正答率とその差を Flege *et al.* (1996) の米国滞在歴が長い日本人母語話者 (EJ) と米国滞在歴が短い日本人

母語話者 (Inexperienced Japanese, IJ) のデータとともに表にしたものである。

Flege *et al.* (1996) の EJ と IJ のデータは, ポジティブセットとネガティブセットの平均音素認識正答率の差は英語力と逆相関を示している。ポジティブセットとネガティブセットの平均音素認識正答率の差は IJ が 30% であるのに対し, EJ は 15% であった。つまり, 英語力が低いほど, ポジティブセットとネガティブセットの平均音素認識正答率の差は大きくなるということである。このことは IJ の方が EJ よりも相対的語彙親密度の影響を強く受けていることを示している。

本研究の日本人大学生英語学習者 (UJ) のポジティブセットとネガティブセットの平均音素認識正答率はそれぞれ 78.6% と 48.7% であり, その差は 29.9% であった。ポジティブセットとネガティブセットの平均音素認識正答率の差は EJ と比較すると倍以上の差であったが, IJ との差は認められなかった。米国滞在経験の長い日本語母語話者 (EJ) よりも日本人大学生英語学習者のほうが相対的語彙親密度の影響を強く受けることがこの結果は示している。今回の実験結果は Flege *et al.* (1996) の結果 2 と同様の結果であるといえる。また, IJ と日本人英語学習者 (UJ) の英語力の差がこの指標で示せなかったことについては, 両者の英語力の違いを区別する別の指標の存在を示唆するものである。

表 1: 平均音素認識正答率

	Positive	Negative	Difference
EJ	91.0%	76.0%	15.0%
IJ	85.0%	55.0%	30.0%
UJ	78.6%	48.7%	29.9%

最後に Flege *et al.* (1996) の仮説から導き出された相対的語彙親密度は曖昧性が高い音のほうがより強く影響するという結果 3 につい

て検討した。具体的には、音素認識正答率によって /ɹ/ と /l/ のどちらが曖昧性の高い音であるかを判断し、それぞれのポジティブセットとネガティブセットの平均音素正答率の差を比較した。Flege *et al.* (1996) の結果では、ポジティブセットとネガティブセットの平均音素認識正答率の差と音素の知覚の曖昧性に起因する音素認識正答率とは逆相関が成り立つとされる。/ɹ/ と /l/ の平均音素認識正答率とポジティブセットとネガティブセットの平均音素認識正答率の差をそれぞれ表 2 と表 3 に示す。

表 2: 平均音素認識正答率の比較

EJ&IJ	/ɹ/ (84%) > /l/ (70%)
UJ	/ɹ/ (61.7%) ≒ /l/ (64.1%)

表 3: ポジティブセットとネガティブセットの平均音素認識正答率の差の比較

EJ&IJ	/ɹ/ (13%) < /l/ (32%)
UJ	/ɹ/ (28.2%) ≒ /l/ (31.0%)

米国滞在日本人被験者 (IJ と EJ の両方) の場合、/ɹ/ の平均音素認識正答率の差 (13%) は /l/ の平均音素認識正答率の差 (32%) よりも低いが、それぞれの音素に対する音素認識正答率は /ɹ/ (84%) の方が /l/ (70%) よりも高く、逆相関が成り立っている。これに対し、日本人大学生英語学習者 (UJ) の場合、/ɹ/ のポジティブセットとネガティブセットの平均音素認識正答率の差 (28.2%) は /l/ のポジティブセットとネガティブセットの平均音素認識正答率の差 (31%) とほぼ同等であり、それぞれの音素に対する平均音素認識正答率もほぼ同じであった (語頭が /ɹ/ の刺激語 : 61.7% ; 語頭が /l/ の刺激語 : 64.1%)。音素の知覚の曖昧性に起因する音素認識正答率が同等な場合、ポジティブセットとネガティブセットの音素認識正答率の差も同等であると予測と本実験

の結果は合致している。従って、Flege *et al.* (1996) から導き出される結果 3 を支持するものであると結論付けることができる。

3. まとめと展望

本研究では、Flege *et al.* (1996) で主張されている相対的語彙親密度の有用性を、日本人大学生英語学習者を対象とした実験結果と Flege *et al.* (1996) で導き出された 3 つの結果を検討することにより再検証した。今回の結果は Flege *et al.* (1996) の結果と合致しており、Flege *et al.* (1996) の主張する相対的語彙親密度の実在性を支持するものであった。

今後の研究の方向性を 2 点挙げておきたい。まずは、異なる実験手法を駆使した多角的な相対的語彙親密度の実在性検証の必要性である。反応時間の分析や分別実験結果を検討することにより、更なる相対的語彙親密度の有用性について包括的に検討が必要であろう。

また、音素知覚における相対的語彙親密度と英語学習者の英語力との関係の解明も必要である。本研究では、日本人大学生英語学習者 (UJ) と Flege *et al.* (1996) の米国滞在歴が短い日本人母語話者 (IJ) は相対的語彙親密度に影響を同程度受けているにも関わらず、語頭の音の認識正答率に差が生じているというとても興味深い結果が得られた。しかしながら、逆相関を示すポジティブセットとネガティブセットの音素認識正答率の差と音素の知覚の曖昧性に起因する音素認識正答率が英語力とどのように関わっているかについては明らかになっていない。更なる検証が求められる。

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文法と談話のインターフェイス：「孤独な」 if 節をめぐる

The Interface between Grammar and Discourse:
Centering on Isolate *if* clause

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キーワード: *if* 節、従属節の主節化、対話、
談話、相互行為、語用論

1. はじめに

本稿の目的は、後続の主節を前提としない英語の条件節が「孤独な」独立節を形成していることに注目し、文法と談話のインターフェイスを実現する語用論的なメカニズムの一端を明らかにすることである。こうした *if* 節の働きは、「不完全」な「省略」ではなく、「独立節」のようにふるまい、主節用法として相互行為に基づく構文パターンへと慣用化されていく過程を含んでおり (Stirling 1998)、談話の展開に応じた節連鎖を形成していると考えられる (Miller and Weinert 1998/2009; Miller 2011)。分析は、自然会話データの観察に基づき、標準英語、非標準的変種、フィンランド語 *jos* ‘*if*’ 節 (Laury 2012)、対応する日本語における類似の構文形式 (大野・ジョーンズ 2005) などを比較する方法をとる。そして、こうした独立節 *if* 節は、指示や、要求、提案という発話行為を伝達しながら、聞き手の反応をとらえつつ、会話を構築しようとする相互行為的な働きと密接に結びついていることを指摘する。さらにこうした従属節の主節化ともいえる現象は、談話の開始部や転換部の合図とし

て機能していることを主張する。

2. 背景：談話における文法

英語の話しことばでは、*because*, *when*, *if* のような接続詞に導かれる副詞節が、主節を伴わないことがある。書きことばの視点からは、一見逸脱しているように見えるが、会話を言語使用の場面に即して分析すると、従属節と主節という関係性ではなく、複数の節連鎖の中で、独立したターンとして機能し、連続したプロセスの一形式とみなすのが可能なケースがある。こうした「従属節の主節化」と言われる現象については、‘the conventionalized main use of what, on *prima facie* grounds, appear to be formally subordinate clauses’ 「形式的には一見明白な基準で従属節のように見えるものの慣習化された主節用法」 (Evans 2007: 367; 堀江・パルデシ 2009) と説明される。

さらに、変異の視点から、Cheshire (2005: 82) は相互行為の談話において用いられる定形化した (*prefabricated*) 構造が、統語的変異の分析に結びついていることを指摘し、*discourse-oriented analysis* の必要性を議論している。

3. 事例分析：独立節としての「孤独な」*if* 節

まず、利用した対話データは 1990 年代にエディンバラ大学で開発された大規模な対話コーパスプロジェクト (HCRC 地図課題対話コーパス) を基盤としているが (オリジナルコーパス)、その後、異なるデザインで新たに実験をおこなって収集したスコットランド英語 8 対話分のコーパスである。この新しい対話データがオリジナルのコーパスと異なる点は、地図に描かれている目標物に名前をつけていないことである。このため二名の対話者は互いに協力して地図の目標物の名前を決定しながら対話を進めることが

求められる（詳細は吉田 2002 を参照）。

従来、if 節には以下のような 3 つのタイプが認められるが、Type 3 が問題となる：

Type 1. conditional clause + main clause

Type 2. main clause + conditional clause

Type 3. standing conditional clause only

この Type 3 の例を見てみよう。

(1)

TA 3: **If you go down to the bottom left hand corner of your page,**

TB 4: Aha.

TA 5: do you have a van?

(Lleq4c8)

(2)

TA 61 : **If you go {a t} between the mountain and the trees.**

TB 62: Right.

TA 63: And then you go down below the trees towards the right hand side,

(Lleq4c9)

まず、この分類に従うと、地図課題対話データの if 節 64 例(8 対話分)のうち、40 例の Type3 が認められた (Yoshida 2011)。オリジナルコーパスのデータにおいては、90 例の if 節のうち、59 例の Type3 が認められており (Miller and Weinert 1998/2009)、いずれも T3 の頻度が顕著であった。こうした帰結節をもたない「孤独な」if 節の主な伝達機能は、協働作業において伝えられる教示や、やんわりとした命令、指示(**directives**)という行為を示す。この教示は、典型的に発話開始時に現れ、指示から情報とりのための質問というプロセスへの連鎖や (1)、指示からさらに次の指示へと移っている連鎖へと引き継がれる (2)。さらに以下の例をあげておく。

(3)

TA 49: {m erm} **If you just draw a line along the bottom**

TB 50: **Of the page?**

TA 51: < Yes. Until you're level with where /

TB 52: right

TA 53: the diagram is. >

TB 54: Okey dokey.

(4)

TA 78: Well, are you able {a t}... **If you bring your line up the right hand side, and bring it round and over.**

TB 79: < Those funny objects, sort of buildings, /

TA 80: Yeah, up over the top of it.

TB 81: ruins, things. >

TA 82: Right.

(5)

TA 157 : Right. **If you... Do you have a cross with a {c finish}?**

TB 158 : No.

TA 159 : Right. Do you have a... a... I don't really know what it is, it looks like a...

TB 160 : Got a level crossing or something, like a fence.

(Lleq4c2)

次に、こうした if 節の特徴的構文には、If you go to...; If you take your pen...; If you (just) draw a line...; If you continue that line...; If you bring your line...; If you move... が多く含まれ、これらは、方向や場所への誘導表現である。そして、談話要素 (= 地図の目標物) を導入する前の、バックグラウンドとして機能しており、しかもほぼすべてが直説法である。

続いて、If 節の後続に注目して、If 節では

じまる発話連鎖パターンのタイプを調べると以下のような5つの連鎖が認められる:

I. Do you have / Have you got〜 で談話要素を導入:例(1)

II. There's / There's no 〜で談話要素を導入、あるいは位置の描写:例(3)

III. Directives の連鎖 (e.g. you go down ...)に続き、I や II でのパターンが後続:例(2)

IV. 作業者による共同発話で、談話要素を導入する:例(4)

V. false start を経て、I のパターンへ直続:例(5)

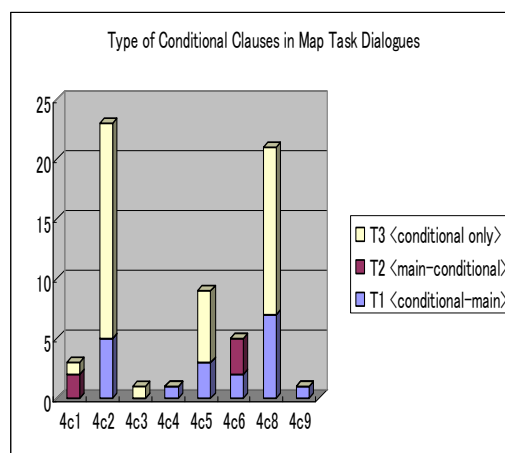
さらに、談話的特徴として、(1) 談話セグメントの冒頭に出現すること、(2) 聞き手の確認を要する点、(あいづちによる認定)(3) 音調は下降調であること(聞き手は帰結節を期待していない)から、if-節は、聞き手に対して新しい談話要素を導入する前に必要なバックグラウンドを提示する機能をもつことが予測される。つまり、こうした独立節のif節が伝達しているのは、指示するという行為に伴い、聞き手の反応をとらえようとする相互行為的な働きであるといえる。

4. 考察

では、ジャンルという視点から、独立的if節は課題遂行対話で多用される特徴的な発話パターンであるが、自由会話ではどうだろうか。また、指示(directive)としてのif節はどんな環境で選択されるのだろうか。

確かに、課題遂行対話ではif節の「指示」の用法が顕著だが、すべてのデータに同様に見られるというわけではない。以下のグラフに示されるように、8対話のうち、5対話では、条件節による指示タイプは3例以下にすぎない(Yoshida 2011)。このことは、Type3の用法の生起には談話に新要素を導入することを想定して指示(directive)をおこ

なう話し手の戦略やポライトネスの意識、対話者間の親近性などもかかわっている可能性を示している。



ここでは3節の分析をふまえて、類似の機能をもつ他言語の例を取り上げ、言語類型的な特徴を探ってみる。まず、独立節としてのif節と関連する機能を共有する事例と考えられるフィンランド語のjos 'if'節は、in subordinateでsuspendingである構文として提示され(Laury 2012)、談話内で様々な提案や要求を表すことが指摘されている。Laury(2012)の分析では、こうしたjos 'if'節は、全体42例のうち24例を占めることが報告され、さらに節連鎖において、他の談話標識と結びつき、話題を制御したり、発話権を保持する役割を担っている(Laury and Ono 2014)。

次に、このフィンランド語jos節とスウェーデン語のif節の例om節を比較したLaury, Lindholm and Lindström (2013)によると、jos節(Fn)とom節(Sw)の独立的用法は、合わせて134例で、このうち、79例がdirectivesの機能を示している。いずれも、主に依頼としてdispreferred actionを伴う場合に用いられる例が見られる。まず、フィンランド語の例を見てみる。

(6)
 09 Missu:
nijj jos tota, te Maksasitte sittem meille takas.
 PRT if PRT 2Pl. pay-COND-2Pl.
 then 1Pl.-ALL back
 ‘So if um, you would pay us back then.’

10 Anna:
joo-o ? totta kai.
 PRT true -PAR PRT
 ‘Yeah, of course’
 (247)

同様に、私的な電話会話におけるスウェーデン語 *om* 節による依頼の例では、依頼された行為が相手にとって負担になることが示唆されている。

(7)
 06 C:
om du kan áka á hámta mej dá
 if you can. PRS go-INF and fetch -INF
 me then
 ‘if you could come and pick me up then.’
 07T: mm.

しかし一方で、次の例のように相手にとってむしろ好ましいといえる申し出の場合もある。

(8)
 03A:
 = att *om du skulle sitta dä:r*
 That if you will.COND sit-INF there
 ‘If you could sit there’
 04 de e bättre siolar där
 it be. PRS better chair-PL. there
 ‘There are better chairs over there.’

05B: [a:h (.) jasá::
 ‘Oh, I see.’
 (261)

さらに、業務的な相互行為（医者と患者のやりとり）では、診療という場で日常的な行為に対する要求を伝える例がある：

(9)
 05 so *om du slappnar av där sá*
 so if you relax-PRS PRT there
 so
 ‘So, if you relax there then.’

06 ((4 s.pause. L(doctor) twists P(patient)’s arms))

ここでは行為としておこなうことがより慣習化している点に特徴があり、地図課題対話と同様、直説法が用いられている。

また、本来なら従属節として用いられる節が、独立節を形成している例は、以下のように *when* 節にも見られ、導入された話題について再度言及し、注意を喚起する働きがある。

(10) (the boys are talking about one of their teachers, who was married to someone I knew.
 Jenny (me) was the fieldworker)
 Nobby: yeah Miss Threadgold she ain’t bad
 Rob: yeah she.she went camping with us
 Jenny: yes he told me she’d been camping
 →Nobby: when we went camping
 Rob: she’s a good laugh
 Jenny: is she?
 Nobby: yeah
 (Cheshire 2005, 91)

Cheshire は、*if* 節と同様、独立的 *when* 節を特別な主節構文にとらえ、話し手が、会話を展開させるような話題を始める合図として

験を共有するプロセスの一つとしてとらえられることを秦 (2014) が指摘している。このように過去の時間を共有する仮説のシナリオでの用法は、例(10)の *when* 節の用法と類似しており、話題の再開という談話上の共通性がある。³

5. 結び

自然対話理解のプロセスは、相互行為に基づく構文パターンと密接に結びついていることを見てきた。相互行為における *if* 節の役割として (1) 形式的には 独立節‘*if* 節’は、主節であり、場面に応じて慣用化した定形表現である。(2) 語用論的な発話の力により、(間接的な) 指示、依頼、提案として示される。(3) 談話標識として、聞き手の注意を喚起し、談話の方向付けをおこなっている。そして、基本の定形表現が創発的に発話され、周辺の表現と発話連鎖をくりかえすことで、談話標識のようにふるまう現象としてとらえられる。したがって、節連鎖のプロセスにおいて役割があり、「孤独」ではない。

今後の課題としては、こうした分析を可能にする 2 つの言語観に注目し: (1) 理想の話し手という固定観念を捨てた言語理念、言語の変異をもとらえた「マグナ・シンタックス (magnasyntax)」の考え (Miller 2011) および (2) 日本語の事例を分析した「多重文法」(岩崎 印刷中)のモデル[「話し言葉」、「書き言葉」の違いは認知論的に解明されるべきという立場 (特に形式名詞「こと」の分析) で、2 つの違った文法体系、つまり多重文法、が個人話者の中に存在し、影響し合うしくみを考察するアプローチ。]を参照し、本稿で扱った現象とどう関連づけられるかについて、考察を進めたい。

¹ データ: 自由会話 (12-16-year-old working class adolescents in Reading, UK) で男性のみ

が使用。直示用法的 (‘You know the time that such-and-such happened’ in Miller 2011) 使用が見られる。

² なかでも、条件節の多くが接続詞として形式化、語彙化している。(「そうしたら」「そうすると」「それなら」など)。また、接続詞以外で語彙化、慣用句化した例が 34 例 (e.g. たとえば、ひょっとしたら、どっちかって言うと、できるなら、など) 示されている。

³ 東日本大震災の当日に英国から日本にフライトする予定だった女性 (A さん) について、C さんと B さんが、その共有している経験に言及して、再び話題を開始している部分に独立条件節が用いられている (3C, 4B)。
1. C 「いちお: さ: : よかったよね」 (←A の実体験の評価付けを先取り。)
2. A : (.) ま: : ね: : ↑ (.) [前の日だったら]
3. C : [前の日とか
4. B : [いちんち前だったら
5. C : 前日だったらもっと (.) 何時? 昼か
6. B : 降りたら(.) 降りたらすぐ地震があつたくらいじゃないですか

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A Contrast between the Finite and the Non-finite Adjuncts on Extraction

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Keywords: Adjunct Condition, defective CP
structure, phase theory

1. Introduction

This paper aims to attest that a contrast between the finite and the non-finite adjuncts on extraction is derived from their adjunction sites and the difference of their inner structures. In general, it is prohibited to extract any elements from finite adjuncts which appear at the end of the sentence as shown in (1).

- (1) a. * Which car_i, will Michelle's
insurance premium increase
if she buys *t_i*?
b. * Rich's sports car_i, Michelle's
insurance premium will
increase if she buys *t_i*.
(Taylor 2007: 191)
c. * Who_i did John come back
before I had a chance to talk
to *t_i*? (Huang 1982: 497)
d. * Who_i did Mary cry after Peter
hit *t_i*? (ibid.: 503)
e. * Who_i do you sleep because
John saw *t_i*?
(Hunter 2011: 124)

For example, (1a) shows that extraction of *which car* out of the sentence-final *if*-clause is illegitimate. This is so-called the effect of Adjunct Condition. However, there are

exceptions as given in (2).

- (2) a. What_i did John arrive
[whistling *t_i*] ?
(Borgonovo and Neeleman 2000: 200)
b. What_i did John drive Mary
crazy [whistling *t_i*] ?
(Truswell 2007a: 1357)

As is clear from (2), it has been reported that extraction of wh-elements from non-finite adjuncts is possible in some cases. We will investigate what motivates this (un-)grammatical contrast between (1) and (2) to arise focusing on the adjunction positions and underlying structures of the relevant adjuncts in the sections below.

2. Previous Work

2.1. Condition on Extraction Domain

In this section, we will take a general view of Condition on Extraction Domain (CED) advocated by Huang (1982). CED is formulated under the descriptive generalization in (4) to capture the examples of Subject Condition in (5a) and Adjunct Condition in (6b) in a uniform manner.

- (3) Condition on Extraction Domain
A phrase A may be extracted out of a domain B only if B is properly governed. (Huang 1982: 505)
(4) α properly governs β iff α governs β , and (a) or (b):
(a) α is lexical (N, V, A, P but not I or C) (Lexical Government)
(b) α is co-indexed with β (Antecedent Government)
(5) a.*? Who_i did [pictures of *t_i*] please you?
(Huang 1982: 22)
b. * Who_i did Mary cry [after Peter hit *t_i*] ? (ibid.: 503)

The definition of "proper government" in

(3) is depicted in (4). Let us check how CED works taking up a concrete example. The adjunct *after*-clause in (5b) is not lexically governed by the verb *cry* in its main clause. That is, the adjunct clause is not properly governed. The unsatisfiability of CED leads this example to the unacceptability of extracting the *wh*-element from the adjunct clause.

The analysis based on CED faces theoretical and empirical challenges in addition to the fact that this approach is not consistent with the latest minimalist theory. Firstly, CED forces a subordinate clause to be properly governed by a lexical head as we saw in (5b), but it is obscure why the possibility of extracting a element from a subordinate clause totally relies on the relevant lexical heads. Secondly, CED cannot capture examples which show that movement of some elements from a subject or an adjunct is available since this approach is created under the assumption that any extraction out of subject and adjunct positions is fully banned. As Stepanov (2007) points out, there are some cases where displacement of an item from a subject is permitted in natural languages. CED falsely precludes those valid examples. For the reasons denoted above, CED is not the best way to explain the contrast between in (1) and (2).

2.2. Late Merger Analysis

We will review the late merger analysis proposed by Stepanov (2001, 2007). Grounded on the issues of CED, he insists that it is not appropriate to deal with Subject Condition and Adjunct Condition in the same manner. According to Stepanov's conclusion, Adjunct Condition seems to be a universal condition for all

languages as long as he investigates although there are gaps in acceptability on extraction out of a subject among languages. Let us look over his analysis for Adjunct Condition below. Stepanov (2001, 2007) indicates there are two types of mergers: Substitution Merge and Pair Merge. He suggests that it is required to apply a less-loading merger (Substitution Merge) in priority to the heavier one (Pair Merge) employing Least Tampering Condition (LTC) in (6) devised by Chomsky (2000).

(6) Least Tampering Condition (LTC)

Given a choice of operations applying to a syntactic object labeled α , select one that does not change @ (α). @ (X): a set of c-command relations in a syntactic object labeled X.

(Stepanov 2001: 102)

(cf. Chomsky 2000: 137)

On that basis, he proposes Late Adjunction Hypothesis (LAH) which enforces the application of adjunction (Pair Merge) only after all applications of Substitution Merge complete in a derivation. The situation in which all operations of Substitution Merge are exhausted is defined as the one that all kinds of syntactic operations are enforced except for Pair Merge and just before spelling out. Hence, the operation of adjunction (Pair Merge) is applied in a counter-cyclic way.

(7) Late Adjunction Hypothesis

Any adjunction must take place after all applications of substitution Merge have applied.

(Stepanov 2007: 110-112)

Now, we will see how Stepanov's analysis works taking a look at the examples in (8).

- (8) a. How/ ?With what did John fix
the car?
b. *What did John go to bed after
Peter fixed?

(Stepanov: 2007: 112-113)

In (8b), extracting wh-element *what* from the adjunct *after*-clause results in the ungrammaticality. As reviewed above, the operation of adjunction (Pair Merge) must be applied only after all applications of Substitution Merge complete. In short, this means that C head in the root clause is not accessible to the relevant wh-element due to the consequence that all applications of Substitution Merge are finished and the adjunct clause post-cyclically takes part in the derivation. It is, therefore, not possible to displace the wh-phrase out of the adjunct clause in (8b). As for the case in (8a), Stepanov argues that the optionality of Substitution Merge or Pair Merge for an adjunct depends on whether it has an uninterpretable wh-feature or not. While *how* and *with what* in (8a) have uninterpretable wh-features, *after* in (8b) does not have it. Accordingly, Substitution Merge is applied to *how* and *with what* in (8a) and they can be cyclically taken into the derivation. As a result, they can be accessed by C head in the main clause and displaceable to the specifier of CP. To sum up, Stepanov's approach can nicely account for Adjunct Condition by postulating LAH in (7) since it forces an adjunct which does not have an uninterpretable wh-feature to join in a derivation counter-cyclically. However, there are some theoretical and empirical issues for his analysis, too. His analysis needs to assume there is an uninterpretable wh-feature available in the case where movement out of the clause is possible, but it is not the case for the one

where displacement cannot occur. In the theoretical perspective, it is not obvious how to reflect the existence of the relevant uninterpretable feature on the label of an adjunct. Even if a certain mechanism ensures the way, the conceptual ground still remains opaque. Furthermore, under LAH, it is not possible to cover the cases in (2) where extraction out of adjunct clauses is allowed. In (2), the related adjunct constructions must counter-cyclically take part in their derivations because it is quite unlikely to make an assumption that the participial constructions have uninterpretable wh-features. This leads us to expect that it is impossible to move an element out of the adjunct construction, but this prediction is clearly wrong. Bearing these issues in mind, we will see a novel approach presented in this paper next section.

3. Proposals

3.1. Inner Structure of Finite Adjuncts

In this section, we assert that there are two types of finite adjuncts employing Haegeman (2006). One is Central Adverbial Clause give in (9) and the other is Peripheral Adverbial Clause shown in (10). The former has a modifying function to the events represented in a main clause. In other words, it works as a relation of cause and effect. It does not have an independent ForceP, so that it depends on its root clauses. On the other hand, the latter provides background information or evidence of assertion in a main clause. Therefore, it has an independent ForceP.

- (9) Central Adverbial Clause:

It contains a function of
modifying events/states of affairs
expressed in the main clause and

has no illocutionary force in its own structure.

(10) Peripheral Adverbial Clause:

It expresses an independent proposition that serves as the immediate discourse background to the associated clause and possesses its own illocutionary force independent from the main clause.

(Haegeman 2006: 29 -36)

The specific examples are exhibited in

(11). Let us observe their characteristics below.

- (11) a. If your back-supporting muscles tire, you will be at increased risk of lower-back pain.
- b. If we are so short of teachers ('Jobs crisis grows as new term looms', August 30), why don't we send our children to Germany to be educated?

(Haegeman 2006: 29)

In (11a), the finite adjunct clause modifies its main clause and expresses the causal linkage. This type of the finite adjunct is called Central Adverbial Clause. In (11b), on the other hand, the finite adjunct clause indicates the background or the basis for the utterance in the root clause. This kind of the finite adjunct is regarded as Peripheral Adverbial Clause. These are distinct differences between these adjunct clauses. Firstly, we will see distribution of a high adverb *frankly* in (12).

- (12) a. [A referendum on a united Ireland]...will be a good thing, because frankly they need to be taken down a peg and come down to earth and be a little bit more sober in their

approach to things.

- b.* I didn't drop the class because frankly I didn't like it, I dropped it because it was too expensive.

(Haegeman 2006: 32)

The high adverb *frankly* which is associated with an illocutionary act and assumed to adjoin to a CP layer can appear in the Peripheral Adverbial Clause in (12a) but it is not the case for Central Adverbial Clause in (12b). Secondly, an imperative form can be utilized in the Peripheral Adverbial Clause in (13).

- (13) The students should have enough money, although remember we are expecting a drop in the department funding.

(Haegeman 2006: 32)

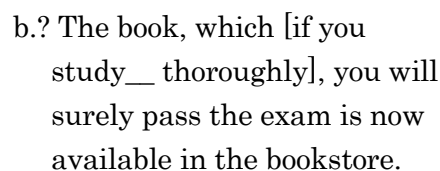
From the above, we may conclude that there is syntactic distinctness between Central and Peripheral Adverbial Clauses. The difference can be summarized as below.

- (14) a. Central Adverbial Clause:
Sub Mod* Fin
- b. Peripheral Adverbial Clause:
Sub Force Top* Focus Mod* Fin

What is most crucial is that there is a projection of Force in Peripheral Adverbial Clause but not in Central Adverbial Clause. Once we look back at the data in (1), we come to realize that they are all classified into the cases of Central Adverbial Clause. Then, we assume they do not have ForceP in their finite adjunct clauses. In addition, we also suppose that CP and vP are phases and they respectively inherit various features to the lower heads T and V following Chomsky (2000, 2004, 2008). In this paper, we consider the highest projection ForceP in the articulated CP

it is allowed to displace some elements from Peripheral Adverbial Clause because they have the driving force. Interestingly, this prediction is proved to be correct by following examples.

- (17) a. Mike Daisey. His one-man show about Apple is going back on stage this month in New York at the Public Theater. The full show has this entire other story line about Steve Jobs [that you will have to buy a theater ticket [if you want to hear ____]].



(<http://arnoldzwicky.org/2012/01/26/extraction-from-adverbial-subordinate-clause/>)

In (17), both two examples are classified into Peripheral Adverbial Clauses based on the definition in (10) and a syntactic test (that is, tag question (see Haegeman 2006)). Both cases show it is possible to extract some items from the finite adjunct clauses. Under the proposals in this paper, these examples can be elucidated.

(16) Phase Impenetrability Condition

We have viewed the trigger of making differences of grammaticality on extraction out of the finite adjunct clauses in the last section. In this section, we will deal with the non-finite adjunct clauses which are acquitted of Adjunct Condition. We will start with investigating their inner structures.

(18) a. John hugged Mary [(in order)
to make himself happier].

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- to make herself happier].

(Truswell 2007b: 190)

Condition A test is applied in (18) and the result leads us to understand that the subjects in the main clauses can be antecedents of reflexive pronouns but the objects cannot.

- (19) a. * John hugged Mary [(in order)
to make him happier].

- b. John hugged Mary [(in order) to make her happier].

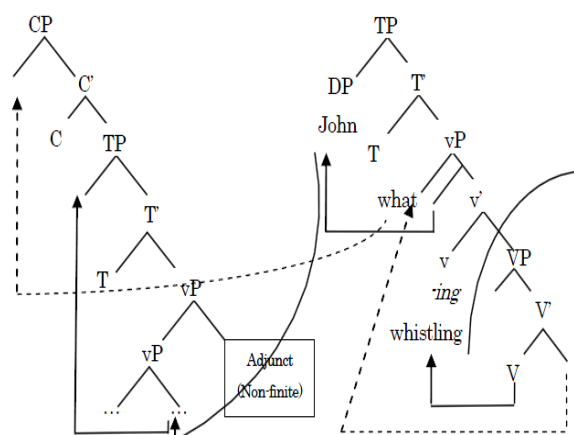
(Truswell 2007b: 191)

Condition B test is implemented in (19) and the consequence shows that the subjects in the main clause cannot be antecedents of pronouns while the objects can. It seems to be safe to suggest that non-finite adjuncts adjoin to vP which is out of the c-command domain of a object in a main clause. Moreover, (20) also supports this suggestion.

- (20) John dove from the cliff [(in order) to impress Mary], then Fred did [(in order) to get away from her]. (Jones 1991: 62)

In (20), VP deletion is applied in the subsequent clause, but the non-finite adjunct is not elided. For this reason, the non-finite adjunct seems to adjoin to vP. Now, we will check the inner structure and adjunction position of a non-finite adjunct referring to a concrete example and its derivational illustration in (21).

- (21) What_i did John arrive [whistling
t_i] ? (= (3a))



The non-finite adjunct clause headed by *whistling* adjoins to vP in the root clause based on the assumption made above. Following Hornstein (2001), and Nunes (2001, 2004), we suppose that the main clause and the adjunct clause are assembled in parallel. The subject *John* in the adjunct clause is base-generated in the outer spec of vP and displaced from its base position to the specifier of TP because of EPP feature lying on T head. Note that the nominative case is not assigned to the subject *John* in this position since the adjunct clause does not have CP layer. As a result, a phi-feature is not inherited to T head. The subject *John* obtains the nominative case only after applying the operation of Sideward Movement to it and reaching the specifier of TP in the root clause. All copies of the subject *John* except for the highest one are deleted. As for the wh-phrase *what*, it is moved out of the base position due to the edge feature placing on v head and it is located in the inner spec of vP in the adjunct clause. Importantly, this position is accessible from C head in the main clause because the adjunct clause does not have CP layer. That is, it is a non-phase TP, and for this reason, extraction of the wh-phrase *what* is legitimate. Thus, wh-phrase *what* is accessed by C head and moves up to the

specifier of CP thanks to the edge feature sitting on C head.

4. Conclusion

We have challenged to solve the mystery of the grammatical contrast between the finite adjuncts and the non-finite adjuncts on extraction throughout this paper. An edge feature lying on Force head could be a factor of making such a grammatical difference. Needless to say, there still remain some complexities to solve especially in the non-finite adjuncts. I set them aside for the future work.

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ラベルについて
(On Label)

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Keywords: Labeling Algorithm, endocentricity,
label-free mechanism of linearization, partial
wh-movement in German, Full Interpretation

1. Introduction

The three studies are brought together in the name of “Raberu nitsuite (On Label)” with an aim to bring new insight into the nature of labels and related issues.

2. On the Necessity of Labeling in Narrow Syntax
(Nobu Goto)

In this talk, taking seriously Chomsky’s (2013) conservative approach to the necessity of labeling – “all SOs that reach the interfaces must be labeled,” I have considered how syntactic objects (SOs) in *there*-constructions are labeled to satisfy the general principle. First, I have identified some potential problems of labeling in *there*-constructions that remain unclear under Epstein, Kitahara, and Seely’s (2014) labeling analysis of Merge-over-Move, and then argued that they are resolved by interaction of Chomsky’s (2014) labeling theory and Abe’s (to appear) Move-approach to *there*-constructions. I have shown that our labeling analysis of *there*-constructions can not only overcome the theoretical worries but also make the correct empirical predictions about the distribution of the expletive *there* and the associate. As a consequence of the

proposal, I have considered two specific empirical puzzles that have resisted a satisfactory explanation in the literature on *there*-constructions: Lasnik’s (1995) minimal pair and Takano’s (1998) ECM paradigm. Maintaining much of the spirit of the minimalist program, I have demonstrated that they can be unified under the labeling theory.

3. Symmetric Syntax, Asymmetric Linearization
(Hiroki Narita)

It has been customarily stipulated that every linguistic phrase is “endocentric,” i.e., analyzable as a “projection” of a single designated lexical item (LI), called the “head.” However, Chomsky (2013), Narita (2014) and Narita and Fukui (2014) argue that this “universal endocentricity” stipulation has lost its ground in the contemporary theory of Merge-based syntax without X-bar theory (i.e., projection-free syntax). They specifically argue that structures of the form {XP, YP}, where XP and YP represent two phrases, fail to define their head LIs and hence they qualify as “exocentric.” Building on this move, this talk will cast doubt on the dominant assumption, shared by traditional directionality-parameter, various versions of Kayne’s (1994) antisymmetry, Fukui and Takano’s (1998) theory of Demerge, etc., that every application of linearization makes recourse to endocentricity (labeled input). An alternative, label-free mechanism of linearization is proposed for exocentric {XP, YP} structures, which takes the cyclicity of phase-by-phase derivation as its necessary component (extending and refining Narita’s (2014) theory of linearization).

4. Labeled vs. Unlabeled Syntactic Objects
(Miki Obata)

Chomsky (2013, 2014) argue that syntactic objects (SO) need to be labeled to get interpreted at the interfaces. This presentation considers whether labels are required equally at the CI interface and at

the SM interface and also examines whether unlabeled SO are all excluded at the interfaces.

Under Chomsky's Labeling Algorithm, there are two ways to label {XP, YP}: [1] modify SO (by raising either XP or YP) so that there is only one visible or [2] X and Y are identical in a relevant respect, providing the same label, which can be taken as the label of the SO (Chomsky 2013). Considering successive cyclic *wh*-movement in English, intermediate landing sites can be labeled as CP by [1] while the final landing site can be labeled as QP by [2]. However, partial *wh*-movement in German throws doubt on [1] and [2]: *Was glaubt [TP Hans [CP mit wem [TP Jakob jetzt _ spricht]]]? 'WHAT does Hans think with whom Jakob is now talking?'* (McDaniel 1989) In this sentence, the *wh*-interrogative *mit wem* (PP) moves to the intermediate Spec-CP and stays there. The *wh*-expletive *was* is inserted into the matrix Spec-CP. Note that the intermediate C(P) is [-Q] since it is selected by the verb *think*. In other words, there is no shared feature between C and the *wh*-interrogative *mit wem*. Neither [1] nor [2] can label {PP, CP}.

With respect to this problem, I propose: if certain syntactic objects are not interpreted at the CI interface (i.e. no violation of Full Interpretation), labels are not required. (See also Epstein et al. 2014) In the above case, the *wh*-phrase is not interpreted at the intermediate landing site since C is [-Q]. That is, {PP, CP} does not need to be labeled. I also propose that the phonological component can detect and linearize representations based on the history of *Merge* (Epstein, 1999), so that unlabeled syntactic objects are not excluded at the SM interface.

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英語の史的統語変化とその中核：
生成文法理論の視点から
(The Locus of Historical Syntactic
Changes in English: From the
Perspective of Generative Grammar)

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キーワード：英語史、統語変化、パラメ
ー、再分析、素性構成

0. はじめに

言語間の統語的差異をパラメターの値の違いに帰す生成文法の枠組みでは、英語の史的統語変化は各時代の英語間の統語的差異だと考えられる。Roberts (2007)は再分析を「機能範疇の素性構成の変化」と定義し、これがパラメター変化の表れのひとつだと主張している。本ワークショップでは、ある統語範疇の素性構成の違いを言語間の統語的差異や史的統語変化とする観点から、英語史に見られるいくつかの構文の変化の中核を探り、現代語と通言語的研究との有機的融合を目指した。

1. 他動詞虚辞構文の通時的発達・パラ

メター変化の観点から (本多尚子)

現代英語(PE)では (1)の他動詞虚辞構文(TEC)は原則許されない(田中(2010: 84))。

(1) * There someone ate an apple.

他方英語では、中英語(ME)期半ばから初期近代英語期(EModE)初頭まで TEC の例が観察される。TEC が現代アイスランド語でも許されるため、当該時期の英語の TEC は現代アイスランド語のそれと同じ仕組みの派生が仮定されている。もしそうならば、英語の TEC で現代アイスランド語のそれと全く同じ性質が予測されるが、実際には、英語の TEC は否定の文脈を好み、現代アイスランド語よりも厳しい制限を持つ。

本発表では、この制限の違いを捉え、英語の TEC の発達過程を明示化・説明した。具体的には、現代アイスランド語と異なり、その出現には、there 構文への Neg- v^* -V 複合主要部の導入、その消失には、 v^* -to-Neg パラメター変化が関わったと主張した。特に、本分析では、再分析及びパラメター変化に関する Roberts (2007)の考えに基づき、 v^* -to-Neg パラメター変化は実質的には機能範疇 Neg が Grewendorf & Sabel (1999)により仮定される scrambling 素性を持つことを止めたという再分析の結果であると提案した。

2. A Feature-Based Analysis of Paratactic Negation in the History of English(宋蔚)

本発表では、歴史コーパスを用いた独自の調査に基づき、Jespersen's cycle の Stage Two *ne* との比較分析を行うことで、反意述語における並列否定の歴史的変遷について、理論的説明を試みた。

主張をまとめると、*ne* を伴う反意述語における並列否定は英語の歴史における否定一致現象であり、認可の仕組みは Song (2013)に主張された Jespersen's cycle の Stage Two *ne* の仕組みと類似している。

Chomsky (2000, 2001)の枠組みにおいて、否定辞が持つ[i-Neg]素性と[u-Foc]素性は *ne* が持つ[u-Neg]素性と[i-Foc]素性と一致し、否定の意味を生み出す。異なる点としては、Jespersen's cycle の Stage Two においては、否定辞は *not* であるが、並列否定においては、否定辞は反意述語に含まれる否定演算子であるという点である。並列否定の消失は[u-Neg]素性を持つ Stage Two *ne* の消失と同時期であり、Stage Two *ne* が消失したことにより消失した。*Not* が *ne* の代わりに並列否定に現れない理由は、*ne* が[u-Neg]素性と[i-Foc]素性を持つ一方、*not* がその反対の[i-Neg]素性と[u-Foc]素性を持つからである。意味解釈上の傾向によって起こりやすい並列否定は Stage Two *ne* より 200 年ほど早く出現し、Jespersen's cycle を Stage Two へ進ませたと考える。

3. 英語史における *pP* フェイズの発達 - 前置詞残留を中心に (松元洋介)

PE で広く容認される前置詞残留は、他のゲルマン諸語では厳しく制限される。一方、前置詞残留は古英語(OE)において限定的に容認されていたが、ME 期に PE と同じ容認性を獲得した。本発表の主張は、1)前置詞残留の容認性に関する通言語的差異は PP の構造の違いに起因し、2)英語史における前置詞残留の容認性の変化は PP の構造変化によるということの 2 点である。

ゲルマン諸語で一般的に前置詞残留が許されないのは、PP からの要素の抜出により P とその補部の相対語順の情報が変更され(P-Obj.→Obj.-P)、その結果循環線形化(Fox and Pesetsky (2005))の制約に違反するためである。ここで反局所制約(Abels (2003))により[Spec, PP]への移動は禁止される。OE の前置詞残留の容認性の低さも同様に説明される。OE において P は補部に与格を付与していたが、ME になると対格を付

与するようになった。これにより前置詞句の内部構造も単層の PP 構造から、*vP* と同様に階層的な *pP* 構造へと変化した([_{PP} P NP]→[_{pP} *p* [_{PP} P NP]])。 *pP* から要素が移動する際、その端([Spec, *pP*])に立ち寄った後に語順の情報は確定するので、以後の派生で語順の情報の矛盾は発生しない。つまり、*pP* 構造に変化したことで ME 以降前置詞残留の使用は拡大した。

4. 英語疑似空所化の史的統語変化

(山村崇斗)

助動詞と VP 内要素が省略を免れ残余となる疑似空所化(PSG: John bought more books than Bill did magazines.)では、VP 省略の適用範囲外への要素の移動が論点のひとつとなっている。PSG は PE だけでなく OE 期から観察されてきた(Warner (1993))。本発表では、英語助動詞は OE 期からずっと(1)のように *v* に生成され、要素の移動が *vP*¹ への付加だと仮定した。

(1) [_{VP1} MODAL-*v* [_{VP2} -*an* [_{RootP} Root OBJ]]]

Pintzuk and Taylor (2006)の「OE・ME では基底語順を OV/VO とする両文法が競合し、O が肯定表現の時、基底 OV から表層 VO を得る右方移動、否定表現では基底 VO から表層 OV を得る左方移動の可能性がある」という主張に基づき、OE・ME の PSG を統語分析した。PE では基底語順でも表層語順でも VO で、表層 OV が無いため、右方移動のみの統語分析を要する。*vP* への左方移動が可能な文法から不可能な文法への変化は、Chomsky (2013)の Labeling Algorithm に基づき、*v* の Focus 素性の消失によって説明した。Focus 素性を持つ残余要素は *vP* と内併合するが、*v* が Focus 素性を持つ場合、Focus 素性によってラベル付けされ *vP* の左側に現れるが、*v* が Focus 素性を失うと *vP* の左側を着地点として利用できなくなった。

Case and Agreement Revisited: Why do Unvalued Features Exist?

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Yukino Kobayashi (Tsukuba University of Technology)

Keywords: minimalist syntax, unvalued features, phi-agreement, structural Case, morphological case, phase, set-Merge, pair-Merge, labeling by minimal search

1. Introduction

In the early stage of minimalist theorizing, the presence of unvalued features was recognized as a serious problem, and why they exist became one of the core minimalist questions. To answer this question, the minimalist program pursued an intuition that they are implemented for movement, where movement is, by hypothesis, required to satisfy Full Interpretation, and this pursuit substantiated the view that movement is carried out in the interest of valuing those features. One recent development in minimalist theory, however, is that Merge, formulated in the simplest form, applies freely as long as it conforms to third factor principles such as the no-tampering condition and the condition of inclusiveness. It is not “purposeful” in the sense of early minimalism; Merge is no longer driven by convergence conditions (e.g. the valuation of phi or Case features). With this (seemingly paradoxical) background, in this workshop, we address, once again, why unvalued features such as Case on N or phi on T exist. Drawing data from

languages such as English and Japanese, we discuss various issues related to those unvalued features.

2. On the role of unvalued features (Hisatsugu Kitahara)

Kitahara begins with a mini tutorial on some historical developments concerning the role of unvalued features in minimalist inquiries. He then points out that Chomsky's (2013) valuation-based analysis of labeling is inconsistent with Chomsky's (2008) probe-goal analysis of valuation, in which the unvalued features postulated to implement *wh*-movement (e.g., [uQ], [uWh], see Chomsky 2000) are eliminated. One possible way out of this problem, Kitahara suggests, is to extend Chomsky's (2013) “invisibility” analysis to the complement domain of the phase-head. Assuming γ to be in domain D if and only if every occurrence of γ is a term of D, minimal search won't be able to “see” a lower copy of the *wh*-expression (bearing unvalued Q) inside the complement domain of the phase-head. The interpretation of the *wh*-expression is in effect postponed until the highest copy of the *wh*-expression gets transferred.

3. Unvalued features and phase domains (Masashi Nomura)

Nomura discusses an operation called pair-Merge, which is introduced in Chomsky (2004, 2014). Observing that v^* becomes invisible to the labeling algorithm when pair-Merge [R- v^*] applies, Nomura proposes that even if something pair-Merged has an unvalued feature it becomes invisible and that at CI level, only things that are set-Merged check the feature valuation. Therefore, if pair-Merge applies prior to inheritance, uninterpretable phi-features will remain unvalued but do not cause the derivation to crash because it is invisible at CI. This assumption explains how unvalued features of unergative verbs and bridge verbs can be discharged. He then

suggests that this mechanism can be applicable to how Case-valuation takes place in Japanese complex predicates, some of which contain more than one v^* , only one of which has to be in charge of valuing Case. If operations ought to apply freely, there is a possibility that pair-Merge applies prior to set-Merge. He suspects that a derived sentence in such a way is an instance of unaccusative/passive constructions. Thus, visibility of unvalued (ϕ -)features is crucially related to phase domains. Namely, we need not assume “weak phase” to explain all the above cases and (free application of) pair-Merge delineates phase domains.

4. Morphological case and phase theory (Yukino Kobayashi)

Kobayashi talks on Case/case within phase theory. Based on the recent approach of free Merge, Kobayashi proposes a case valuation system in the morphological component and argues that valuation of unvalued case features is required from the SM system, in order to encode structural relations that are made by Merge in Narrow Syntax but are lost when they are externalized/linearized. Taking the same line with the hierarchically ordered case marking systems (Marantz 1991 among others), Kobayashi proposes a three-way case valuation system for Japanese, consisting of a lexically determined case and two types of spell-out domain dependent cases, and demonstrates that the proposed system can capture Nominative Genitive Conversion in a straightforward manner. Adding an Agree-type case valuation to these three case valuation types, Kobayashi suggests that four types of case valuation are allowed in principle, and notes that the proposed system predicts that a single language may at once have both an Agree-type case valuation and an Agree-free case valuation, in addition to a lexically determined case, which is observed in languages such as Sakha (Baker and Vinokurova 2010).

5. Summary

The proposals, presented in this workshop, give us new insights concerning why unvalued features such as Case on N or ϕ on T exist, which in turn lead us to new directions for further investigation.

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Clauses on the Move: A Historical-Contrastive Approach to English and German

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Keywords: shell noun constructions, insubordination, purpose clauses, clause constructions and change

1. Introduction

This research project began with some naïve questions: how (re)capturing grammar in a data-oriented framework gains a new understanding of linguistic structures. As summarized in Laury, Etelämäki and Couper-Kuhlen (2014), i.e. a special issue of *Pragmatics: Approaches to Grammar for Interactional Linguistics*, what attracts the attention of linguists is how actual data can serve as a guide to specifications of one linguistic theory or another. In fact, Laury et al. (2014) include a variety of case studies that draw practical conclusions from the perspectives of Discourse-Functional Grammar, Cognitive Grammar, Construction Grammar, Emergent Grammar and Online Syntax, and Social Action Formats, all of which can be considered as the outcomes of research collaboration.

In the nature of the research trend, however, the majority of relevant research outcomes are synchronic-oriented. In addition, any useful ideas to make their ways over to the generative side are not mentioned in Laury et al. (2014).

In view of the present situation, the following

papers on clause constructions will bring corroborative evidence for what Laury et al. (2014) demonstrate in their volume.

- (1) Paper 1: “The discourse-based development of shell nouns constructions in English: The case of *the problem is (that)* and *that’s the problem*” (Reijirou Shibasaki)
- (2) Paper 2: “Discourse functions of shell noun constructions in German: With a focus on *das Problem ist, (dass)* and *das ist das Problem*” (Hitomi Otsuka)
- (3) Paper 3: “The diachrony of insubordinate *because*-clauses and their discourse functions” (Yuko Higashiizumi)
- (4) Paper 4: “The diachrony of *so that* and the CP cycle” (Jerzy Nykiel)

2. Papers 1 & 2

Shibasaki and Otsuka make contrastive investigations into the so-called ‘shell noun’ constructions (SN constructions) with special reference to *the problem is (that)* in American English and *das Problem ist, (dass)* in German, mainly in the twentieth century. In the constructions, both *problem* and *Problem* provide shells for the immediately following clauses that express complex and elaborate chunks of information, which is called ‘shell contents’ (Schmid 2000: 7). In other words, these SN constructions can appear only in front of the corresponding shell content clauses.

While these constructions show some discourse-functional similarities to each other, there are some differences as well. For example, the so-called ‘double IS’ constructions (or ‘reduplicative copula’ or ‘2-B’ constructions), i.e., *the problem is is, ...*, can be attested in American English but not in German. In addition, a new merger construction i.e., *that’s the problem is that*, a type of ‘apo koinou’ construction, is attested

only in American English. In other words, American English changes at a faster rate than German, with respect to the emergence of constructional variations.

3. Paper 3

Higashiizumi investigates the position in which *because*-clauses appear in relation to their reference clause in the history of English. Recent empirical studies of Present-day English have shown that utterances or turns start with the causal connective *because* (and the variants *'cause*, *cos*, *cuz*, etc.) in spoken conversation, which serves to provide “a reason for something that precedes it, rather than for something that follows it” (Couper-Kuhlen 2011: section 2); such *because*-clauses can be counted as ‘insubordination.’

Higashiizumi (2014) examined *because*-clauses in the British English data taken from *ARCHER 3.1* and illustrated that there are some examples of insubordinate *because*-clauses at the start of a turn in the conversation segments of ‘drama’ and ‘fiction’ and in the ‘letter’ in Modern English. Building on the survey result, she analyzes the data collected from *the Corpus of English Dialogue* to further explore the discourse functions of insubordinate *because*-clauses.

4. Paper 4

Nykiel delves into the diachrony of *so that* from both generative and functional perspectives. *So (that)*, unlike any other form of the same function, has been present in English since its written beginnings. Already in Old English *so that* is a primary purpose subordinator that far outnumbers prepositional purpose subordinators. What seems to have been characteristic of *so that* all along is a series of modifications to its form: *þæt*, *þæt þe*, *þætte*, or *swa þæt(te)* in Old English and mostly *so that* and *that* in Middle English. In

Present-day English *so that* is used side by side with *so* as a purpose subordinator.

The survey results tell us that the variation in the form of *so that*, from Old through Present-day English, follows from grammaticalization and the economy principle known as the *Head Preference Principle* as postulated by van Gelderen (2004, 2011). Following Nykiel (2014), the paper invokes functionalist mechanisms of grammaticalization in order to show that they can be combined with the formalist ones resulting in a wider picture of the grammaticalization cycle of *so that*.

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On the Phasehood of CP and Other Projections

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Keywords: *wh*-subject, Phase-Impenetrability
Condition, antilocality, head movement,
quotative inversion

1. Introduction

This workshop explored the architecture of clausal projections, focusing on their labeling and (non-)phasehood through the recursive application of free Merge as well as their legibility at the interfaces.

2. Phases, Labeling and *Wh*-Movement of the Subject (Manabu Mizuguchi)

This paper argued that simplest Merge deduces the Vacuous Movement Hypothesis for subject *wh*-movement, in which a subject *wh*-phrase is internally merged only with CP.

(1) $[_{CP} \text{ who } [C \ [_{\lambda} T \ [_{v^*P} \langle \text{who} \rangle \ [_{v^*} \ [_{VP} \] \dots]]]$

CP in (1) is built up without tampering the existing structures or violating interface conditions like Full Interpretation (FI). Empirical supports come from scope relations of the subject in (2) as well as anti-agreement in Kinande, XP merger in Yiddish, and quantifier float in West Ulster variety of English.

(2) a. Who loves everyone? ($wh > \mathbf{V}$; $*\mathbf{V} > wh$)

b. Someone likes everyone. ($\mathbf{\exists} > \mathbf{V}$; $\mathbf{V} > \mathbf{\exists}$)

A-properties of the subject in Spec,CP are deducible if ϕ -features are assumed to climb up from non-phasal T onto phasal C, which makes λ in (1) labeled as T(P). In long-distance subject *wh*-movement like (3):

(3) *Who do you think that [λ $\langle \text{who} \rangle$ left]?

the overt complementizer prevents ϕ -features from climbing onto C, with the result that λ is left unlabeled for the weakness of English T, violating FI. The absence of *that*-trace effects in Italian and other languages is expected given that their T with ϕ -features is strong enough to serve as a label.

3. On Extraction from Clausal and Other Complements Functioning as Phases (Željko Bošković)

This paper proposed to extend the complex NP constraint to a more general ban on extraction out of complements of Ns, As, Ps, and ergative/passive Vs as exemplified in (4a,b).

(4) a. *How did you hear [$_{?} t_i$ [$_{NP}$ rumors

$[_{?} t_i$ [$_{CP}$ that John bought a house t_i]]]]

b. *How did it [$_{?} t_i$ [$_{VP}$ appeal to Mary

$[_{?} t_i$ [$_{CP}$ that John fixed the car t_i]]]]

The generalized complex XP constraint is argued to follow from a version of the Phase-Impenetrability Condition that allows extraction of a phasal complement but not its constituents as well as antilocality that requires movement to cross at least one labeled projection. Under the assumption that the highest extended projections of thematic as well as the highest projections of functional domains constitute phases, (4a,b) involve movement into the embedded CP, which is a case of merging non-heads and thus produces an unlabeled projection (represented as ?).

The next phase is the projection headed by *rumor/appeal*, but this movement does not cross a

labeled projection, violating antilocality.

As for deep extraction from complex VPs headed by unergative Vs such as (5), vP above VP is a phase.

- (5) How did you [_? t_i [_{VP} [_{VP} think [_? t_i [_{CP} that a dog bit John t_i]]]]]

The movement from embedded CP to the matrix vP crosses a labeled projection, VP; hence, no violation of antilocality arises, in contrast to (4b) with an ergative verb.

4. Internal Head Merger and Upward Feature Sharing (Miyoko Yasui)

As an alternative to the analysis of adjoining a head to an existing higher head, this paper argued that internal head merger proceeds as in (6) in parallel to a sequence of external mergers as in (7).

- (6) a. [_{VP} [_V are] flying]]
 b. [_{TP} [_T are][_{VP} young eagles ⟨are⟩ [_{VP} ⟨are⟩ flying]]]
 c. [_{CP} [_C are][_{TP} young eagles ⟨are⟩ [_{VP} ⟨young eagles⟩ ⟨are⟩ [_{VP} ⟨are⟩ flying]]]]]
 (7) a. [_{VP} [_V be] flying]
 b. [_{TP} [_T will][_{VP} young eagles [_V be] [_{VP} ⟨be⟩ flying]]]
 c. [_{CP} [_C if][_{TP} young eagles [_T will] [_{VP} ⟨young eagles⟩ [_V be][_{VP} ⟨be⟩ flying]]]]]

In (6), distinct uninterpretable features of *are* become interpretable by its iterative mergers with an appropriate syntactic object, whereby the resultant structures get properly labeled, just as distinct lexical items extend and label the structures with their inherent features in (7).

Many of the problematic aspects of head movement under its traditional conception disappear straightforwardly: the Extension Condition is not violated; and the moving head is identical to its host by definition. The proposal supports the upward feature sharing in building

up CP.

5. Quotative Inversion in Indonesian and English (Kazuhide Chonan)

Ber- and *meN-* in Indonesian can be analyzed as light verbs prefixed on unergative and transitive roots, respectively. This paper observed that the prefixes are disallowed in contexts such as Quotative Inversion (8b), *wh*-subject (9b), and imperative (10).

- (8) a. John **Ø/ber-*kata, “Terima kasih.”

John √SAY thank you

- b. “Terima kasih.” *Ø/*ber-*kata John.

‘John said “Thank you.”’

- (9) a. John *mem-*beli apa?

John √BUY what

‘What did John buy?’

- b. *Siapa *mem-*beli buku?

who √BUY book

‘Who bought a book?’

- (10) *Ø/*Mem-*baca buku itu! ‘Read the book!’

√READ book the

It can be said that Indonesian prefixed verbs cannot move to a position higher than T. More generally, a verbal root cannot bear more than one V-related uninterpretable feature to build up CP and other projections above TP via its iterative internal mergers, unlike *are* in (6). The difference could be attributed to a morphophonological interface condition that bans double prefixation in Indonesian and its absence in English.

6. Concluding Remarks

Given Chomsky’s current theory of phases, the analyses of deep extraction out of complements and other data proposed in this workshop turned out to suggest the validity of more dynamic views on clausal projections in the computational system.

< Workshop Report >

相互行為における日英語比較研究：言語実践の分析を中心に

(A Comparative Study of Japanese and English Interactions: Analyzing Language Practices)

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キーワード：会話開始部分、不同意表現、方向指示詞、コンテキスト

0. はじめに

言語実践活動にみられる様々な現象を、日英語母語話者による、同一条件下で取られ映像・文字化されたコーパスデータ（以下ミスター・オー・コーパス¹から分析する。データはタスク（課題達成相互行為）、ナラティブ（語り）、自由会話、の3部構成からなっている。本発表では、既存の理論を基盤に成り立つ言語の普遍性を追究するのではなく、言語実践にみられる現象を以下の4つの観点から比較・考察し言語個別の相違に着目した。各タイトル後の（）内はミスター・オー・コーパスのデータ種類を示す。

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1. 日英語会話開始部分における相互行為の開始と会話進行(自由会話)

会話開始部分において会話はどのように開始し進行されるのか、また先生－学生関係が進行にどのように影響するのかを分析した。英語会話では課題遂行が意識されていた。会話開始部分から主題への移行型は(1)自主的に話し出す、(2)相手の質問に答えて移行するの2つである。会話開始部分が無く即座に主題を話し出したり、また短い例が多い。時間配分や基準を満たしているか等、課題遂行について確認する発話がみられる。日本語会話では相手との関係構築が意識される。移行型は(1)、(2)、(3)相手に質問したのち自ら話し出すの3つである。先生と学生がほぼ同数の発話のやり取りをする。挨拶交換で会話を開始する例が半数である。会話開始者、進行役は両言語で先生が担うことが多いが、以下の差がある。英語会話では進行役は先生が担うことが多いが学生も行う。もしくは先生が一方向的に進行を取り決める。主題への移行は先生・学生両方が主導者となり得る。日本語会話では先生が進行役をして学生を導き、学生は先生に任せきりのことが多い。主題への移行は先生主導である。

2. タスクにおける日英語の不同意表現の仕方(タスク)

タスクを用いて日英語の不同意表現までに至る会話参与者同士のやりとりの長さに焦点を当てて分析を行った。先行研究では日英語共にCAに基づき2,3ターンのやりとりから不同意表現を観察しているが、本研究では日英語母語話者が同じように2,3ターンで不同意表現を表すのかを明らかにする目的で、今回はverbalな要素のみを観察した。その結果少なくとも本研究のデータでは、日本語母語話者の不同意表現の総数は英語母語話者の約1/3だったのに対し、不同意表現までに至るターン数は英語母語話者の約2倍であり、最高ターン数に至っ

ては約 5 倍という結果となった。また、直前に発せられた相手の意見に不同意を示す英語母語話者に対して、日本語母語話者は課題達成までに参与者同士で積み上げたプロセスに対して不同意が示される点を指摘し、両者の会話構築プロセスには大きな差があるため、そもそも不同意表現の定義が異なる可能性も見出した。以上のことから、日本語の不同意表現は英語と同じ様に 2,3 ターンのやりとりのみでは全てを説明することはできないと結論づけた。

3. 日英語における直示用法の指示詞表現：身体の動きから見られる認識の違い(タスク)

タスクを用いて日英語母語話者たちがカードに描かれたキャラクターをどの様に認識し、指示詞使用がされるのかを、指示詞と共に表れる話し手の手の動き (pointing) を考察した。英語母語話者はナラティブ視点でもって、カードの遠近を知覚し、一連の流れが flow のように pointing で表されていた。日本語母語話者もナラティブ視点での「コ」系と「ソ」系があり、指示詞の示す場所を点で以て pointing した。しかし、日本語母語話者にはキャラクター視点の「コ」系と「ア」系も見られた。「コ」系はナラティブ・キャラクターの両方の視点があつたが、聞き手あつての指示詞使用が「ソ」系と「ア」系には見られた。「ソ」系は話し手の直接話法に応答する形で用いられていたが、「ア」系はカードの中の聞き手に対して用いられた。日本語の指示詞使用はカードと実空間を刻々と変化する、状況をよりダイナミックに捉え、カード外の遥かなる向こう側を手の甲で pointing されていた。

4. 指示表現の選択とコンテキスト共有(自由会話)

日英語会話において、初めて指示される特定の第三者の主語が明示されない (日本語では主語が表れない、英語では代名詞を

指す) ことに着目し、非明示でもその指示対象が聞き手に伝わる要因として話し手と聞き手のコンテキスト共有を考えた。最初の指示で非明示的な表現が観察された組は、日本語では 13 組中 5 組、英語では 11 組中 1 組であった。非明示的な指示表現の指示対象としては、日本語では 3 例が「(話し手または聞き手と) 近いと考えられる異性」を指すものであった。英語では「両親」を指す指示表現“they”が 1 例のみ観察された。このように非明示的な表現でも聞き手にそれが誰を指すのかが伝わる要因として、日本語では関連のある語を用いて聞き手の背景にある情報を呼び起こされたという認知的プロセスに加え「何も言わない」ことによる指標性を利用し、参与者がコンテキストを共有することが考えられた。一方英語では明示的に表す場合がほとんどであり、例外的に見られた一例では、日本語にも見られたような認知的プロセスが観察された。

5. まとめ

4 名の各研究結果から、課題遂行までに見られる日英語の差を以下 2 点見出した。1 つ目は、課題遂行における人間関係の再構築の差である。ここでの人間関係の再構築とは、関係を維持しつつダイナミックに動くコンテキストの中で言語使用を行うことで関係構築し直すということを指す。英語では、人間関係の再構築よりも課題遂行に重きを置いているのに対し、日本語では課題遂行よりも人間関係の再構築に重きを置いているということが言える。2 つ目は、会話構築の差である。英語では、会話参与者は 1 つの課題を遂行する目的を持ち、それぞれ独立した個人が課題を遂行するという特徴があるのに対し、日本語では、会話参与者は先にお互いの関係を構築した上で課題を共に遂行するという特徴がある。

以上のように、同一のコーパスデータを使用した 4 人の分析結果から、このような日英語の根本概念が明らかになった。

[II]

**Seventh International Spring Forum
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Does Modern Chinese Allow Genitive Subjects?

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Keywords: case, Chinese, genitive, Japanese, subject

1. INTRODUCTION

Harada (1971) pointed out that Japanese allows genitive subjects. Maki et al. (2010) then point out that Mongolian, another Altaic language, also allows genitive subjects. Maki et al. (2008) and Maki and Bhutto (2013) show that non-Altaic languages such as Bengali and Urdu also allow genitive subjects. All these languages possess rich case markers, one of which is the genitive case marker. These facts indicate that Altaic and Indo-European languages allow genitives subjects, and at the same time, raise the question of whether languages surrounded by these two language families, which belong to a language family different from them, may also allow genitive subjects. The purpose of this paper is then to investigate whether Chinese, a language from the China-Tibetan language family, possess genitive subjects. This investigation has not been conducted, as Chinese does not have rich case markers. However, it has a morphological genitive/possessive marker *de* ‘of,’ although it does not have a morphological nominative case marker. We will then examine if Chinese allows genitive subjects marked with *de* in this paper.

The organization of this paper is as follows. Section 2 reviews the mechanisms of genitive subject licensing involved in Japanese and Mongolian as the background to the subsequent

sections. Section 3 provides data with genitive subjects in Chinese. Based on the newly found data, Section 4 discusses what they might suggest for the theory of (Chinese) syntax. Finally, Section 5 concludes this paper.

2. BACKGROUND

This section reviews the mechanisms of genitive subject licensing involved in Japanese and Mongolian. Harada (1971) discussed a nominative/genitive case marker alternation phenomenon in Modern Japanese (Japanese, hereafter), called the *ga/no* conversion, as illustrated in (1).

- (1) [Doyoobi-ni tamago-ga/-no yasui]
Saturday-on egg-Nom/-Gen cheap
mise-wa kono mise desu.
store-Top this store be
‘The store where eggs are cheap on
Saturdays is this store.’

Since his seminal work, the phenomenon has been investigated by many linguists, such as Miyagawa (1993, 2011, 2013), Watanabe (1996), Hiraiwa (2001), Ochi (2001, 2009), Harada (2002), and Maki and Uchibori (2008), among others.

Two major approaches have been proposed in terms of what licenses genitive subjects in Japanese: (i) the D-Licensing Approach by Miyagawa (1993), Maki and Uchibori (2008), and Miyagawa (2011), among others, and (ii) the Adnominal Form-Licensing Approach by Watanabe (1996) and Hiraiwa (2001), among others. In this paper, for the sake of discussion, we assume the conditions on genitive subject licensing in (2), which Maki et al. (2010) proposed for Mongolian.

- (2) *Conditions on Genitive Subject Licensing in Mongolian*
- A genitive subject must be c-commanded by a nominal feature, and
 - A genitive subject must be in a local

relationship with the adnominal form of the predicate. (Maki et al. (2010)) (2a) and (2b) are in a sense a mixture of the D-Licensing Approach and the Adnominal Form Licensing Approach in Japanese. Maki et al. (2010) reached the conditions in (2) based on the Mongolian examples in (3) and (4).

- (3) *öčügedür Ulaγan-u*
yesterday Ulaγan-Gen
qudaldun-abu-γsan/-čai* nom
buy-take-PAST.ADN/-PAST.CON book
‘the book which Ulaγan bought yesterday’
- (4) *öčügedür bi-ø Ulaγan-u*
yesterday I-Nom Ulaγan-Gen
qudaldun-abu-γsan /-čai* geγü
buy-take-PAST.ADN/-PAST.CON that
body-γsan nom
think-PAST.ADN book
‘the book which I thought [that Ulaγan bought *t*] yesterday’

In (3), the genitive subject is allowed only when the predicate is in the adnominal form. Note that the genitive subject is disallowed without a nominal head, as shown in (5).

- (5) *Öčügedür Ulaγan-ø/*-u* nom-ø
yesterday Ulaγan-Nom/-Gen book-Acc
qudaldun-abu-čai.
buy-take-PAST.CON
‘Ulaγan bought a book yesterday.’

In (4), the genitive subject is allowed in the embedded clause headed by the [-Q] COMP. Maki et al. (2010) call the genitive subject that appears in an embedded clause a “deep genitive” subject. The important point about (4) is the fact that the genitive subject is permitted only when the predicate in the embedded clause is in the adnominal form. These facts led Maki et al. (2010) to claim the two conditions in (2). In the following discussion, we will assume the conditions in (2) for Japanese, Mongolian, and Chinese.

3. DATA

Let us now consider Chinese data. Before examining whether it allows genitive subjects, it is worthwhile reviewing basic syntactic properties of Chinese. First, Chinese is an SVO language, as shown in (6), and an adverb such as *zuotian* ‘yesterday’ may follow or precede the subject, as shown in (7).

- (6) *Zhangsan mai-le zhe-ben shu.*
Zhangsan buy-ASP this-CL book
‘Zhangsan bought this book.’
- (7) a. *Zhangsan zuotian mai-le zhe-ben*
Zhangsan yesterday buy-ASP this-CL
shu.
book
‘Zhangsan bought this book yesterday.’
- b. *Zuotian Zhangsan mai-le zhe-ben*
yesterday Zhangsan buy-ASP this-CL
shu.
book

Second, in nominal expressions in Chinese, *de* ‘of’ marks the possessor of a given noun, as shown in (8).

- (8) *Zhangsan de shu*
Zhangsan DE book
‘Zhangsan’s book’

Third, in relative clauses in Chinese, *de* ‘of’ must appear between a head noun and the relative clause, as shown in (9).

- (9) *Zhangsan mai *(de) shu*
Zhangsan buy DE book
‘the book which Zhangsan bought’

Note that *de* ‘of’ does not appear after the subject of a simple sentence, as shown in (10).

- (10) **Zhangsan de mai-le zhe-ben shu.*
Zhangsan DE buy-ASP this-CL book
‘Zhangsan bought this book.’

Let us now examine whether Chinese allows genitive subjects.¹ The data in the *b*-examples in (11)–(14) show that relative clauses in Chinese actually allow genitive subjects. Note that in all these

examples, an adverb precedes the subject, which guarantees that the subject is within the relative clause rather than in DP SPEC. In (11), the relative head is a non-argument reason expression *liyou* ‘reason,’ in (12), it is a non-argument time expression *shijian* ‘time,’ in (13), it is a non-lexical expression *shi* ‘thing/fact,’ and in (14), it is an argument nominal expression *shu* ‘book.’

- (11) a. Zuotian Zhangsan mai na-ben shu
yesterday Zhangsan buy that-CL book
de liyou shi zhe-ge.
DE reason is this-CL
‘The reason why Zhangsan bought that
book yesterday is this.’
- b. Zuotian Zhangsan de mai na-ben
yesterday Zhangsan DE buy that-CL
shu de liyou shi zhe-ge.
book DE reason is this-CL
- (12) a. Zuotian huochē dào Běijīngzhàn
yesterday train arrive Beijing Station
de shíjiān shì 3 diǎn.
DE time is 3 o’clock
‘The time when the train arrived at
Beijing Station yesterday is 3 o’clock.’
- b. Zuotian huochē de dào
yesterday train DE arrive
Běijīngzhàn de shíjiān shì 3 diǎn.
Beijing Station DE time is 3 o’clock
- (13) a. Duiyú xīngqiliú Zhāngsān mǎi
on Saturday Zhangsan bought
zhè-ben shū de shì, dàjiā
this-CL book DE thing/fact everyone
jīngyǎ-le.
surprised-ASP
‘Everyone was surprised at the fact that
Zhangsan bought this book on
Saturday.’
- b. Duiyú xīngqiliú Zhāngsān de mǎi
on Saturday Zhangsan DE bought
zhè-ben shū de shì, dàjiā

this-CLbook DE thing/fact everyone
jīngyǎ-le.

surprised-ASP

- (14) a. Xīngqiliú Zhāngsān mǎi de shū
Saturday Zhangsan buy DE book
shì zhè-ben.
is this-CL
‘The book which Zhangsan bought on
Saturday is this.’
- b. Xīngqiliú Zhāngsān de mǎi de shū
Saturday Zhangsan DE buy DE book
shì zhè-ben.
is this-CL

Let us then examine whether deep genitive subjects are allowed in Chinese. Consider the examples in (15) and (16).

- (15) a. Lǐsì rénwéi [Zhāngsān mǎi] de shū
Lisi think Zhangsan buy DE book
shì zhè-ben.
is this-CL
‘The book which Lisi thinks that
Zhangsan bought is this.’
- b. Lǐsì rénwéi [Zhāngsān de mǎi] de
Lisi think Zhangsan DE buy DE
shū shì zhè-ben.
book is this-CL
- (16) a. Lǐsì shuō [Zhāngsān mǎi] de shū
Lisi say Zhangsan buy DE book
shì zhè-ben.
is this-CL
‘The book which Lisi said that
Zhangsan bought is this.’
- b. Lǐsì shuō [Zhāngsān de mǎi] de
Lisi say Zhangsan DE buy DE
shū shì zhè-ben.
book is this-CL

The *b*-examples in (15) and (16) are actually grammatical in Chinese. Therefore, Chinese allows deep genitive subjects, just like Mongolian.² Note that Japanese does not allow deep genitive subjects,

as shown in (17).

- (17) kinoo watashi-ga John-ga/*-no
 yesterday I-Nom John-Nom/-Gen
 katta to omotta hon
 bought that thought book
 ‘the book which I thought [that John bought
 t] yesterday’

4. DISCUSSION

The above section showed for the first time that Chinese allows genitive subjects. Let us then consider what the present study may suggest for the theory of (Chinese) grammar. First, if the present study is correct, not only Altaic and Indo-European languages, but also part of China-Tibetan languages, allow genitive subjects. It has been pointed out that Altaic languages such as Japanese (Harada (1971)), Mongolian (Maki et al. (2010)), Turkish (Kornfilt (2003)), and the Yanbian variety of Korean (Jin and Maki (2013)) allow genitive subjects. The examples from Turkish and the Yanbian variety of Korean are shown in (18) and (19), respectively.

- (18) a. [Ben-im aile-m-i
 I-Gen family-1.SG-Acc
 terket-**tiğ**-im] söylebti-si
 abandon-FN-1.SG rumor-CMPM
 ‘the rumor that I abandoned my family’
 (Kornfilt (2003, 69) slightly edited)
- b. [Ben aile-m-i
 I.Nom family-1.SG-Acc
 terket-**ti**-m] söylebti-si
 abandon-PAST-1.SG rumor-CMPM
 ‘the rumor that I abandoned my family’
 (Turkish)
 (Kornfilt (2003: 70) slightly edited)
- (19) [Zigum nae^(H)/nae^(L) ssun] gul-i
 now I.Nom/I.Gen wrote character-Nom
 boini?
 see
 ‘Can you see the character I wrote now?’

(Yanbian variety of Korean)

(Jin and Maki (2013))

Note that in (19), while NP^(H) has a high pitch accent, and is considered to appear in the nominative environment, NP^(L) has a low pitch accent, and is considered to appear in the genitive environment.

It has also been pointed out that some Indo-European languages such as Bengali (Maki et al. (2008)) and Urdu (Maki and Bhutto (2013)) allow genitive subjects, as illustrated in (20) and (21), respectively.

- (20) [Gor-e John-er por-a] boi-ti
 house-in John-Gen read-NML book-the
 mojar.
 interesting
 ‘The book which John read in the house is
 interesting.’
 (Bengali) (personal communication with
 Sikder Murshed)
- (21) [Kal John-ki khareedi-hui] kitab
 yesterday John-Gen bought-PERF book
 buhut dilchasp hai.
 very interesting be.PRES
 ‘The book which John bought yesterday is
 very interesting.’
 (Urdu) (Maki and Bhutto (2013))

From the viewpoint of geography, the areas where China-Tibetan languages are spoken are surrounded by the areas where Altaic and some Indo-European languages are spoken. This raises the interesting question of whether Chinese, an instance of China-Tibetan languages, may also allow genitive subjects, which are characteristic of Altaic languages and some Indo-European languages like Urdu. The present study provides an answer to this question. The answer is positive, which suggests an interesting view of the proto language family for Altaic, Indic, and China-Tibetan. At the present moment, the China-Tibetan family is completely independent of the other families, but this study may affect this

traditional idea, and opens up the way to reconsider the origin of the China-Tibetan family, which might constitute part of the proto language family including the three families.

Second, examples such as (11b), which has a transitive verb with an overt object, show that the Transitivity Restriction on genitive subjects, which prohibits co-occurrence of an accusative DP with a genitive subject (See Harada (1971), Miyagawa (1993), and Watanabe (1996)), is not operative in Chinese, unlike Japanese. (22) illustrates the Transitivity Restriction effect in Japanese.

- (22) [kinoo Taroo-ga/*-no hon-o
yesterday Taro-Nom/-Gen book-Acc
katta] mise
bought store
'the store where Taro bought a book
yesterday'
(Ochi (2009: 327), slightly edited)

One may, however, argue that Chinese does not have an overt accusative case marker, which makes the Transitivity Restriction lifted, as the example in (23) in Japanese is considered to be good.

- (23) [kinoo Taroo-ga/-no hon katta]
yesterday Taro-Nom/-Gen book bought
mise
store
'the store where Taro bought a book
yesterday'
(Ochi (2009: 328), slightly edited)

Ochi (2009: 335) suggests the possibility that without the accusative case marker, the object and the verb may constitute a unit, so that accusative Case checking is not involved in (23), which lifts the Transitivity Restriction. Interestingly enough, when the object is not a common noun, unit forming between the verb and the object without the accusative case marker is not successful, and the Transitivity Restriction effect shows up, as shown in (24).

- (24) [kinoo Taroo-ga/*-no Jiroo(-o)
yesterday Taro-Nom/-Gen Jiro-Acc
hometa] riyuu
praised reason
'the reason why Taro praised Jiro yesterday'

Let us now consider the Chinese counterpart of (24) shown in (25).

- (25) zuotian Zhangsan (de) biaoYang Lisi
yesterday Zhangsan DE praise Lisi
de liyou
DE reason
'the reason why Zhangsan praised Lisi
yesterday'

(25) is grammatical with the genitive subject, which indicates that the Transitivity Restriction is not observed in Chinese. Therefore, the fact that Chinese objects do not bear the morphological accusative case marker is not crucial to the Transitivity Restriction.

Third, the Chinese examples with genitive subjects raise the interesting question related to the validity of Hiraiwa's (2001) generalization shown in (26).

- (26) *The Nominative-Genitive Conversion
(NGC) Universal*
Nominative-Genitive Conversion is possible
only in a language L which employs the
C-T-V AGREE strategy in relativization;
consequently, NGC is not observed in the
languages which use overt wh-movement
strategy or overt complementizer strategy
in relative clause formation.
(Hiraiwa (2001: 113))

The central claim in (26) that a genitive subject is possible only in a language L which employs the C-T-V AGREE strategy in relativization, may be challenged by examples such as (11b) in Chinese. (11b) involves relativization. However, it is not clear that the C-T-V AGREE strategy is employed in this case. For the sake of discussion, let us consider the

two possibilities regarding the position of the invisible COMP in (11b), as shown in (27).

- (27) a. [...NP-Gen...V NP-Acc...C] DE N
 b. [C...NP-Gen...V NP-Acc...] DE N

In (27a), the V and C cannot be adjacent due to the intervening direct object (NP-Acc). In (27b), the V and C cannot be adjacent due to the intervening subject (NP-Gen). Note that the C-T-V AGREE may take place in Japanese, as shown in (28), which represents the schematic structure of (1) with the genitive subject..

- (28) [...NP-Gen...A/V T C] N

In (28), A or V and T+C are adjacent to each other, which can constitute an amalgamated complex predicate in overt syntax. The other languages that allow genitive subjects such as Mongolian, Turkish, Bengali, and Urdu all have an amalgamated complex predicate in overt syntax, as shown in (28). However, in Chinese, this kind of complex predicate is not formed in overt syntax, yet genitive subjects are allowed in this language. Therefore, this seems to suggest that the claim that a genitive subject is possible only in a language L which employs the C-T-V AGREE strategy in relativization needs to be reconsidered. To be precise, C may not be relevant in the languages that allow genitive subjects. Note that Murasugi (1991) convincingly shows that Japanese relative clauses are IPs, not CPs.

5. CONCLUSION

This paper investigated whether Chinese would possess genitive subjects, and found that it actually did. Based on the newly found data, we suggested the following. First, not only Altaic and Indo-European languages, but also part of China-Tibetan languages, allow genitive subjects. Second, the Transitivity Restriction on genitive subjects, which prohibits co-occurrence of an accusative DP with a genitive subject, is not operative in Chinese, just like Mongolian and

Turkish, and unlike Japanese. Third, and finally, Hiraiwa's (2001) claim that a genitive subject is possible only in a language L which employs the C-T-V AGREE strategy in relativization needs to be reconsidered.

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NOTES

¹ Note that the grammaticality judgments on genitive subjects in Chinese vary from speaker to speaker. The informants' ages and birthplaces are not relevant factors for the variation in the judgments. We will leave the cause of the variation for future research.

² Note that the grammaticality of the *b*-example in (i), which has a deep genitive subject in a gapless prenominal sentential modifier, is not consistent among those who allow genitive subjects in Chinese.

- (i) a. Duiyu Lisi shuo [Zhangsan mai-le
 on Lisi say Zhangsan buy-ASP
 zhe-ben shu] de shi, dajia
 this-CL book DE thing/fact everyone
 jingya-le.
 surprised-ASP
 'Everyone was surprised at the fact that
 Lisi said that Zhangsan bought this
 book.'
 b.(*)Duiyu Lisi shuo [Zhangsan de
 on Lisi say Zhangsan DE

mai-le zhe-ben shu] de shi,
 buy-ASP this-CL book DE thing/fact
 dajia jingya-le.
 everyone surprised-ASP

Therefore, in this paper, we will put aside examples such as (ib), leaving the issue of the variation in grammaticality for future research.

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The Historical Development of English Middles*

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Keywords: dispositional modality, root modality,
modal operator, facility adverb, event adverb

1. Introduction

This paper attempts to account for the historical development of English middles, by applying the analysis of Massam (1992) that they have a modal operator in T to be specified by a modal or an adverb. Generally speaking, middles are classified into two types, as shown in (1a, b), respectively.

(1) a. Type I:

These novels read ***(easily)**.

These novels read ***(like mysteries)**.

b. Type II:

Dirt **will/could** rub off when it is dry.

Type I middles as in (1a) involve a facility adverb like *easily*, or an event adverb like *like mysteries*, without which the sentences would become ungrammatical. In contrast, Type II middles as in (1b) are grammatical without an adverb, but must be accompanied by a modal like *will* or *could*. Both types have a modal interpretation in that they denote the possibility of the event and the implicit agent's ability to carry out the event. Based on this and the analysis of Massam (1992), this paper proposes that the development of English middles can be

characterized in terms of the change in the manner of specifying the modal operator in T: from the direct merger of a modal in T, which is the most basic strategy, to the covert movement of an adverb, which is a later development.

This paper is organized as follows. Section 2 introduces some basic properties of English middles. Section 3 conducts a historical survey of the two types of middles based on OED. Section 4 proposes a syntactic analysis of their historical development. Section 5 offers concluding remarks.

2. The Properties of English Middles

2.1 The Aspectual Condition

The aspectual condition on English middles is defined as in (2) and illustrated by the examples in (3).

- (2) Only (transitive) activities and accomplishments undergo middle formation.

(Ackema and Schoorlemmer (2005: 178))

(3) a. activity verbs

The car **drives** easily.

(Kageyama (2004: 121))

b. accomplishment verbs

The food **cooks** easily.

(Roberts (1987: 196))

c. state verbs

*The Eiffel Tower **sees** easily.

d. achievement verbs

*French **acquires** easily. (ibid.)

In (3a, b), *drive* and *cook* are an activity verb and an accomplishment verb, respectively, and the grammaticality of the examples shows that they can undergo middle formation. In contrast, in (3c, d), *see* and *acquire* are a state verb and an achievement verb, respectively, and they cannot undergo middle formation, in accordance with

the aspectual condition in (2). Furthermore, Zwart (1998) points out that verbs which are stative/non-eventive cannot undergo middle formation because of its function to form a generalization over events, as shown in (4).¹

- (4) The middle construction is a formation of a generalization over events, and hence verbs which are stative/non-eventive are necessarily excluded as they do not denote events. (cf. Zwart (1998:113-115))

Section 4 probes into the aspectual properties shared by activity and accomplishment verbs and attempts to provide a syntactic account of the aspectual condition on English middles.

2.2 Adverbial Modification

According to Fellbaum (1986), only facility adverbs and event adverbs can appear in English middles, as shown in (5).

- (5) a. facility adverbs
(*easily, fast, quickly, in a jiffy*, etc.)
Cotton irons easily.
b. event adverbs
(*smoothly, like salt*, etc.)
No salt shakes like salt.

(Fellbaum (1986: 123))

Facility adverbs as in (5a) refer to the degree of facility/easiness or the speed with which the implicit agent can perform the action expressed by the verb. In contrast, event adverbs as in (5b) refer to the state or property of the patient during or after the action, so they are related to the surface subject.

2.3 Modality

Based on Fellbaum (1986), Matsumoto (1996) claims that different syntactic positions of facility adverbs and event adverbs lead to different modal readings in English middles. She

embodies her claim under the Revised Extended IP (REIP), as shown in (6), where FA and EA represent facility adverbs and event adverbs, respectively.²

- (6) [_{VP} [_{VP1} EA [_{VP1} *pro* [_{V1'} V1]]] [_{VP2}... [_{VP3} EA [_{V3'} patient]]]] (Matsumoto (1996: 53))

Matsumoto argues that facility adverbs are directly merged in the adjunct position of VP1, as they are related to the implicit agent *pro* merged in [Spec, VP1]. The modality denoted by facility adverbs is agent-oriented modality. On the other hand, event adverbs are related to the state/property of the surface subject (the patient) and hence they are VP3 adjuncts; the modality denoted by event adverbs is dispositional modality.³

Based on Matsumoto (1996), section 4 attempts to account for the development of English middles in terms of the change in the use of facility adverbs and event adverbs.

3. The Distribution of Middles in OED

I have collected the historical data on English middles from OED on CD-ROM by utilizing its quotation search function. The result is summarized in Table 1, which represents the numbers of their tokens and the percentages of each type. This shows that middles emerged in the 16th century, when only Type II was available; then, Type I appeared in the 17th century and increased its frequency thereafter.

Table 1. The Distribution of Middles in the History of English

	16C	17C	18C	19C	1901-
Type I	0	19 35%	31 55%	79 54%	20 62%
Type II	6 100%	35 65%	25 45%	66 46%	12 38%

It is worthwhile to note that the emergence of middles coincides with the establishment of the modal system in the history of English. Since the seminal work by Lightfoot (1979), there have been a number of studies on the development of the modal system and it is generally agreed that modals were reanalyzed from main verbs to auxiliaries in the 16th century. To take one of the recent studies, Biberauer and Roberts (2010) propose the following reanalysis of modals.

- (7) a. [_{TP} Subj_i T [_{VP} **Modal** [_{TP} t_i T [_{vP} t_i v VP]]]]

↓ REANALYSIS

- b. [_{TP} Subj_i **Modal** (T) [_{vP} t_i v VP]]
(Biberauer and Roberts (2010: 280))

In (7a), the modal is a main verb taking a sentential complement which is merged in V. This bi-clausal structure was reanalyzed in the 16th century as the mono-clausal one in (7b), where the modal is directly merged in T. In what follows, this reanalysis will be shown to have led to the emergence of middles in the 16th century.

4. A Syntactic Analysis of the Development of English Middles

Following Massam (1992), this paper assumes that English middles have a null modal operator in T, represented as *Op* in (8a, b), to be specified either by a modal or an adverb, which yields the modal interpretation.

- (8) a. [_{TP} NP [_T Modal (*Op*)] [[_{vP} [_{VP} V.....]]]]

- b. [_{TP} NP [_T (*Op*)] [_{vP} [_{VP} ADV [_{VP} V...]]]]

↑

(the dotted line represents LF movement)

If this is correct, there will be two modes of specifying the modal operator: direct merger of a modal in T and covert movement of an adverb to

T. Given this and the assumption in section 3, this paper proposes that the development of English middles can be divided into four stages, which are characterized in terms of the change in the manner of specifying the modal operator in T.

Stage I

In Stage I (16C), only Type II which involves a modal without adverbial modification was attested, as shown in (9).

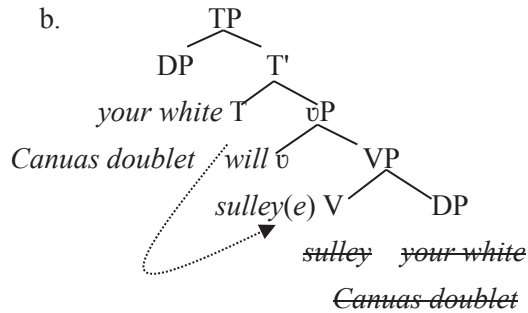
- (9) a. Looke you Francis, your white Canuas doublet **will** sulley (sully).
(1596 Shakes. 1 Hen. IV, ii. iv. 84)
b. My clayth **will** nocht stenzie (stain).
(1568 Sat. Poems Reform. xlviii. 15)
c.And never **may** your meat digest.
(1586 Marlowe 1st Pt. Tamburl. iv.)
d. I finde it nowe for a settled truth · · that the purple dye **will** neuer staine.
(1579 Lyly Euphues (Arb.) 82)

Therefore, it is plausible that the development of modals led to the emergence of middles in the 16th century, because modals can now specify the modal operator by being directly merged in T in accordance with the assumption made above.

Moreover, this paper proposes that the aspectual condition on middles (see (2)-(4)) follows from the assumption in (8) that they involve a modal operator in T. According to Fábregas and Putnam (2014), the event variable in middles must be bound by an operator. Under the present analysis, the modal operator in T serves to bind the event variable provided by an activity or accomplishment verb, as shown in (10).

- (10) a. Looke you Francis, your white Canuas doublet will sulley (sully).

(1596 Shakes. 1 Hen. IV, ii. iv. 84)



As shown in (10b), the modal operator in T is lexicalized by *will*, and it binds the event variable of the verb *sulley* which has moved to v, through existential closure. As the modal operator gives rise to stative/non-eventive semantics, the sentence has a modal and hence stative interpretation. Although English middles do not have morphology associated with their stative interpretation, languages such as Greek and Italian have a special verbal inflection/clitic which appears in middles, as shown in (11a, b), respectively. Lekakou (2002: 406) proposes that Greek middle verbs carry an imperfective morpheme and it allows an otherwise eventive verb to have a modal reading as a derived stative. Moreover, Cinque (1988) analyzes the clitic *si* in Italian middles as being generated in T.

(11) a. Greek middles

Kovi afto to psalidi?
cut-IMPERFE-3SG this the scissors
'Do these scissors cut?'
(Lekakou (2002: 406))

b. Italian middles

Questo vestito **si** lava facilmente.
'This suit *si* washes easily.'
(Cinque (1988: 559))

Because of the interpretive similarity between English middles and Greek/Italian middles, this paper assumes that the modal operator in T in the former serves the same function as the verbal inflection/clitic in the latter, giving rise to the

modal interpretation in middles.

Stage II

Stage II covers the first half of the 17th century. First of all, Type II middles accompanied by facility adverbs became attested in this stage, as shown in (12).

(12) a. Grape...it is reporte...**will** keep **better**

in a vessel half full of wine, so that the grapes touch not the wine.

(1626 Bacon Sylva §627)

b. Is't a Cleare businesse? **Will** it mannage **well**? My name must not be vs'd else.

(1625 B. Jonson Staple of News iv. i.)

c. The Yards **may** slip vp and downe **easily** vpon the Masts.

(1627 Capt. Smith Seaman's G. v. 20)

Besides, there were also a few instances of Type II middles accompanied by event adverbs, as shown in (13).

(13) a. A kind of steel...which **would** polish almost **as white and bright as silver**.

(1626 BACON Sylva item 849)

b. The Dromidor...**will** ride **about 80 miles** in the day.

(1632 Lithgow Trav. vi. 298)

c. Before you paste your Paper on the form,first Tallow him, so **will** the Canvas and Paper slip off **without starting or tearing**.

(1669 Sturmy Mariner's M.v. xii. 63)

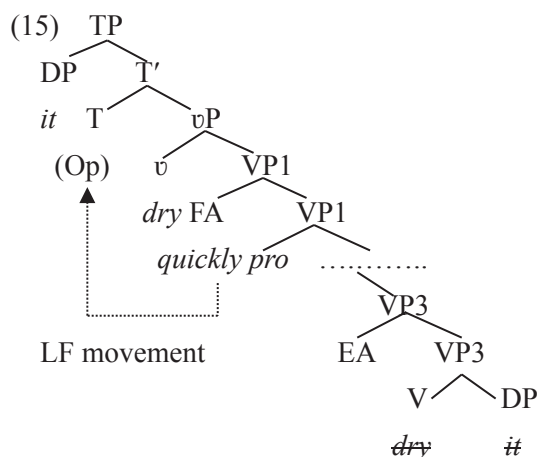
Stage III

In Stage III (the second half of the 17th century), Type I middles, namely middles with adverbial modification which do not involve a modal, began to emerge. This stage saw the appearance of those with a facility adverb, as

shown in (14).

- (14) a. There is no Merchandize in this
Ware-House which sells **better**, then
certain Fans.
(1656 Earl of M. tr. P. i. i. 4)
- b. When the Shank of a Letter has a
proper thickness, Founders say. It rubs
well. (1683MOXON Mech. Exerc.
xxiv. 389)
- c. Being washed three or four times, it
bites or eats not, but dries **quickly**.
(1677 Moxon Mech. Exerc. 242)

It indicates that the mode of licensing the modal operator was extended from the direct merger of a modal to the covert movement of a facility adverb in this period. Let us take the middle sentence in (14c) as an example, whose syntactic structure is shown in (15).



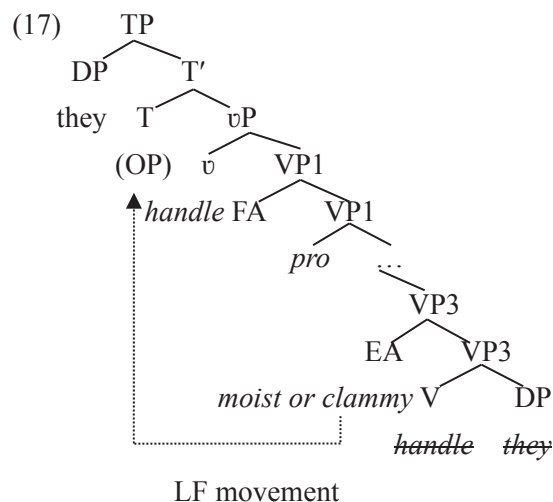
In (15), the facility adverb *quickly* adjoined to VP1 moves to T at LF to specify the modal operator in accordance with the assumption in (8), giving rise to root, to be more precise, agent-oriented modality (see section 2.3).

Stage IV

In Stage IV (18C), Type II middles with an event adverb began to be attested, as shown in (16).

- (16) a. If they handle **moist or clammy**,
when you squeeze them they are
fit to bag. (1727 Bradley Fam. Dict.
Hop-garden)
- b. (Red Jessamine)...many red
Flowers cut **like Honeysuckle**.
(1729 in Dampier's (ed. 3) III. 452)
- c. (The horse) ...Rides **with her
Tongue out of her Mouth**.
(1714 Ibid. No. 5195/4)

In this stage, the modal operator in middles can be specified not only by facility adverbs but also by event adverbs. Take the middle sentence in (16a) as an example, whose syntactic structure is shown in (17).



The change in this stage could be viewed as an extension in the manner of specifying the modal operator: it can now be licensed by the covert movement of event adverbs which contribute to the disposition of the patient.

5. Concluding Remarks

This paper has attempted to account for the historical development of middles in history of English in terms of the change in manner of specifying the modal operator in T. Moreover, following the notion of dynamic enrichment, it was suggested that the modal interpretation in

middles was enriched in the 18 century with the appearance of event adverbs.

NOTES

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¹ According to Mulder (1992), achievement verbs denote an action which is instantaneous. In other words, there are no intermediate stages and the only thing of importance is the end of the action. This paper assumes with Mulder that the situation that achievement verbs denote resembles a kind of state.

² According to Matsumoto (1996), VP2 in (6) serves to introduce an event argument. One of the characteristics of middles is that [Spec, VP2] is not projected.

³ Given the fact that middles are defined as an ascription of a dispositional property to the surface subject (cf. Lekakou (2005)), it is reasonable to argue that English middles involve dispositional modality.

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A QR-based Approach to the Internal Reading of *Tigau*

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Keywords: (sentence-)internal reading, scope,
QR, phase

1. INTRODUCTION

This paper examines the (sentence-)internal reading of relational adjectives such as *different* in English and its Japanese counterpart *tigau*. The internal reading is a distributive reading licensed by a plurality, as exemplified in (1):

- (1) a. Bob and Alice attend different classes.
(e.g. Bob attends Biology 101 and Alice attends Philosophy 799)
(Carlson 1987: 532)
- b. Taro-to-Hanako-ga
Taro-and-Hanako-Nom
tigau-hon-o kat-ta.
different-book-Acc buy-past
'Taro and Hanako bought different books.'
(e.g. Taro bought Barriers and Hanako bought LGB)

The internal reading of (1a) requires the class Bob attends to be different from the one Alice attends. Likewise, in (1b), the book Taro bought must be different from the one Hanako bought under this reading.

As shown in (1), a sentence has to contain

a plurality over which distribution of a relational adjective takes place in order to make an internal reading possible. Regarding this type of reading, our present concern is how we can capture the proper relationship between a relational adjective and a plurality.

On this issue, Tonoike (2013) offers an Agree-based analysis of the internal reading. On the other hand, this paper considers potential problems of the Agree-based analysis and proposes a Q(uantifier)R(aising)-based approach to it. The gist of my proposal is that a plurality must c-command a relational adjective or its trace to license an internal reading.

2. PREVIOUS ANALYSIS

2.1. DATA

Before moving on to the discussion, let us observe the data of relational adjectives. The following English examples are from Carlson (1987) and three generalizations about them are made by Tonoike (2013). Although the generalizations are based on English data, it will be shown that the same goes for Japanese data. First of all, Generalization 1 is given in (2) and illustrated in (3) and (4) ((1a, b) are repeated here as (3a) and (4a) respectively.):

- (2) Generalization 1: "When a relational adjective and a plurality occur in the same clause, order does not matter"
(Tonoike 2013: 223)

- (3) a. Bob and Alice attend different classes.
b. Different cats chased the two rats.
- (4) a. Taro-to-Hanako-ga
Taro-and-Hanako-Nom
tigau-hon-o kat-ta.
different-book-Acc buy-past
'Taro and Hanako bought different

- books.’
- b. Tigau-gakusei-ga
different-student-Nom
LGB-to-Barriers-o kat-ta.
LGB-and-Barriers-Acc buy-past
‘Different students bought LGB and
Barriers.’

In (3a), the plurality *Bob and Alice* precedes the relational adjective while in (3b) the relational adjective precedes the plurality *the two rats*. Internal readings are available for both sentences in accordance with (2). In a similar way, in (4a, b), although the plurality and the relational adjective appear in reverse order, both of them receive an internal reading. The order, however, would matter if there is a clause boundary between them, as summarized in (5):

- (5) Generalization 2: “When they are separated by a clause boundary, the plurality must c-command the adjective”
(Tonoike 2013: 224)

(6) and (7) are examples demonstrating (5):

- (6) a. Mike and Bob think that different explorers discovered America.
b. It seems to Fred and Susan that different colors are emanating from the same piece of velvet.
- (7) Taro-to-Hanako-ga
Taro-and-Hanako-Nom
tigau-gakusei-ga LGB-o kat-ta
different-student-Nom LGB-Acc buy-past
to omot-teiru.
COMP think-pres.
‘Taro and Hanako think that different students bought LGB.’

In (6) and (7), the plurality is in the main clause and the relational adjective is in the embedded clause. This structure also allows an internal reading. Finally, Generalization 3 refers to the structure where an internal reading is unavailable:

- (8) Generalization 3: “If the relationship is reversed (i.e., if the adjective is in the main clause and the plurality is in the complement clause), no internal reading obtains.”
(Tonoike 2013: 224)

Note here that (9) and (10) below lack an internal reading or at least it is degraded in contrast to the examples above (Hereafter, double question marks indicate the unavailability or the marginality of an internal reading.):

- (9) a. ??Different students think that America was discovered by those two famous explorers.
b. ??It seems to different people that those two colors are emanating from these pieces of cloth.
- (10) ??Tigau-sensei-ga
different-teacher-Nom
Taro-to-Hanako-ga LGB-o
Taro-and-Hanako-Nom LGB-Acc
kat-ta to omot-teiru.
buy-past COMP think-pres.
‘Different teachers think that Taro and Hanako bought LGB.’

In (9) and (10), the relational adjective is in the main clause and the plurality is in the embedded clause. This configuration does not license an internal reading.

2.2. AGREE-BASED ANALYSIS

In order to capture these generalizations, Tonoike (2013) proposes an Agree-based analysis of the internal reading of *different*. He assumes that a relational adjective enters the derivation with a feature value [+distributive], which is transmitted to a phase head by Agree. Then, the phase head works as a probe, starts searching for a closest plurality and assigns the feature value [+distributive] to it by Agree. In short, a successful assignment of the feature value from a relational adjective to a plurality via a phase head results in the intended internal reading.

Let us consider how this analysis works with Carlson's data. First of all, the derivation of (3) is given in (11) ([+distributive] is represented as [+d] and *Bob and Alice* as *B&A.*) :

- (11) a. [B&A v* [attend different classes]]
 [+d] ← [+d] ← [+d]
 b. [Different cats v* [chased the 2 rats]]
 [+d] → [+d] → [+d]
 (Tonoike 2013: 224)

In (11a), [+d] on *different classes* is assigned to *Bob and Alice* via v . Likewise, in (11b), [+d] on *different cats* is assigned to *the two rats* via v .

Then, consider how feature valuation proceeds across a clause boundary in (6), which is repeated here as (12):

- (12) a. Mike and Bob think that different explorers discovered America.
b. It seems to Fred and Susan that different colors are emanating from the same piece of velvet.

In this case, [+d] on *different explores* and *different colors* is first picked up by C by Agree, and then the matrix v picks it up. The matrix v ultimately assigns [+d] to *Mike and Bob* or *Fred and Susan* by Agree.

On the other hand, in (9), the feature valuation does not succeed. Notice that (9) has the following structure at some stage of the derivation (Transfer is indicated by ~~strikeout~~):

- (13) a. [different students v* [think [that
[+d] - - - - ➔
[...those two famous explorers...]]
- b. [v [to different people] seems [that
[+d] - - - - ➔
[...those two colors...]]

As illustrated in (13), at the point when [+d] on *different students* and *different people* enters the derivation, the embedded TPs containing *those two famous explorers* and *those two colors* have been already transferred. Thus, the intended feature valuation is not achieved. This is why (9) lacks an internal reading under Tonoike's analysis.

3. POTENTIAL PROBLEM

As shown above, the Agree-based analysis correctly predicts the availability and the unavailability of the internal reading in Carlson's data. Nevertheless, it involves an undesirable operation, namely Agree both in an upward direction and a downward direction. In this sense, it is not a satisfactory analysis.

In addition to the theoretical problem, Tonoike's analysis potentially faces an empirical problem. A problematic example comes from Japanese causative constructions, a typical example of which is given below:

- (14) Hanako-ga Taro-ni
 Hanako-Nom Taro-Dat
 Jiro-o hihans-ase-ta.
 Jiro-Acc criticize-cause-past
 ‘Hanako made Taro criticize Jiro.’

It is argued by Murasugi and Hashimoto (2004) and Saito (2011), among others that the embedded clauses of Japanese causatives are *v*Ps, as illustrated in (15):

- (15) [_{TP} Hanako-ga_i [_{VP} *t_i* [_{VP} [_{VP} Taro-ni
 [_{VP} Jiro-o [_V hihans]]] [_V ase]]]
 [_T ta]]

Given this structure of a causative construction, the unavailability (the deviancy at least) of the internal reading found in the following example might be difficult to account for under the Agree-based analysis since nothing seems to go wrong with the feature valuation in this example:

- (16) ??Tigau-sensei-ga
 different-teacher-Nom
 Taro-to-Hanako-ni LGB-o
 Taro-and-Hanako-Dat LGB-Acc
 kaw-ase-ta.
 buy-cause-past
 ‘Different teachers made Taro and
 Hanako buy LGB.’

In (16), as indicated by double question marks, an internal reading is not available. Nevertheless, when [+d] on *tigau-sensei* is introduced into the derivation, the plurality *Taro-to-Hanako*, which occupies the lower Spec, *v*P position is still accessible to syntactic operations, as shown in (17):

- (17) [_{VP} *tigau-sensei-ga*
 [+d]
 [_{VP} [_{VP} Taro-to-Hanako-ni [_{VP} ~~LGB-o~~
 [_V ~~kaw~~]]] [_V ase]]]

Accordingly, it is expected that the feature valuation will succeed in this example, which means Tonoike’s analysis predicts that (16) receives an internal reading, contrary to fact.

4. PROPOSAL AND ANALYSIS

4.1. QR-BASED APPROACH

As an alternative to the Agree-based analysis, I propose a QR-based approach. My main claim is that a plurality must take scope over a relational adjective in order to obtain an internal reading. When the reverse order is realized, the proposed requirement could be met by the QR of the plurality.

Let us begin by reviewing three assumptions that we will utilize in the discussion to follow. First of all, I adopt the Scope Principle argued by Aoun and Li (1989), given in (18):

- (18) *The Scope Principle*

A quantifier A has scope over quantifier B in case A c-commands a member of the chain containing B.

I also assume with Cecchetto (2004) and Takahashi (2010), that QR is phase-bound. The phase-boundedness we assume with the current proposal is summarized in (19):

- (19) *Phase-bounded QR*

QR cannot apply across a phase boundary.

Finally, following Takahashi (2010), I assume that *v*P phases are created via Case-valuation.

More precisely, Takahashi (2010) defines a νP phase as in (20):

(20) *Contextually-determined phases*

A νP will count as a phase only when its head values Case of an internal argument.

Regarding the assumption given in (20), one of the examples Takahashi provides is shown in (21):

(21) *Nominative/ Accusative conversion*

- a. John-ga migime-dake-o
John-Nom right.eye-only-Acc
tumur-e-ru .
close-can-pres.
'John can close only his right eye.'
(?*only>can, can>only)
- b. John-ga migime-dake-ga
John-Nom right.eye-only-Nom
tumur-e-ru.
close-can-pres.
'John can close only his right eye.'
(only>can, can>only)
(Takahashi 2010: 335)

(21) is an example of what is called the Nominative/ Accusative conversion. Note that accusative and nominative objects exhibit different behavior with respect to scope in (21). As for the scope interaction between the potential affix *e* 'can' and *dake* 'only', (21b) can take the inverse scope interpretation but (21a) cannot. Takahashi accounts for this contrast assuming that the νP of (21a), where Case of the accusative object is valued by ν , is working as a phase which blocks the QR of *dake* but the νP of (21b) is not a phase. In fact, this assumption is particularly important for the following discussion.

4.2. ANALYSIS

With these assumptions in mind, now I demonstrate how my proposal captures the internal reading. Let us first consider the problematic example for the Agree-based analysis. The example is repeated in (22) and its derivation is given in (23) (The shade represents a phase.):

(22) ??Tigau-sensei-ga

different-teacher-Nom

Taro-to-Hanako-ni LGB-o

Taro-and-Hanako-Dat LGB-Acc

kaw-ase-ta.

buy-cause-past

'Different teachers made Taro and Hanako buy LGB.'

(23) [_{TP} tigau-sensei-ga_i [_{VP} *t*_i [_{VP}

[_{VP} Taro-to-Hanako-ni [_{VP} LGB-o

← -- ✕ ---] QR

[_V kaw]] [_V ase]] [_T ta]]

As illustrated in (23), since the internal argument *LGB* is marked as accusative Case, the lower νP is working as a phase. Accordingly, there exists a νP phase boundary between a trace of *tigau-sensei* and the plurality *Taro-to-Hanako*. *Taro-to-Hanako* cannot undergo QR beyond the phase boundary, which in turn prevents it from c-commanding the trace of *tigau-sensei* in the matrix Spec, νP position and taking scope over it. This is why an internal reading is impossible in this sentence. To put it briefly, my proposal accounts for the unavailability of the internal reading of (22) in the light of the unavailability of the QR of the plurality.

Compare (24) to (22) and notice that (24) receives an internal reading unlike (22):

- (24) a. Tigau-sensei-ga
different-teacher-Nom
Taro-to-Hanako-o hashir-ase-ta.
Taro-and-Hanako-Acc run-cause-past
'Different teachers made Taro and Hanako run.'
- b. Tigau-sensei-ga
different-teacher-Nom
Taro-to-Hanako-ni hashir-ase-ta.
Taro-and-Hanako-Dat run-cause-past
'Different teachers made Taro and Hanako run.'

The derivation of (24) is given below:

- (25) [_{TP} tigau-sensei-ga_i
[_{vP} Taro-to-Hanako-o/-ni_j [_{vP} _{vP} _{t_i} [_{vP} [_{vP} _{t_j} [_{vP}
[_v hashir]]] [_v ase]]] [_T ta]]

The difference between (22) and (24) is the type of verb. Crucially, the unergative verb *hasir* 'run' in (24) does not take an internal argument. Without any Case-valuation on the internal argument, our assumption concludes that no *vP*s become a phase in (25). Therefore, we can apply the QR of the plurality as shown in (25) and obtain the internal reading.

Moreover, the example of (26) further supports my analysis. If my account is on the right track, (26) should receive an internal reading and it actually does. Consider (26):

- (26) Tanaka-sensei-ga tigau-gakusei-ni
Tanaka-teacher-Nom different-student-Dat
LGB-to-Barriers-o kaw-ase-ta.
LGB-and-Barriers-Acc buy-cause-past
'Prof. Tanaka made different students buy LGB and Barriers.'

In (26), *tigau-gakusei* is the subject of the embedded clause and the plurality *LGB-to-Barriers* is the object of it. Therefore, both of these two elements are located in the lower *vP*, as illustrated in (27):

- (27) [_{TP} Tanaka-sensei-ga_i [_{vP} _{t_i} [_{vP}
[_{vP} LGB-to-Barriers-o_j [_{vP} tigau-gakusei-ni
[_{vP} _{t_j} [_v kaw]]] [_v ase]]] [_T ta]]

Although the lower *vP* becomes a phase by its head valuing Case of the embedded object, the QR of *LGB-to-Barriers* is considered to be valid since it does not move across the phase boundary. Thus, the plurality can take scope over the relational adjective in this example.

4.3. BACK TO CARLSON'S DATA

Finally, we reexamine Carlson's data under the current proposal to see the analysis works with English data as well. (3) is repeated as (28):

- (28) a. Bob and Alice attend different classes.
b. Different cats chased the two rats.

In (28a), the required relation is realized since the plurality overtly c-commands the relational adjective. (28b) needs the QR of the plurality, which is possible as shown in (29):

- (29) [_{TP} different cats_i [_{vP} the two rats_j [_{vP} _{t_i}
[_{vP} chased _{t_j}]]]

Then, (6) is repeated here as (30):

- (30) a. Mike and Bob think that different explorers discovered America.
b. It seems to Fred and Susan that different colors are emanating from the same piece of velvet.

In (30), the relational adjective and the plurality are overtly in the right order so they meet a condition. Finally, the structure of (9), the internal reading of which is degraded, is given in (31):

- (31) a. [different students think [_{CP} that [_{TP} America was discovered by those two famous explorers]]]
 b. [it seems to different people [_{CP} that [_{TP} those two colors are emanating from these pieces of cloth]]]

Since the upper bound of the plurality is a CP phase, *those two famous explorers* and *those two colors* cannot take scope over *different students* or *different people*, which are located above the CP. This is why an internal reading is impossible in (9) under the current proposal.

5. CONSEQUENCE

Carlson (1987) points out that not only a plural NP but also conjoined VPs or PPs can license an internal reading, as exemplified in (32):

- (32) a. Different people discovered America and invented bifocals.
 b. Max put different plates on the table and in the cupboard.
 (Carlson 1987: 538)

At this point, a question arises as to how the internal reading gets licensed in those cases under my proposal. One possibility is an invisible NP such as an event argument within a sentence works as a licenser instead of a plural NP and it is the event argument that undergoes QR. It follows that when the event argument takes scope over the relational adjective, an internal reading is obtained.

6. CONCLUSION

In this paper, I have argued that the internal reading of relational adjectives is best captured in terms of scope interaction. Under my analysis, the internal reading is available when the plurality takes scope over the relational adjective. Particularly, by adopting QR and examining how phases affect it, my proposal accommodates the data which should be problematic for the previous analysis as well as Carlson's data.

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between the ϕ -features and the θ -features

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Keywords: the θ -features, Feature Inheritance, θ -driven movement, backward control

In this paper, I'd like to distinguish the ϕ -features/the Case feature from the θ -features in terms of what motivates movement for valuation/licensing and where the motivations are.

1. θ -roles as Features: Hornstein (1999)

First, I'd like to review the Movement Theory of Control (or, MTC) argued by Hornstein (1999). In the Principle and Parameter approach, the (Obligatory) Control construction as in (1a) was assumed to have PRO in the infinitival clause, which is c-commanded by and co-indexed with the DP in the matrix clause, as (1b). However, Hornstein (1999) argues that PRO is a trace, or a copy, of A-movement.

- (1) a. John hoped to leave
b. John_i hoped [PRO_i to leave]
c. [_{IP}John_{[0-H][0-L]} [_{VP}<John_{[0-H][0-L]}>hoped
[_{IP}<John_[0-L]> to [_{VP}<John_[0-L]> leave]]]

In (1c), *John* is base-generated as an embedded subject, at which the θ -role of the embedded verb *leave* is assigned. In the course of the derivation, *John* moves to the matrix SpecvP, at which the θ -role of the matrix verb *hope* is assigned. As a result, *John* receives two θ -roles. Thus,

Hornstein (1999) proposes several assumptions on MTC, some of which are listed in (2), which I will assume in this paper.

- (2) a. θ -roles are features on verbs.
- b. A D/NP “receives” a θ -role by checking a θ -feature of a verbal/predicative phrase that it merges with.
- c. There is no upper bound on the number of θ -features a chain can have.

(Hornstein (1999: 78))

2. Feature Inheritance and the Uninterpretable θ -features

2.1 Kitada's (2013) Analysis

Next, I will deal with Kitada's (2013) analysis, which incorporates Hornstein's (1999) assumptions in (2) into Feature Inheritance mechanism (or, FI) proposed by Chomsky (2008). Chomsky (2008) claims that the uninterpretable features are introduced on the phase heads and that the ϕ -features on C are inherited by T; and the ϕ -features on v are inherited by V.

- (3) a. $[_{CP} [_{C'} C_{[\varphi]} [_{TP} [T' T_{[\varphi]} \dots]]]]$
 b. $[_{vP} [v' v_{[\varphi]} [_{VP} [V' V_{[\varphi]} \dots]]]]$

Then, Kitada (2013) argues that, since the θ -features are uninterpretable, they are also introduced on the phase head v .

- (4) [_{vP} [_{v'} v_{[Ag][Th]} [_{VP} [_{v'} V ...]]]]

Furthermore, Kitada also argues that four types of inheritance possibility should arise, depending on whether the θ -features on the phase head v are inherited or not.

- (5) a. $[_{VP} [_{V'} V_{[Ag]} [_{VP} [_{V'} V_{[Th]} \dots]]]] [Ag] > [Th]$
 b. $[_{VP} [_{V'} V_{[Th]} [_{VP} [_{V'} V_{[Ag]} \dots]]]] [Th] > [Ag]$
 c. $[_{VP} [_{V'} V [_{VP} [_{V'} V_{[Ag][Th]} \dots]]]] [Ag] = [Th]$
 d. $[_{VP} [_{V'} V_{[Ag][Th]} [_{VP} [_{V'} V \dots]]]] [Ag] = [Th]$

2.2 Problems

[PROBLEM 1] Thematic Hierarchy (TH)

Although Kitada's (2013) claim is interesting, he does not mention when and why the θ -features remain on v or are inherited by V: that is, in his analysis, the inheritance of the θ -features is completely optional. However, the relative height among the θ -roles, specifically $\text{Ag} > \text{Th}$, has been strictly constrained by the Thematic Hierarchy (TH). In this respect, the FI patterns in (5b-d) obviously violate TH.

(6) Thematic Hierarchy (cf. Baker (1997), Larson (1988) etc.)

Agent > Theme > Goal > Obliques (manner, location, time, ...)

For example, under Kitada's analysis, the simple transitive sentence as in (7) could have the FI pattern either in (5a) or in (5b). However, the derivation in (7b) is obviously wrong; that is, in the sentence *John hit Mary*, neither can *John* be "a hittee," nor *Mary* can be "a hitter."

(7) John hit Mary

a. [_{VP} John [_{v'} v [_{Ag}] [_{VP} V [_{Th}] Mary]]] (= (5a))

b. * [_{VP} John [_{v'} v [_{Th}] [_{VP} V [_{Ag}] Mary]]] (= (5b))

This leads to the conclusion that [_{Ag}] must always remain on v , while [_{Th}] must always be inherited by V. This conclusion is reinforced by the cases of unaccusative verbs. Unaccusative verbs have only one θ -feature [_{Th}]. Under Kitada's analysis, [_{Th}] could remain on v (8a) or be inherited by V (8b). However, as Baker (1997) argues, if [_{Th}] remained on v , it could not induce the Unaccusative Hypothesis, which is widely or universally accepted and attested.

(8) The pond froze

a. [_{VP} [_{v'} v [_{VP} V [_{unacc}] [_{Th}] the pond]]] (= (5a))

b. * [_{VP} the pond [_{v'} v [_{Th}] [_{VP} V [_{unacc}]]] (= (5b))

Therefore, the acceptance of the Unaccusative

Hypothesis leads to the conclusion that [_{Th}] on v must be always inherited by V, which in turn indicates that Kitada's assumptions in (5b-d) must be illegitimate.

[PROBLEM 2] Uniformity of Theta Assignment Hypothesis (UTAH)

Furthermore, Kitada's analysis violates the Uniformity of Theta Assignment Hypothesis (UTAH) as well, which is defined as (9).

(9) Uniformity of Theta Assignment Hypothesis (UTAH) (cf. Baker (1988, 1997) etc.)

Identical thematic relationships between items are represented by identical structural relationships between those items at the level of D-structure.

Kitada argues that in the active cases the FI pattern in (5a) takes place, while, in the passive cases, the FI pattern in (5b) takes place. However, given that passive sentences are derived from their active counterparts, it is quite mysterious that actives and passives have different argument structures; that is, Kitada's analysis on actives and passives is incompatible with UTAH.

(10) a. John stole the book (cf. (5a))

b. [_{VP} John [_{v'} v [_{Ag}] [_{VP} stole [_{Th}] the book]]]

(11) a. The book was stolen by John (cf. (5b))

b. [_{VP} The book [_{v'} was [_{Th}] [_{VP} stolen [_{Ag}] by John]]]

2.3 Proposals

Now, I'd like to sum up my arguments above and offer some proposals as in (12).

(12) a. The uninterpretable θ -features (i.e., [_{Ag}] and [_{Th}]) are introduced on the phase head v . (à la Kitada (2013))

b. Whenever the θ -features arise, TH and

UTAH force

- (i) [Ag] to remain on *v*, and
- (ii) [Th] to be inherited by V.

(contra Kitada (2013))

Thus, while I agree with Kitada (2013) in that the uninterpretable θ -features are introduced on the phase head *v*, I disagree with him in that the inheritance of the θ -features is not optional, but rather TH and UTAH strictly constrain that [Ag] remain on *v* and [Th] be inherited by V.

3. Differences between the ϕ -features and the θ -features

In this section, I will turn to the discussion of the treatment of the ϕ -feature (or the Case feature) checking, and show the differences between the ϕ -features and the θ -features.

As shown in (13), it is well known that once the Case feature of a DP is checked and deleted, the DP cannot move further to check (an)other Case feature(s), which is called “the freezing effect.”

(13) a. John is likely to be smart

b. * John_i is likely *t_i* is smart

This indicates the crucial difference between the ϕ -features/the Case feature and the θ -features: while a DP can license multiple θ -features, it is only once that the DP can check its Case feature. I will argue what makes this difference.

As for Case licensing, Bošković (2007, 2011) offers an insightful analysis, the so-called “goal-driven movement.” In particular, in his (2011) system, what drives movement is the unvalued Case feature on the moving DP, or “a goal.” Bošković reformulates Last Resort as in (14a), and the moving DP moves in order to have its unvalued feature valued and deleted.

(14) a. Last Resort (Bošković (2007, 2011))

X undergoes movement iff without movement the structure will crash.

- b. [*unval*/F]-driven movement (Bošković (2011))

[TP T_[val/uCase] [_{vP} NP_[unval/uCase] ...]]

>>>[TP NP_[unval/uCase] T_[val/uCase] [_{vP} *t*_{NP} ...]]

Under Bošković’s analysis, since the Case feature of *John* in (13b) is valued and deleted in the embedded subject position, it no longer has any motivation to move further for the Case reason, so it cannot move to the matrix subject position.

Bearing this in mind, let us see whether the θ -features can be treated just as the Case feature Bošković argues about. Suppose that the element in Spec_{vP} always bears [Ag] and the element in the complement of V always bears [Th], as I argued in (12). This would mean that the θ -features on the target are [valued] while those on the moving elements are [unvalued].

(15) a. John_[Ag] criticized Mary_[Pat/Th]

b. Mary_[Ag] criticized John_[Pat/Th]

c. [_{vP} SUBJ_[unval/uθ] [_{v'} V_[val/uθ(Ag)]] [_{VP} [_{v'} V_[val/uθ(Th)] OBJ_[unval/uθ]]]]

However, if this analysis were correct, we would get in trouble; as shown in (13), when the unvalued θ -feature of *John* is valued and deleted by the valued θ -feature on *v*, *John* no longer has any unvalued θ -feature that drives further θ -feature-driven movement, which cannot account for movement into θ -positions.

(16) a. John hoped to leave

b. [_{vP} John_[unval/uθ] [_{v'} V_[val/uθ] [_{VP} leave]]]

Therefore, I conclude that the idea of the goal-driven movement cannot be extended to the movement driven by the θ -feature of the moving element.

If so, how should we treat the movement driven by the θ -features? Here, I’d like to

propose as in (17), which makes a clear distinction between the φ -feature checking and the θ -feature checking.

- (17) a. the φ -feature/Case feature licensing
 = the goal-driven movement
 b. the θ -feature licensing
 = the target-driven movement

I will assume that the unvalued Case feature on DPs motivates movement of the DPs for valuation, as Bošković (2011) argues, while the θ -features on the probing heads motivate movement of the DPs for licensing, as Hornstein (1999) argues. This means that the unvalued Case feature of DPs function as a probe, while the θ -features on the probing heads function as a probe.

Given these proposals, let us see how the derivation of the sentences such as (1), which is repeated in (18), can be accounted for.

- (18) John hoped to leave
- a. [_{VP} John_{[unval/uCase][θ]} [_{v'} v_[Ag] [_{VP} leave]]]
- b. [_{VP} John_{[unval/uCase][θ]} [_{v'} v_[Ag] [_{VP} hope [_{TP} to [_{VP} <John> ...]]]]]]
- c. [_{TP} John_{[unval/uCase][θ]} [_{T'} T_[val/uCase] [_{VP} ...]]

First, in (18a), *John* is base-generated in the embedded Spec_{VP}, at which the θ -feature [Ag] on the embedded *v* is checked and deleted by the DP. However, the unvalued Case feature of *John* is not valued at that position, so due to (18a) *John* has to move to have its Case feature valued. Next, in (18b), *John* moves to the Spec of the matrix *v*, at which the θ -feature [Ag] is checked and deleted by the DP. Here, there are no θ -features unchecked; however, the unvalued Case feature of *John* is still not valued at that position, so again due to (14a) *John* has to move to have its Case feature valued. And finally, in (18c), *John* moves to the matrix Spec_{TP}, at which the

unvalued Case feature of *John* is valued and deleted. Now that there are no features to be licensed, the derivation legitimately converges.

4. A Consequence: Backward Control (Polinsky and Potsdam (2002))

If the current analysis is on the right track, I believe that we can account for backward control argued by Polinsky and Potsdam (2002) (or, P&P). According to P&P, in the language Tsez, which is an ergative language, the predicate agrees with the Absolutive element. However, when the matrix verbs are aspectual, such as *-oqa* ‘begin’ or *-iča* ‘continue,’ an unusual agreement pattern realizes, as shown in (19).

- (19) kid-bā ziya b-išr-a y-
 girl.II-Erg cow.III.Abs III-feed-INF II-
 oq-si
 begin-Past.Evid
 ‘The girl began to feed the cow’

In (19), the matrix verb ‘begin’ agrees with the Ergative element ‘girl’, not with the Absolutive element. To account for this, P&P propose that there be the empty element (Δ) in the matrix clause, as shown in (20a), which agrees with the matrix predicate. Following MTC, they further argue, Δ can be regarded as a DP which has moved from the embedded clause, as shown in (20b).

- (20) a. Δ_i [kid-bā_i ziya
 II.Abs girl.II-Erg cow.III.Abs
 b-išr-a] y-oq-si
 III-feed-INF II-begin-Past.Evid
- b. <kid> [kid-bā ziya
 girl.II.Abs girl.II-Erg cow.III.Abs
 b-išr-a] y-oq-si
 III-feed-INF II-begin-Past.Evid

Given that Δ bears the Absolutive Case, it is

reasonable to say that the matrix predicate ‘begin’ agrees with the Absolutive Δ in the matrix clause, not with the Ergative ‘girl’ in the embedded clause. Thus, P&P elegantly account for the derivation of backward control.

However, I’d like to point out that there are some problems in their analysis. First, P&P argue that the movement of ‘girl’ takes place covertly. However, P&P themselves show the example which indicates that Δ can bind the reflexive expression in the matrix clause, as shown in (21).

- (21) Δ_i nesā nesir_i [irbahin-ā_i halmay-or
Refl.I.Dat Ibrahim.I-Erg friend-Dat
 yutku rod-a] Ø-oq-si
 house.Abs make-INF I-begin-Past.EVID
 ‘Ibrahim began, for himself, to build a house
 for his friend’

It has been argued that covert movement does not provoke a new binding possibility, so it is unclear why covertly moved Δ induces a new binding relation with the reflexive in the matrix clause.

Second, P&P argue that aspectual ‘begin’ is different from non-aspectual ‘begin’ in that the former does not have an Absolutive Case feature, while the latter does have.

- (22) Control -oqa does not have an Absolutive Case feature. (P&P (2002: 270))

If this is correct, it is also unclear why Δ can bear Absolutive in the matrix clause. In the discussion below, I’d like to show some solutions for these problems.

First, following the current analysis, I’d like to show the derivation of backward control as in (23) (here, the words in Tsez are replaced by the corresponding words in English.)

- (23) a. [_{VP} girl_{[unval/uCase][θ]} [_{v'} [_{VP} [_{v'}
 cow_{[unval/uCase][θ]} feed_{[unval/uCase][Th]}]]] v_[Ag]]]

- b. [_{VP} [_{VP} [_{VP} girl [_{v'} ...]] begin] v_[Ag]]
 c. [_{VP} girl_[θ] [_{VP} [_{VP} <girl> [_{v'} ...]] begin]
 v_[Ag]]
 d. [_{TP} [_{VP} girl_[θ] [_{VP} [_{VP} <girl> [_{v'} ...]] begin]
 v_[Ag]] T_[]]

First, in (23a), after ‘feed’ merges with ‘cow’, v is merged. This v has [Ag], so when ‘girl’ is merged in SpecvP, [Ag] on the v is checked by the θ -feature of ‘girl.’ Furthermore, at that position, ‘girl’ is Case-licensed as Ergative, since Ergative is taken to be an inherent Case, which is licensed at the θ -marked position (cf. Legate (2008), Woolford (2006) etc.). Notice here that ‘girl’ is Case-licensed, so it has no motivation to move further for the Case reason. Next, in (23b), the matrix v is merged, which has [Ag]. Here I will assume that although ‘girl’ does not have [*unval/uCase*] to drive the movement, [Ag] on the matrix v drives the *overt* movement of ‘girl’ to have [Ag] checked. Thus, in (23c), ‘girl’ moves to the matrix SpecvP, at which [Ag] on the v is checked by the θ -feature of ‘girl.’ Given that ‘for himself’ in (21) is VP-adjoined, ‘girl’ c-commands ‘for himself,’ accounting for the binding relation in (21). Finally, in (23d), the matrix T is merged. Here, following P&P, I will assume that T does not have the Absolutive Case feature. Thus, ‘girl’ remains at SpecvP.

Now, there are two occurrences of ‘girl;’ one in the embedded SpecvP and the other in the matrix SpecvP. Here, I will assume, following MTC, that it is the lower ‘girl’ that is chosen to be pronounced. In MTC, all but one copy should be deleted and even the lower copy can be retained for pronunciation. Thus, the lower ‘girl’ is chosen to be pronounced, resulting in backward control.

Then let us turn to the second problem; how

to specify Δ as Absolutive. Since ‘girl’ in (23) is Case-valued as Ergative in the embedded clause, in order to identify Δ as Absolutive, Multiple Case Checking mechanism (or, MCC) is necessary. In what follows, I will assume what Bejar and Massam (1999) point out.

(24) Multiple Case Checking (MCC)

“... if a DP receives more than one structural Case, the last one received will be the one that is pronounced.”

(Bejar and Massam (1999: 71))

- a. Teitei ke fakatau [e
nearly SUBJUNCT buy **Erg**
Sione] taha fale
Sione one house
‘It nearly happened that Sione bought a house.’
- b. Teitei [**a** Sione]_i ke fakatau
nearly **Abs** Sione SUBJUNCT buy
_{t_i} taha fale
one house
‘Sione nearly bought a house.’

Bejar and Massam argue that when MCC takes place, it is the highest Case which is pronounced. This means that the lower Case(s) is/are overridden by the highest Case. However, they do not account for why it is so. Now, I will assume as in (25).

(25) Case licensing configuration

: [XP Y_[unval/uCase] [X' X_[val/uCase]]]

Once Y moves from the Case licensing position (i.e., SpecXP) to another A-related position, Y cannot bear the Case which is licensed by X.

As I argued above, if we follow Bošković (2011), Case licensing takes place by means of the movement of a DP which has [unval/uCase] to the Spec position of the Case licensor. Once the

DP’s Case feature is valued and deleted, it loses any motivation to move further for the Case reason. However, as I assume in the current analysis, it can move for the θ reason. Given that the θ -driven movement is A-related, if the Case-valued DP moves out of its Case licensing position for the θ reason, the DP loses its Case status and it has to be re-Case-licensed by the higher Case licensor.

However, in the current analysis, I follow P&P’s assumption that “control -*oqa* ‘begin’ does not have an Absolutive Case feature.” Thus, in Tsez backward control, even if the Case-licensed DP moves out of the Case licensing position, the DP could not get licensed as Absolutive in the matrix clause. How should we treat this? Here, the argument by Legate (2008) is suggestive. She argues that when a DP cannot get any Case, Absolutive should be assigned as a default.

(26) “... the “Absolutive” is the default morphological realization of abstract Case features, used when no realization of the specific Case feature is available.” (Legate (2008: 55))

In fact, she exemplifies the default Case assignment by showing the cases of hanging topics as in (27). In these examples, the topicalized DPs are base-generated in the A’-position, where no Case feature is licensed. If there were no Case-licensing mechanism, the DPs would be Caseless, violating the Case Filter. To avoid this, Legate argues that Absolutive should be assigned as a default Case.

- (27) a. Ngarnkamarda, kakalyalya,
pink.cockatoo.**Abs** pink.cockatoo.**Abs**
ngula-ngku-ju ka nga-rni
that-Erg-Top Pres.Imperf eat-NonPast
watiya-warnu -watiya-ngarnarra

tree-from tree-dweller.Abs

-miyi-ji

fruit.Abs-Top

‘The pink cockatoo eats those acacia seeds’ (Warlpiri)

- b. Ko e fifine ia, to fakaata:
 Pred **Abs** woman that to let
 mai e ia ke uta e
 DIR1 Erg she SUBJ take Erg
 au e motoka: haana
 I Abs car her
 ‘That woman, she’ll let me take her car’
 (Niuean)

- c. vo aurat, ali samajhte
 DEM woman.**Abs** Ali.Abs thinks
 hai ki sudha-ne
 that Sudha-Erg
 us-se baatkiyaa thaa
 her-Commatter.Abs do.Perf be.Past
 ‘That woman, Ali thinks that Sudha
 talked to her.’ (Hindi)

Now, recall the derivation of backward control shown in (23). ‘girl’ is base-generated in the embedded SpecvP, at which it is Case-valued as Ergative. Then ‘girl’ moves to the matrix SpecvP to license the θ -feature [Ag] on the matrix v . Given (22), this movement is assumed to be A-related, so ‘girl’ cannot maintain its Case status as Ergative. However, the matrix aspectual verb ‘begin’ does not have an Absolutive Case feature, so ‘girl’ cannot get any Case in the matrix clause. To avoid the Case Filter, following Legate (2008), the default Case assignment qualifies the higher ‘girl’ as Absolutive.

- (28) <kid> [kid-bā ziya b-išr-a] y-oq-si
 >>> kid ‘girl’ is marked as Abs *as a default*

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1. Introduction

Consider how Agree works. In (1a), with

(1) (a) I eat food.

```

graph TD
    C_star[C*] --> C_star_0[C*  
0]
    C_star --> T1[T]
    T1 --> N1[N  
I]
    T1 --> T2[T]
    T2 --> PRES[T  
PRES]
    T2 --> v_star[v*]
    v_star --> N2[N  
I]
    v_star --> v_star_0[v*  
0]
    v_star_0 --> V1[V]
    V1 --> eat[V  
eat]
    V1 --> D[D]
    D --> D1[D  
the]
    D --> N2[N  
food]
  
```

Probe-goal search

Probe-goal search

(2) (a) There are likely to be several prizes awarded. (Adapted from Chomsky 2001)²

The diagram shows a syntax tree for the sentence "There is a likely chance that there will be a prize for several prizes on awarding several prizes." The tree is annotated with three numbered arrows:

- Arrow 1 (blue):** Points to the **Adj** node labeled "likely".
- Arrow 2 (red):** Points to the **Prt** node labeled "for".
- Arrow 3 (dark blue):** Points to the **V** node labeled "award".

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expletive *there* is initially Merged in a verbal projection at a position below T. Movement of the object *several prizes* to a position higher than the participle is an instance of thematic extraction (TH/EX). The head *Prt* has an Edge Feature (EF) (Chomsky 2008) that attracts the object, thus accounting for TH/EX. Although Chomsky (2001) suggests that TH/EX is a PF operation, we follow Deal (2009) and Sobin (To Appear) who analyze TH/EX as being part of narrow syntax. We also utilize a type of v , referred to as $v\sim$ (Deal 2009, Sobin To Appear), that occurs in passive and unaccusative constructions. This head $v\sim$ has a split EPP feature (Sobin To Appear) essentially consisting of [uTheta] and [uN/D] features. The [uTheta] feature must be checked by a theta-role bearing NP/DP. This determines where the NP/DP that undergoes TH/EX is visible. The [uN/D] feature must be checked by a DP/NP, so Merge of an expletive with $v\sim$ is permitted. In (2b), the [uTheta] feature of $v\sim$ is checked via Agree with the object *several prizes* and the [uN/D] feature of $v\sim$ is checked by external Merge of the expletive *there*.

The Agree relations in (2b) are quite complex. First, *Prt* Agrees with ‘several prizes’, resulting in checking of $u\Phi$ on *Prt*. In addition, the matrix *T* undergoes three Agree relations. *T* Agrees with the Expl - $u\Phi$ on *T* check $u\text{Person}$ on the Expl. *T* also

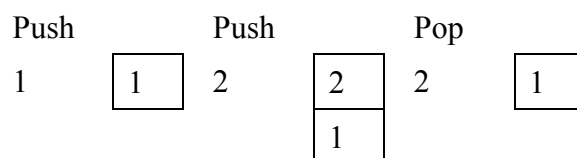
Agrees with ‘several prizes’ – $u\text{Case}$ on the object is checked as a result of phi-feature agreement, and $u\Phi$ on *T* are checked by the phi-features of the object. Lastly, *T* Agrees with *Prt* – $u\text{Case}$ on *Prt* is checked as a result of phi-feature agreement.

We propose that relegating Agree relations to a stack mechanism leads to a simplification of the Agree relations in this type of construction.

2. Proposals

We propose that there is a simpler search mechanism than typical probe-goal search. There is no need to check all of the labels within a search domain. Rather, we propose that all derivations are obligatorily funneled through a stack data structure, which is a last-in, first-out (LIFO) list with a unique Top of Stack (TOS). For example, in (3), the numbers 1 and 2 are pushed onto the stack. Then, the last element to be pushed on, the number 2, is the first element to be popped off, leaving the number 1.

(3)



The stack mechanism is utilized in a derivation as follows. For example, Merge α (a head/label) with β . If β has an uninterpretable feature, uF , then push β onto the stack, where it becomes the unique Top of the Stack (TOS). A probe on α peers

into the stack and Agrees with the TOS β , if agreement is possible (e.g., α has a uF and β has a matching interpretable feature iF). Crucially, when a stack is populated by more than one element, only the TOS is visible to a probe. If all the features of the TOS are checked, then the TOS is popped off the stack, and the next element in the stack, if present, moves to the top position (becoming the TOS), thus becoming available to future Agree operations. The TOS must be popped before any other elements in the stack can be popped.

3. Derivations

We examine Agree in the derivations of a simple sentence, (1a), and the more complex sentence (2a), repeated below.

(1) (a) I eat food.

(2) (a) There are likely to be several prizes awarded.

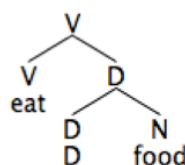
We compare the costs of these derivations as calculated via stack-based Agree and typical probe-goal search.

The derivation of (1a) proceeds as shown in (4a-e). In (4a), V merges with the DP object *food* and *food* is pushed onto the stack because it has a uCase feature. In (4b), when v^* is Merged, v^* looks into the stack and finds the TOS *food*, resulting in an Agree relation being established which checks uPhi on v^* and uCase on *food*. Since

food is now fully licensed, it is popped off the stack. In (4c), the subject *I* is Merged and pushed onto the stack due to its uCase feature. When T is Merged, (4d), uPhi on T probe into the stack and find the TOS *I*. T and *I* form an Agree relation, so that uPhi on T and uCase on *I* are checked. An EF on T forces *I* to remerge with T and the fully licensed subject is popped from the stack. Lastly, C^* (the * indicates that C is a phase head) is Merged and the derivation converges (4e).

(4)

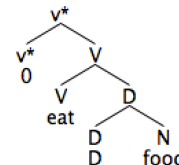
(a)



Stack:

[D D food_[uCase]]

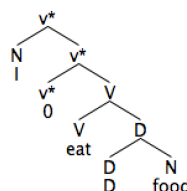
(b)



Stack: Pop I

[]

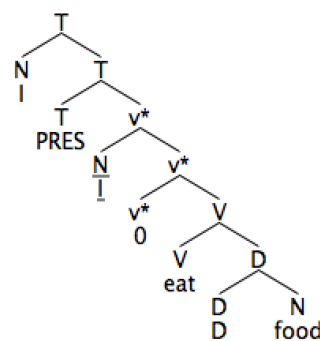
(c)



Stack:

[N I_[uCase]]

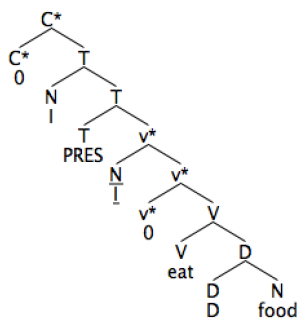
(d)



Stack: Pop I

[]

(e)



The total cost of computing a derivation is equivalent to the number of Merge operations combined with the number of Agree operations. This is uncontroversial. Since different models of cost compute the same tree, we have equal numbers of Merges. Since the cost of Merge is equal, it isn't necessary to calculate this cost (at least not for comparing models). However, the cost of Agree is unclear. We have two models of Agree: one stack-based and a (standard) search-based model. This raises the issue of how to fairly compare the models with respect to cost when they use different mechanisms. The most economical approach should be favored from the perspective of Minimalism.³

We calculate cost of the Stack Model in 3 ways, as shown in (5).

(5) Methods for calculating cost

Method 1: Agree + Push/Pop + Stack Depth

Method 2: Agree + Stack Depth

Method 3: Agree + Push/Pop

These methods utilize a combination of a

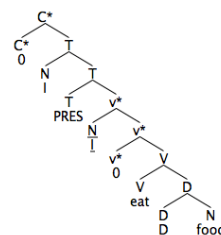
cost for Agree, Push/Pop, and stack depth. Cost is calculated as shown in Table 1.

Operation	Cost
Agree	+1 for each Agree operation
Push/Pop	+1 for each Push operation (Push onto stack) or Pop operation (Pop off stack)
Stack Depth	+1 each time that the stack has an element in it

Table 1: Stack Model

The costs for example (1), repeated below as (1'), are summarized in Tables 2-5.

(1') I eat food



Tables 2-4 show cost as calculated using stack-based Agree. Table 2 shows Cost when calculated conservatively, taking into account Agree, Push/Pop and Stack Depth. Table 3, shows cost calculated for Agree and Stack Depth, assuming that Push/Pop operations do not incur a cost (i.e., these operations are free). Table 4 shows the cost calculated for Agree and Push/Pop, assuming that Stack Depth does not have an associated cost. Lastly, Table 5 shows cost calculated in the probe goal model, in which case every element that is checked by a probe incurs a cost of 1. For example, in

order for the probe v^* to Agree with the DP *food*, it must first check the label of V, the head V, the label of D and the head D, where it finds a phi-feature goal, resulting in a cost of 4.

Operation	Cost
Agree	2
Push/Pop	4
Stack Depth	2
Totals	8

Table 2: Agree + Push, Pop + Stack Depth

Operation	Cost
Agree	2
Stack Depth	3
Totals	5

Table 3: Agree + Stack Depth

Operation	Cost
Agree	2
Push, Pop	4
Totals	6

Table 4: Agree + Push/Pop

Operation	Cost
Search	6

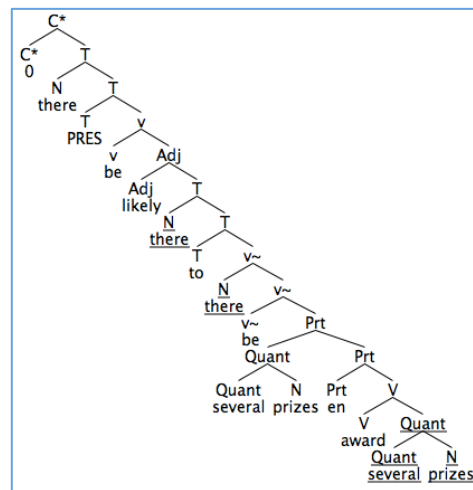
Table 5: Probe-goal Model

Overall, the costs for sentence (1), as shown in Tables 2-5, are similar. The most

conservative model obtains a cost of 8. The cost for the probe-goal model is 6, which is identical to the cost in the stack-based Table 4, but 1 higher than the cost in Table 3, which shows cost calculated using only Agree and Stack Depth.

The costs for sentence (2), repeated below as (2'), are shown below in Tables 6-9.

(2') There are likely to be several prizes awarded.



Tables 6-8 show costs for the stack model, calculated with the three different methods discussed above (Agree, Push/Pop and Stack Depth; Agree and Stack Depth; Agree and Push/Pop), and Table 9 provides the cost for the typical probe-goal model.

Operation	Cost
Agree	4
Push, Pop	4
Stack Depth	10
Totals	18

Table 6: Agree + Push/Pop + Stack Depth

Operation	Cost
Agree	4
Stack Depth	11
Totals	15

Table 7: Agree + Stack Depth

Operation	Total Cost
Agree	4
Push/Pop	4
Totals	8

Table 8: Agree + Push/Pop

Operation	Total Cost
Search	23

Table 9: Probe-goal Model

Overall, for sentence (2), the stack model has a lower cost than the probe goal model, ranging from 8 to 18, depending on the method of calculation. The cost in Table 6 is most conservative, since it takes into account Push/Pop and stack depth in addition to Agree, and the result in Table 8

is probably least conservative. Note that for this example, calculating stack depth (Tables 6-7) greatly increases the cost, compared with Table 8, which does not calculate stack depth. The cost for probe-goal search, 23, as shown in Table 9 is clearly the highest.

For the complex example (2), which involves a multiple Agree relation, the overall cost is clearly lower with a Stack model than for probe-goal search. This can be accounted for if Multiple Agree is simpler with the Stack Model, since a probe only peers into a stack, and does not have to look through all intervening nodes in a tree.

4. Conclusion

We have proposed a Stack-based derivational model. The probe-goal model and stack model seem to perform similarly (with a possible slight advantage to the stack-model) for simple sentences. The stack model, however, performs better than the probe-goal model for complex sentences, even in cases in which a very conservative approach is taken to calculating cost.

In this paper, we have examined calculations of the cost of agreement relations in derivations incorporating a stack mechanism versus derivations that utilize typical probe-goal search. We argue that the stack is more economical in terms of actual cost and in terms of the general Minimalist Program goal to eliminate unnecessary search; i.e., economy. Search in the

stack-based model is confined to a stack, so there is no need to check irrelevant nodes. However, more work is needed to determine exactly how to best calculate the cost of a derivation.

¹ We use Bare-Phrase structure style trees. For example, a maximal projection labeled v^* equals vP , etc. Unpronounced copies are underlined.

² Example (2) is identical to example (4bi) from Chomsky (2001), except that there is thematic extraction, which we find to be more natural.

(4bi) There are likely to be awarded several prizes. (Chomsky 2001:7)

³ Note that in a sense, there are more operations associated with the Stack than with typical probe-goal search; a stack requires the operations of push and pop, whereas Agree requires search. We are not sure if this is meaningful. It may be that if there is a stack, the operations of push and pop come for free. It is also not clear if there should be a cost associated with stack depth. It may also be that the typical probe-goal search operation has various sub-components that add to the cost.

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An Analysis of the *Hito*-N Construction in Japanese with Special Reference to the Cognate Object Construction in English

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Keywords: Cognate Object, *Hito*-N
Construction, Boundedness Parameter

1. Introduction

This paper aims to reveal the syntactic and semantic properties of the so-called “*hito*-Noun Construction” (henceforth, HNC) in Japanese, where the “(numeral) quantifier” *hito* is followed by a noun. (1) is an example of the construction.

- (1) a. *Hito*-ase *kaku*.
 HITO-sweat sweat
 Lit. ‘(to) sweat a sweat’
 b. *Penki*-o *hito*-hake
 paint-Acc HITO-brush
 nuru.
 paint
 Lit. ‘(to) spray a brush of paint’

This construction has something in common with the Cognate Object Construction (henceforth, COC) in English, as shown below. Thus, assuming Nakajima’s (2006) proposal that a cognate object occupies an argument position in some case, while it resides in an adjunct position in another, we will argue that the same is also true of the *hito*-nouns in (1a) and (1b).

This paper is organized as follows:

Section 2 goes into the syntactic structures of the COC and the HNC. Section 3 considers the HNC in terms of lexical semantics with reference to the boundedness parameter proposed by Kageyama (2001). Section 4 has a glance at some other constructions relevant to the HNC. Section 5 is a summary of this paper.

2. The Syntactic Structures of the HNC and the COC

In this section, paying close attention to the parallelism between the HNC and the COC, we will put forth a syntactic analysis of the HNC. A clue to our analysis lies in telicity and also in the result- and manner-readings of the constructions.

Let us begin with telicity. As demonstrated by Ito, Sugioka, and Yumoto (2013), the event denoted by the verb in the HNC is “bounded” because a noun accompanied by *hito* plays a role of a delimiter. This is illustrated in (2).

- (2) *Kesa*-wa 30 *pun-de*
 this.morning 30 minutes in
 hito-hataraki *shita*.
 HITO-work did
 Lit. ‘(I) did a job in 30 minutes this morning.’
cf. ??*Kesa*-wa 30 *pun-de*
 this.morning 30 minutes in
 hataraita.
 worked
 (Ito, Sugioka, and Yumoto (2013))

The contrast in (3) shows the same point as (2).

- (3) a. *Ame*-ga *ichi-jikan futta*.
 Rain-Nom an-hour for fell.
 Lit. ‘Rain fell for an hour.’
 b. **Hito*-ame *ichi-jikan futta*.
 HITO-rain an-hour for fell.

- cf. Hito-ame isshun-de futta.
 HITO-rain a moment-in fell.
 Lit. ‘Rain fell in a moment.’

Another property relevant to the present discussion is the interpretation associated with the HNC. As shown in (4), the noun phrase¹ *hito-ase* in (4a) is associated with the product of the event denoted by the verb, and *hito-hake* in (4b) is construed with some sort of “manner” of the event.

- (4) a. Hito-ase kaku.
 HITO-sweat sweat
 Lit. ‘(to) sweat a sweat’
 b. Penki-o hito-hake
 paint-Acc HITO-brush
 nuru.
 paint
 Lit. ‘(to) spray a brush of paint’

The properties reviewed above is reminiscent of the COC in English. More specifically, Nakajima (2006) points out that a cognate object is responsible for changing the telicity of the event denoted by the verb, as illustrated in (5).

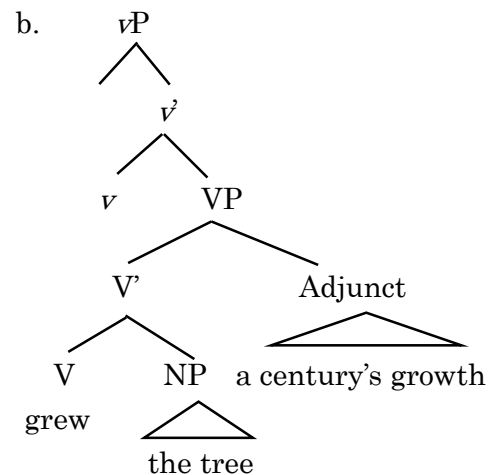
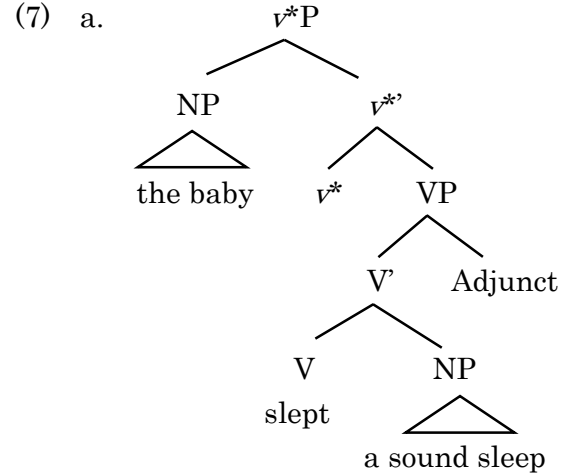
- (5) a. Mary laughed {for an hour / *in an hour}. (Tenny (1994:39))
 b. Mary laughed a mirthless laugh {for an hour/in an hour}.
 (Nakajima (2006))

Furthermore, it has a “product” reading in some, but a “manner” reading in another, as demonstrated in (6a) and (6b), respectively.

- (6) a. The baby slept a sound sleep.
 b. The tree grew a century’s growth within only ten years.
 (Nakajima (2006))

Nakajima claims that these properties come from the position of a cognate object in syntax. In particular, he proposes that the cognate object in (6a), for example, occupies an argument position, giving rise

to the “product- (or result-) reading.” In contrast, the one in (6b) plays a role of an adjunct, associated with the “manner-reading.” Thus, the underlying structures for (6a, b) will be (7a, b), respectively.



In passing, it is also worth considering Matsumoto’s (1996) analysis of the cognate object construction. She claims that cognate objects are all associated with the complement position to a verb, irrespective of whether they have a “product-reading” or “manner-reading” in our sense. She further argues that whether a cognate object is subject to passivization or not is dependent upon its “referentiality” in the sense of Borer (1994). “Referentiality” is defined as follows:

- (8) a. Specifics, definites, and quantifiers which move out of the nuclear scope.
 b. (Referential) non-specifics which are subject to existential closure.
 c. (Non-referential) non-specifics which incorporate.

(Borer (1994))

For example, *the sand* in (9a), *some sand* in (9b), and *sand* in (9c) correspond to (8a), (8b), and (8c), respectively. Borer (1994) claims that the passive counterpart of (9c) is ill-formed, as in (10c), because non-referential non-specific NPs incorporate.

- (9) a. Anna collected the sand.
 b. Anna collected some sand.
 c. Anna collected sand.
 (10) a. The sand was collected (by Anna).
 b. Some sand was collected (by Anna).
 c. *Sand was collected (by Anna).

((9) and (10): Borer (1994))

Matsumoto argues that a similar analysis to the one in (9) and (10) is applicable to the cognate object construction. More specifically, the cognate object in (11a), which has the result-reading (the product-reading in our sense), is subject to passivization, as in (11c), because it is referential. In contrast, the one in (11b), with the action-reading (the manner-reading in our terms), is not, as in (11d), because it is not referential.

- (11) a. Mary smiled a beautiful / mysterious smile.
 b. Mary smiled a never-ending / sudden smile.
 c. ?A beautiful / mysterious smile was smiled.

- d. *A never-ending / sudden smile was smiled.

(Matsumoto (1996))

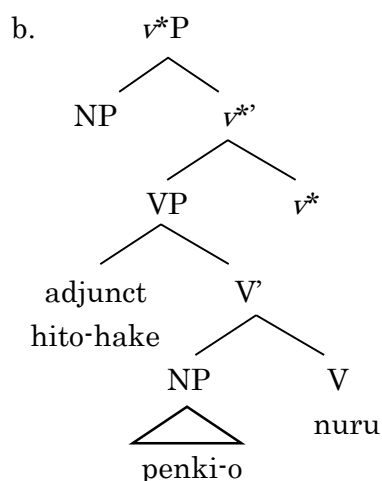
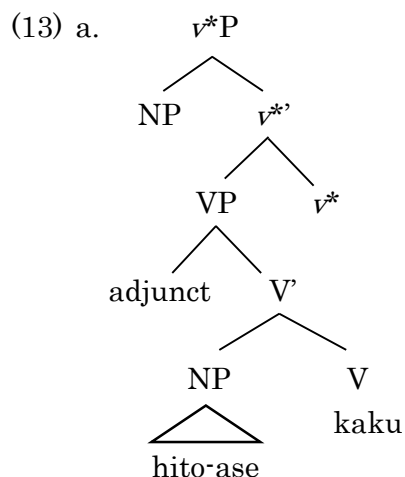
Though Matsumoto's (1996) analysis is very attractive, we would like to employ Nakajima's (2006) analysis of the cognate object construction, because some unaccusative verbs are compatible with cognate objects, as pointed out by Kuno and Takami (2002) and Nakajima (2006). The relevant example is repeated here as (12) (see Kuno and Takami (2002) for other examples).

- (12) The tree grew a century's growth within only ten years.

(Nakajima (2006)) (= (6b))

The example shows that some, not all, cognate objects take a position for an adjunct, as argued by Nakajima (1996). This is because the complement position to an unaccusative verb is designated for the sole argument of the verb, as is widely assumed, and hence it is not available for cognate objects.

Let us go back to the structure of the HNC. Taking into account the parallelism between the COC and HNC (in particular, the fact that both have two readings), it is reasonable to claim that the noun phrase accompanied by *hito* takes a position of an argument in syntax in (4a), while it plays a role of an adjunct in (4b). The relevant portion of the structure is shown in (13). Thus, our position, in which syntax plays a central role, is different from Ito, Sugioka, and Yumoto's (2013), which propose an analysis of the HNC in terms of lexical semantics.



In this connection, we would like to show that the HNC with a weather verb lends further support for the structure in (13a). The relevant example is shown in (14).

- (14) Hito-ame issnun-de futta.
 HITO-rain a moment-in fell.
 Lit. 'Rain fell in a moment.'

The example indicates not only that weather verbs are compatible with the HNC, as mentioned above, but also that it has a "product-reading" (i.e. it describes the situation in which a certain amount of rain was "created" during a short period of time). The relevant reading seems to be closely associated with the underlying structure of weather verbs. Given that not an external argument but a direct internal argument may be integrated with a verbal root to form a compound (Roeper and

Siegel (1978), Kageyama (1996), among others), (15) shows that *ame* 'rain' is the sole direct internal argument of the verb *furu* 'fall.'

- (15) Ame-furi
 rain-fall
 'rainfall'
 cf. Ame-ga futta.
 Rain-Nom fell
 Lit. 'Rain fell.'

In other words, *furu* is an unaccusative verb, with the underlying structure very similar to (13a). Then, it follows that (14) has the "product-reading" because *hito-ame* in (14) takes a position for a direct internal argument.

3. The Boundedness Parameter and the Two Constructions

The previous section has shown that the HNC and the COC have something in common, which has given birth to the structure for the HNC quite similar to the one for the COC. In this section, we would like to take up a difference between the two constructions, showing that it has something to do with the "boundedness parameter" proposed by Kageyama (2001).

An important difference between the two constructions is that unergative verbs are compatible with the COC both with "product-reading" and with "manner-reading," but the HNC with unergative verbs in Japanese only have a "manner-reading." This is surprising because a *hito*-N takes a position for a direct internal argument, expected to have a "product-reading." See (16) and (17).

- (16) a. The baby slept a sound sleep.
 b. The tree grew a century's growth within only ten years.
 (Nakajima (2006)) (= (6))

- (17) Taro-wa hito-nemuri shita.
 Taro-Top HITO-sleep did
 Lit. ‘Taro did a sleep.’

Hito-nemuri in (17) is not a sort of the product associated with the verb, but a sort of the “manner” in the sense that it has something to do with the “length” of the event (*hito-nemuri* stands for taking a nap only for a short while).

In this connection, it is worth pointing out that the HNC in Japanese, when accompanied by transitive verbs such as *kaku* “sweat” and unaccusative verbs such as (*ame-ga furu* “rain,” have “product-reading,” where something (e.g. sweat and rain) comes out as a result of the event described by the verbs.

We would like to claim that this is the situation where the “boundedness parameter” (Kageyama (2001)) comes into play. Kageyama argues that each language has one of the options for the boundedness of an event: [+bounded], [0 bounded], and [–bounded]. The first option is taken up by English, and the second, by Japanese. The third is associated with Chinese. The properties of the first two are summarized in (18).² See also the diagram in (19).

- (18) [+ bounded] language: speakers’ viewpoint indicates a strong tendency to the boundaries of events denoted by verbs (i.e., endpoints of events like a result or a goal).

[0 bounded] language: a weak tendency to the boundaries

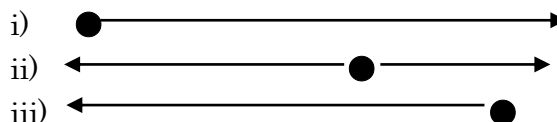
- (19) Difference in the perspectives of languages

Option (i): taken up by English

Option (ii): taken up by Japanese

Option (iii): taken up by Chinese

[x ACT ON y] CAUSE [y BECOME [y BE AT-z]]



(Kageyama (1996:290), with minor modifications)

Going back to the difference between (16) and (17), we would like to propose that English, being a [+bounded] language, has an option which changes an atelic event into a telic one by means of a cognate object in a complement position and that the introduction of a measuring phrase in syntax is not strong enough to create the boundary of an event in Japanese because it is a [0 bounded] language. Thus, Japanese makes use of a morphological strategy, i.e. nominalization of an unergative verb to create the boundary, which lies behind in (17).

To sum up this section, we have argued that the similarity and difference of the COC and the HNC are closely associated not only with their syntactic structures but also semantic (or morphological) parameters. The next section will have a look at some other constructions and phenomena relevant to the HNC.

4. The Light Verb Construction and Quantifier Raising

This section will take a look at the light verb construction and quantifier raising.

Let us start with the light verb construction. (20) is an example of the construction in Japanese, where the light verb *suru* ‘do’ is accompanied by the “deverbal” noun *ichi-betsu* ‘a glance.’³

- (20) Ichi-betsu suru

a-glance give

Lit. ‘(to) give a glance’

One of the properties of the construction is that it is highly productive not only in Japanese but also in English, in the sense that a “deverbal” (or zero-derived) noun is accompanied by a wide range of verbs to give birth such a lexical unit in English. (21) shows some examples in English.

- (21) a. give {a cry / a laugh / a sob / a cough / a shout / a sigh}
 b. give NP {a kick / a bump / a look / a rub / a hug / a flip / a rebuke / a boil}
 c. have {a laugh / a sit-down / a swim / a look / a think / a talk / a bite / a taste}

(Kageyama (1996))

According to Kageyama (1996), each of the examples in (21) has the following meaning:

- (22) a. EXPERIENCE
 e.g., He cried.
 He caught a cold.
 b. ACT ON
 e.g., He looked at her.
 He kicked the ball.
 c. ACT (ON)
 e.g., He walked in the garden.

(Kageyama (1996))

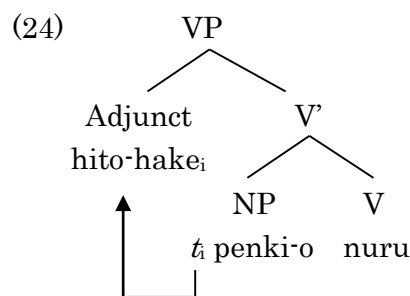
Another important property relevant to the discussion here has something to do with telicity. While the verbs *cry*, *kick* and *laugh* all describe atelic (or unbounded, continuous) events, the events described by the light verbs (with their nominal counterparts) in (21) are telic ones (Kageyama (1996:83)). The construction is similar to the HNC in this respect (see (2) and (3)), but the former is different from the latter in its productivity. The light verb construction in English is more productive than its Japanese counterpart, which seems to be associated with English being

a [+bounded] language and Japanese being a [0 bounded] language. To be more precise, the light verb construction is prevalent in English because a [+bounded] language has a highly productive process by which a verbal root is changed into a nominal one. In contrast, a [0 bounded] language does not have such an option, which lies behind the little productivity.

Let us move onto quantifier raising, which plays an important role in our analysis. The example relevant to the discussion is (1b), repeated here as (23) for the sake of convenience.

- (23) Penki-o hito-hake nuru
 Paint-Acc HITO-brush paint
 Lit. ‘(to) spray a brush of paint’

The point here is the status of *hito-hake*. Ito, Sugioka, and Yumoto (2013) claim that it is a measuring phrase. Given the status of the phrase and the position of a measuring phrase in syntax proposed by Tenny (1994), it is reasonable to suppose that it takes a position of a direct internal argument, though it is not made explicit in their analysis. However, our position is different from theirs. It is much more reasonable to suppose that *hito-hake* is subject to quantifier raising, adjoined to VP. This is illustrated in (24).



Because of the position of the phrase, (23) has a manner-reading, not a product-reading.

5. Conclusion

In this paper, we have provided an analysis of the *hito*-N Construction in Japanese, claiming that a noun phrase accompanied by *hito* plays a role of an adjunct with manner reading and that a *hito*-NP with a product reading takes a position of a direct internal argument. Then, we have discussed not only the parallelism but also the difference between the HNC in Japanese and the COC in English, showing that the “boundedness parameter” is responsible for the difference.

Notes

* This is a revised and enlarged version of the paper delivered at the 7th International Spring Forum of English Linguistic Society of Japan, held at Doshisha University on April 20. We would like to thank the participants in our presentation for beneficial comments and discussion. It goes without saying that any shortcomings in this paper are ours.

¹ In this paper, the *hito*-phrase is treated as an NP for the sake of exposition. Due to limitations of space, we leave open the exact syntactic status of the *hito*-phrase. Interested readers are referred to Matsumoto (1996), implying that the syntactic category of the *hito*-phrase is an NP.

² Since Chinese has nothing to do with the discussion here, we will not go into the details of the language.

³ The difference between the HNC and the light verb construction in Japanese lies in verbs: the former is accompanied by verbs with some lexical content, such as *kaku* ‘sweat’ and *nuru* ‘paint,’ but the latter is accompanied by the light verb *suru* ‘do’ with little lexical content.

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Biblical English as a Linguistic Corpus

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Keywords: biblical languages, translated English, syntactic fusion, calque, linguistic data

1. INTRODUCTION

Biblical English contains useful, suggestive and noteworthy data which can help explain or trigger new analyses of linguistic phenomena. If complex factors reside in biblical English, it is because, as Hashimoto (2008) points out, it is translated English. Biblical translations into English began in the OE period, and countless revisions and new translations have been produced since then. At the same time, expressions appearing in the translations have been quoted and referred to in various ways in all sorts of fields and settings, so that many expressions in the biblical languages have left their linguistic marks on English usage beyond the confines of the biblical translations. Some of these expressions have been absorbed into English as they had linguistic structures similar to those found in English, and some have appeared in English wearing the linguistic coats of English, though their original functions differ from those of their English counterparts. The aim of this paper is to analyze translated biblical English and to discuss its usefulness as linguistic data.

To discuss the influence of the biblical languages on English, it is necessary to examine the relations between English expressions and their counterparts in the Hebrew of the Old Testament, the Greek of the Septuagint, the Greek

of the New Testament and/or the Latin of the Vulgate, while considering the history of English biblical translations and the translation methods used in each of the English Bibles (cf. Cunningham (2014)).

The history of English biblical translations can be divided into two periods: the period of indirect translation from the Latin of the Vulgate, and that of the direct translation from the original languages of the Old Testament and the New Testament. The direct translation from the Greek of the New Testament began in 1525, and that from the Hebrew of the Old Testament (hereafter, Hebrew) began in 1530, though the method of translating indirectly from the Latin of the Vulgate have been continued in Catholic translations.

The most influential and important biblical language is Hebrew among the three, because it is an original language of the Old Testament, and the Greek of the Septuagint, the Greek of the New Testament and the Latin of the Vulgate frequently adopt or borrow words, phrases and linguistic elements from Hebrew.

One of the other important aspects to bear in mind is that each of the biblical languages, especially Hebrew, which belongs to a different language family from that which includes English, Latin and Greek, has its own distinctive linguistic features.

Take, for example, the question of sensitivity to context. English is the language of a “low context culture,” while Hebrew belongs to a “high context culture,” as suggested by Hall and Hall (1990: 6-7). One typical example is the Hebrew conjunction -ו , which consists of one letter, and is a prefix. This is called *waw*, which is the name of this letter as well as this conjunction, and is the most frequently occurring conjunction in the Hebrew Bible. Its frequency is one element of the characteristic prose style of the Hebrew Old Testament.

As for its function, it is abstractive and realized only in context. It can perform the same conjunctive function as the English words *and*, *but*, *or*, *that*, *when*, *while*, *as*, *for*, *if*, *as if*, and *though*, and it can also function like a conjunctive adverbial, such as *furthermore*, *henceforth*, *moreover*, *thus*, *therefore*, as context requires. Furthermore, when it is prefixed to a verb, it can convert the aspect of the verb, from the perfect to the imperfect and *vice versa*, with or without continuing to perform its conjunctive function (cf. Waltke and O'Connor (1990: 519- 42). This is one of the main reasons why interpretations of Hebrew sentences often vary from one historical period to another and from translator to translator.

Table 1 shows translations of the Hebrew conjunction *waw* in eight verses of *the King James Bible* (hereafter, KJB) published in 1611 and the same verses in *the Living Bible* (hereafter, LB) of 1980.

Table 1

Hebrew Text	Exodus 33	KJB	LB
וַיִּשְׁמַע ה' אֶת-הַדְּבָר	4	And	When
וַיֹּאמֶר יְהוָה אֶל-מֹשֶׁה	5	For	For
וַיִּתְנַצֵּלוּ בְנֵי יִשְׂרָאֵל	6	And	So, after that
וַיִּקַּח אֶת-הָאֵהָל	7	And	(not translated)
וַיְהִי כַּצָּאת מֹשֶׁה	8	And	Whenever
וַיְהִי כִבְּא מֹשֶׁה	9	And	After
וַיֵּרָא כָל-הָעָם אֶת-	10	And	As soon as
וַיְדַבֵּר יְהוָה אֶל מֹשֶׁה	11	And	(not translated)

KJB has a strong tendency to reproduce the expressions and style of the original. Most of the *waws* are replaced by *and* in KJB, which is one of the characteristics of the prose style of this Bible, just as *waw* is characteristic of the Hebrew Old Testament. In other words, the Hebrew style is reproduced in KJB by means of this translation method. On the other hand, a variety of conjunctions are used in LB and cases are found where no translation is given. This is a translation method which aims to reproduce the meaning of the original.

If we did not know any better, these differences in the translation of the Hebrew conjunction *waw* between the two English Bibles might lead us to speculate that various functional and semantic changes in the use of *and* had occurred during the 369 years between 1611 to 1980.

The imperfect aspect of verbs is another typical example of the sensitivity of Hebrew to context. This, too, has caused fluctuations in English biblical translations. The imperfect aspect of verbs has the potential to express a wide range of diverse moods, such as indicative, subjunctive, volitional, optative and potential, and it can also express duration and habitualness (cf. Lambdin (1971: 99-105)). The imperfect form of the verb קום (= rise or arise), for example, expresses the following functions and meanings: “*He rise(s)/ rose, will/would rise, can/could rise, may/might rise, shall/should rise, must rise, want(s) to rise, continue(s) to rise, used to rise.*” The citations (1b) to (1f) are examples of translations of the imperfect verb in the third-person and plural of the verb קום in *II Samuel* (22:39). They are direct translations from the Hebrew sentence (1a) in the five different periods.

(1a) וְלֹא יִקְוּמוּ lit. trans. [and-not they-rise]

Hebrew Bible

(1b) 1560: they *shal* not arise, *Geneva Bible*

(1c) 1611: that they *could* not arise: KJB

(1d) 1970: they *rise* no more;

News English Bible

(1e) 1982: and they *cannot rise*;

Good News Bible

(1f) 2007: so that they did not *arise*;

New Revised Standard Version

The grammatical function assigned to this Hebrew imperfect verb depends on the interpreter's reading. Therefore, these different translations made in the different periods are not the result of historical changes of the functions of the English modal auxiliaries.

2. LINGUISTIC INFLUENCE

In discussing the influence of the biblical languages on English, attention should be paid to the following three features.

- A. High frequency of the same phrase or similar syntactic devices
- B. Calque or loan translation
- C. Hybrid or syntactic fusion of English and the biblical languages

They do not always appear clearly and separately but two or three of them sometimes intertwine to constitute a single phrase with a collocative meaning in English.

2.1. HIGH FREQUENCY

One of the typical examples of high frequency is *and*, as pointed out above. To this category belongs the construction “*it came to pass that-clause*.” This has been discussed by Hashimoto (1985). Its variant, shown in (2a), also belongs to this category. We can derive an adequate explanation for the construction of the sentence from English grammar. But analysis also shows that the syntax of the original language, underlined below, has been retained.

- (2a) And it shall be, when the LORD brings you into the land of the Canaanites and the Hittites and the Amorites and the Hivites and the Jebusites, which He swore to your fathers to give you, a land flowing with milk and honey, that you shall keep this service in this month.

New King James Version, Exodus 13:5

- (2b) וְהָיָה אַתָּה עֹבֵדָה הַזֹּאת בְּחֹדֶשׁ AT וְהָיָה
lit. trans. [and-it-shall-be TA and-you-shall-keep service this in-month this] (= And it shall be TA and you shall keep this service in this month)

Hebrew Bible, *Exodus 13:5*

The sentence (2a) consists of “*and it shall be* + temporal adverbial (hereafter, TA) + *that-clause*,” which is a reflection of a Hebrew grammatical device to introduce a future time of an episode. This construction often appears in KJB as a result

of a literal translation of the Hebrew construction (2b), and this translation method is still employed today, as shown in (2a).

This Hebrew construction in the imperfect aspect “וְהָיָה AT וְהָיָה TA and-...] has been usually translated word for word except for the last conjunction *waw*, which has been translated by the English conjunction *that* to introduce an English complement clause. As a result, the construction shown in (2a) appears very often in English Bibles. This type of translation method first appears in the Greek of the Septuagint, as shown in (2c):

- (2c) καὶ ἔσται TA καὶ ...

Septuagint, *Exodus 13:5*

As this Hebraism in the Septuagint was brought into the Greek of the New Testament, as pointed out by Sherman (1937), it appears in English New Testaments. This is an example of the intertwining of the calque and the hybrid.

2.2. SYNTACTIC CALQUE

The following examples (3a) to (3c) are citations from *Exodus* (4:5) of English translations from the OE to ModE periods.

- (3a) ModE: the LORD, *the God of* their ancestors, *the God of* Abraham, *the God of* Isaac, and *the God of* Jacob

New Revised Standard Version

- (3b) ME: *God of* thi fadres aperiðe to thee *God of* Abraham, and *God of* Ysaac, and *God of* Jacob. *Wycliffite Bible*

- (3c) OE: Drihten þindra fædera *God* þe ætywde, Abrahames *God* 7 Isaaces *God* 7 Iacobes *God* *OE Heptateuch*

- (3d) Latin: Dominus *Deus* patrum tuorum *Deus* Abraham *Deus* Isaac *Deus* Iacob

Vulgate

- (3e) יְהוָה אֱלֹהֵי אֲבֹתָם אֱלֹהֵי אַבְרָהָם אֱלֹהֵי יִצְחָק אֱלֹהֵי יַעֲקֹב

אֱלֹהֵי יִצְחָק

lit. trans. [Yahwe God-of their-father God-of Abraham God-of Jacob God-of

The phrase is well known to most Christians. A famous joke was born from this passage. That is: How many gods can you find here? The answer is, of course, one. This syntax cannot be explained and has never been accepted by English grammar. However, it was already used in OE and ME versions of the Bible, as shown in (3b) and (3c). These OE and ME versions are indirect translations from Latin, and they occur there as the calque of the Latin of the Vulgate (3d). The Latin translation itself is also a calque of the original phrase with its Hebrew syntax, shown in (3e). In Hebrew, when the head of a noun phrase is followed by more than one noun phrase, the head should be added to each of the noun phrases repeatedly. This Hebrew syntax has been copied and repeated by translators, and is accepted only in the biblical setting, probably because it is used in an important context of the Bible.

2.3. HYBRID OR SYNTACTIC FUSION

In English biblical translations, we very often see a tautological phrase such as *spoke and said*, *told and said*, *asked saying*, *spoke saying* where a verb of speaking in a finite form or the present participle follows another verb of speaking, as shown in (4a) to (4f):

(4a) The king *spoke and said* to the wise men of Babylon, *New American Standard Bible*, *Daniel* 5:7

(4b) My lord *asked* his servants, *saying*, ‘Have you a father or a brother? *New Revised Standard Version*, *Genesis* 44:19

(4c) And Ioshua *adiured* them at that time, *saying*, Cursed be the man before the Lord, *KJB*, *Joshua* 6:26

(4d) And she *vowed a vow*, *and said*, O Lord of hostes, *KJB*, *1 Samuel* 1:11

(4e) God ða *spræc* to NOE, ðus *cweðende* *OE Heptateuch*, *Genesis* 8:15

(4f) hig 7 swaredon 7 cwædon to him

These collocations are acceptable to English syntax, but their high frequency is very conspicuous and unique to the Bible. They have appeared since the OE period, as shown in (4e) and (4f). After the OE period, when biblical translations were made indirectly from the Latin of the Vulgate, such collocations occurred with high frequency even in OE versions of the New Testament, as shown in (4f). These collocations are easy to explain in terms of English grammar. Interestingly enough, they correspond to one or other of the two grammatical devices very frequently used to introduce direct speech in the Hebrew Bible. One of them is a periphrastic infinitive of a verb corresponding to the English verb *say* לאמר [*to-say*], and another is “*waw* + imperfect form of the same verb” = ויאמר [*and-says*] (= and said), which expresses the perfect aspect, because the conjunction *waw* can convert that aspect, as noted above.

In the Latin of the Vulgate, the periphrastic infinitive לאמר [*to-say*] is replaced by the present participle *dicens*, and “*waw* + imperfect verb” by *et dixit*. This type of construction, characterized by a fusion of the Hebrew and the Latin syntaxes, first appears not in the Latin of the Vulgate but in the Greek of the Septuagint. It was the writers of the New Testament who brought this Hebraism into the Greek of the New Testament, e.g., ἀπεκρίθησαν καὶ εἶπαν (*John* 18:30), ἀπεκρίνατο λέγων πᾶσιν ὁ Ἰωάννης (*Luke* 3:16) (cf. Hashimoto (1983)).

The OE biblical translators rendered the Latin collocations faithfully, and instances of “a verb of speaking followed by *saying/and said*” occurred frequently in OE biblical translations. This translation method has endured to the present day. If we consider (4c) and (4d) from the point of view of the original language, it is not *saying* and *said* but *adiured* in (4c) and *vowed a vow* in (4d) that have an illocutionary force.

3. USEFULNESS AS LINGUISTIC DATA

One reason why the complexities of biblical English considered so far are important is that they provide data which can be used to explain linguistic phenomena. For example, the following tentative analysis using data from biblical translations found in Hashimoto (2012) aims to clarify the development of English compound numerals. No previous discussion of the topic has been either this detailed or based on data that is as reliable.

Three basic types of the numerals from 21 to 99 have occurred in the history of English. The first type is “one and twenty,” which will be called the OE type, because it was dominant in the OE period. The second type is “twenty and one,” which will be called the Middle type, because it appeared between the first and the third types in the history of English. The third type is “twenty-one,” which will be called the Modern type, because it is the standard expression of compound numerals in present-day English.

In Shakespeare, it is the OE type which predominates, accounting for about 70.6 % of the numerals in his works, (cf. Hashimoto (2005: 126)). On the other hand, in KJB, the Middle type is dominant (about 76.5%). It is generally said that English compound numerals have changed from the OE type to the Modern type via the Middle type. Why did KJB keep one step ahead of Shakespeare in the development of numerals, although it is generally conservative in its style and usage?

To make clear the process of the development, I examined the following nine Bibles, (a) the Hebrew Bible, (b) the Vulgate, and seven English Bibles translated for about 216 years from c.1395 to 1611. They are: (c) *Wycliffite Bible* (c.1395), (d) *Tyndale’s Pentateuch* (1350), (e) *Coverdale Bible* (1535), (f) *Geneva Bible* (1560), (g) *Bishops’ Bible* (1568), (h) *Rheims-Douai Bible* (1609–10), and (i) KJB (1611). The scope of

the examination of each version of the Old Testament is twenty seven books from *Genesis* to *Daniel*, except in the case of *Tyndale’s Pentateuch*. 375 examples of compound numerals were collected from the twenty-seven books of the Hebrew Old Testament. Eleven examples of the compound numerals were found in the Four Greek Gospels. As the number in the Four Gospels are small, the data from the Old Testament will be the focus here.

Table 2

Bibles	OE type (%)	Middle type (%)	Modern type (%)
(a)	32.8	67.2	0
(b)	0	11.2	88.3
(c)	90.2	9.8	0
(d)	n/a	n/a	n/a
(e)	98.2	1.8	0
(f)	73.1	26.9	0
(g)	16.2	83.8	0
(h)	42.1	5.4	52.5
(i)	23.2	76.5	0.3

(NB, rounded to one decimal place)

Table 2 shows the distribution of the compound numerals in each version. *Tyndale’s Pentateuch* is unique in that about 95% of the compound numerals are expressed as Roman numerals, as in “xxxv. yere” (*Genesis* 11:12). Such expressions are very suggestive and provide interesting data for anyone interested in the history of compound numerals. This will be discussed on another occasion.

Schibsbye (1977: 112) suggests that the English Modern type originates in French at the end of the 15th century. This claim will be easily denied by the statement by Wagner and Pinchon (1962: 107). They state that in the French classical period from 1600 to 1700, units still be coordinated with tens by the conjunction *et*. If their statement is right, the English

Modern type occurred much earlier than the French Modern type, without the influence of French. This fact is shown in the Table 2.

In the Hebrew Old Testament there are two types, the OE type and the Middle type, and the latter is dominant (67.2%). In the Vulgate, the Middle type is minor (11.2%) and the Modern type is dominant (88.3%). In Latin, the general order is the same as in Modern English and the Middle type occurs very rarely according to Mountford (1962: 45). This suggests that the Middle type in the Vulgate was influenced by that in the Hebrew Bible.

The frequency of the OE type in the Wycliffe Bible is very high, demonstrating the stable status of this type. Dramatic changes occur during the EModE period. Instances of the Middle type increase and the Modern type appears at the beginning of the seventeenth century. These changes occurred as a result of, and were accelerated by, successive translations of the Hebrew Middle type and the Latin Modern type.

4. CONCLUSION

Although traces of syntactic elements of the three biblical languages lie deep below the surface of biblical English, careful analysis can reveal their presence and the resulting picture furnishes a corpus which promises to make an invaluable contribution to the linguistic analysis of English.

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One Syntactic Structure for Four Voices in Japanese

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Keywords: voice, passive, causative, potential, volitionality

1. Target

Looking at only English, we have just two types of voice, namely, active voice and passive voice. However, in Japanese, causatives and potentials are also categorized as types of voice. Nevertheless, this categorization is due to only their morphological and cognitive semantic similarity, and no explanation with principle has been given. The first target in this paper is to propose the first explanation which can capture the four kinds of voice in Japanese in a unified way. I will show this analysis has an advantage with respect to the analysis of Japanese indirect passives. In addition, concerning causatives and potentials, there are some cases where case distribution cannot be explained by the current case-valuation system. The analysis in this paper can also explain these case distributions. Four types of voice are shown below, and case distributions in need of consideration are in bold print.

(1) Active

Hanako-ga Taroo-o tatai-ta.
Hanako-NOM Taroo-ACC hit-PAST
“Hanako hit Taroo.”

(2) Passive

Taroo-ga Hanako-ni
Taroo-NOM Hanako-DAT
tatak-(r)are-ta.
hit-PASS-PAST
“Taroo was hit by Hanako.”

(3) Causative

*Taroo-ga Hanako-*o/ni*
Taroo-NOM Hanako-ACC/DAT
kusuri-o nom-(s)ase-ta.
medicine-ACC take-CAUSE-PAST
“Taroo made Hanako take medicine.”

(4) Potential

- a. *Taroo-ga eigo-o*
Taroo-NOM English-ACC
hanas-(r)eru (koto).
speak-CAN
“Taroo can speak English.”
- b. *Taroo-ni/ga eigo-ga*
Taroo-DAT/NOM English-NOM
hanas-(r)eru (koto).
speak-CAN
“Taroo can speak English.”

In (3), although the Causee *Hanako* is an object, we cannot mark it as Accusative but it has to be marked as Dative. This phenomenon was first explained by Harada (1973), in which the “double-o constraint” is proposed, which bans marking more than two DPs as Accusative in a single clause. (4) are examples of sentences which indicate someone’s capability. Although (4a) shows the pattern of case-marking which is naturally expected in current case-valuation system, the distribution of case such as in (4b) is possible as well.

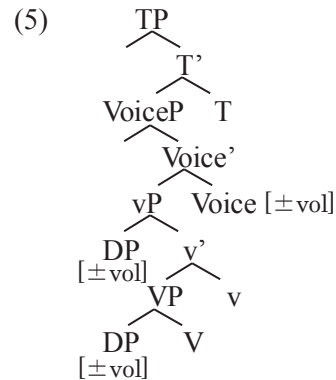
2. Proposal

2.1. Volitional feature checking

In this paper, I propose structure (5) for four types of voice (actives, passives, causatives and potentials). I assume that a functional projection, whose head has a feature $[\pm \text{vol(itional)}]$, exists between TP and vP. This functional projection decides the voice of sentences, so I call this functional projection VoiceP. A head of this projection probes the goal which has the same volitional feature. When Voice head finds an appropriate DP as a goal, this DP moves to [Spec, VoiceP]. Based on whether voice has $[+ \text{vol}]$ or $[- \text{vol}]$ and which DP has the volitional feature that matches the feature of voice, the voice of sentences is decided.

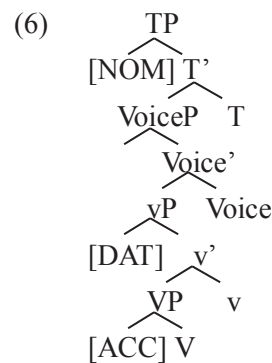
Currently, the minimalist program is based on phase theory (Chomsky (2001)). According to this framework, a derivation proceeds by phases. Once a phase is completed, a complement of a phase head is transferred, and transferred components can no longer be accessed from a derivation. For instance, VP is transferred when the derivation reaches vP, so VP is invisible from T. In this paper, I assume VoiceP exists between TP and vP. What I will make clear is whether VoiceP is a phase or not. VoiceP is a functional projection which concerns arguments' event roles. In this view, it can be said that this projection belongs to the vP domain rather than the CP domain. As VoiceP is the highest projection of the vP domain, I assume here that VoiceP is a phase and vP is a complement of a phase head, Voice. In addition, I have to refer to the difference of phase between actives and passives. Generally, it is assumed that transitive v makes a phase head and intransitive v does not. In this paper, in both actives and passives, v has the same property. As for Voice, the only difference is the volitional

feature it has. Therefore, it always makes a phase, even in passives.



2.2. Case valuation

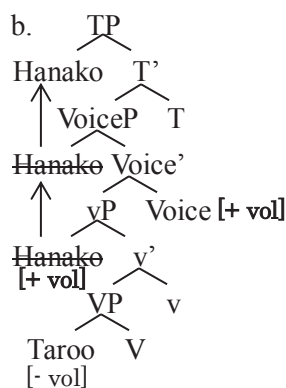
Generally, it is assumed that Nominative case is assigned from T and Accusative case is assigned from V, and I follow this assumption in this paper. In addition, I assume that Dative case is assigned from v. This assumption comes from the typological fact that Dative case is strongly associated with the semantic role Agent (and Goal) (Woolford (2006)). As Agent is assigned from v, it is natural to assume that [Spec, vP] is a Dative case position. (6) shows where a certain DP is assigned which case.



3. Analysis

Here, I show four patterns of derivation: active, passive, causative and potential voice. First, let me show the derivation of actives below. The volitional features which match each other are in bold font.

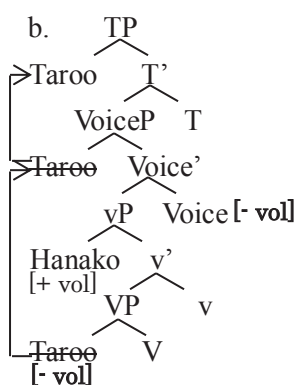
- (7) a. *Hanako-ga Taroo-o tataita.* (Active)



In active sentences, Voice has [+vol], the DP in vP Spec has [+vol], and the complement of V has [-vol]. Thus, in (7b), Voice finds *Hanako* as an appropriate goal, then *Hanako* moves to [Spec, VoiceP]. After that, T attracts *Hanako* to its Spec, and assigns it Nominative case. Since *Taroo* remains in a complement position of V, it is assigned Accusative case.

Next, we move on to passives.

- (8) a. *Taroo-ga Hanako-ni tatak-(r)are-ta.*
(Passive)



The structure of passives is basically the same as that of actives. The only difference is the feature Voice has. Concretely, in contrast to (7), Voice has [-vol] in (8). The DP in vP Spec has [+vol], and the complement of V has [-vol] as in active sentences. Therefore, agree-relation holds between Voice and *Taroo*, which results in the movement of *Taroo* to [Spec, VoiceP]. Thus, when T probes an appropriate goal, it finds

Taroo. In the end, *Taroo* moves to [Spec, TP] and is assigned Nominative case. Since *Hanako* remains in [Spec, vP], it is assigned Dative case by v.

The consequence of this analysis is that the structure of passives is the same as that of actives, and this has an advantage over general analyses. Generally, it is assumed that in passives v lacks an ability to assign Accusative case. However, this general assumption faces a serious problem when it comes to Japanese indirect passives such as (9).

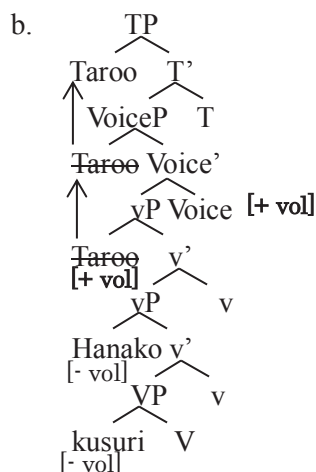
- (9) *Taroo-ga doroboo-nikuruma-o nusum-(r)are-ta.*
Taroo-NOM thief-DAT car-ACC
steal-PASS-PAST.
“Taroo had his car stolen by a thief.”

In (9), although v of the sentence is passive, the embedded object is marked Accusative. Based on general assumptions, *kuruma* in (9) cannot be marked Accusative as v lacks an ability to assign Accusative case. In order to capture this fact, it is necessary to assume that this v is the same as that of Actives. In the theory presented here, in fact passive v is same as passive one. Generally, the problem we face when we assume that v assigns Accusative case in passives is that the semantic object becomes impossible to move to subject position because of the Phase Impenetrability Condition (Chomsky (2001)). In this theory, when v can assign Accusative case it is transitive v, which is a phase head. Therefore, in passives, if v can assign Accusative case, T cannot see below v because VP has been already transferred. In contrast, in this paper, the phase head is Voice. In (8b), when T probes an appropriate goal, *Taroo* has already moved to [Spec, VoiceP], which is an edge of a phase.

Therefore, even if *v* can assign Accusative case in passives no problem arises.

Next, we move on to causatives.

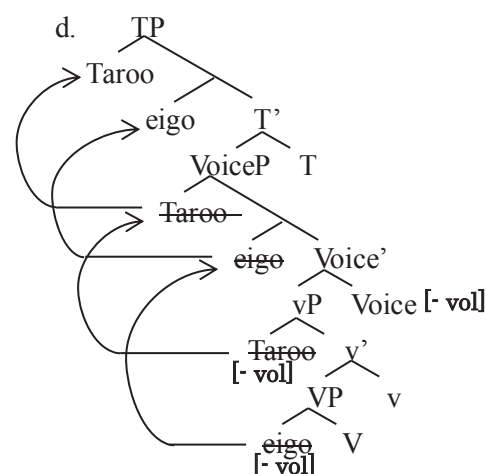
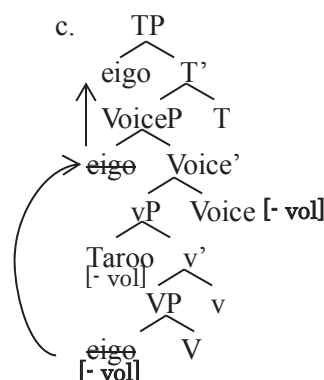
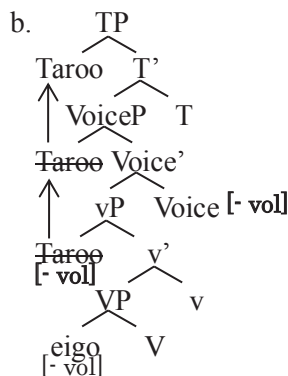
- (10) a. *Taroo-ga Hanako-ni kusuri-o*
nom-(s)ase-ta. (Causative)



Here, as for what structure produces a causative meaning, I follow Hale and Keyser (1993) and Harley (2008). According to them, when a *vP* selects another *vP*, a causative meaning appears. Therefore, I assume the structure of causative is as in (10). As for the feature of volition, since the sentence is active, Voice has [+vol]. The DP in higher [Spec, *vP*], that is, the causer, has [+vol], and the DP in lower [Spec, *vP*], that is, the causee, has [-vol]. The complement of V has [-vol]. When Voice searches for an appropriate DP which has the same volitional feature as it does in (10b), it finds *Taroo*. When the derivation converges, *Taroo* is assigned Nominative by T, *Hanako* is assigned Dative from *v*, and *kusuri* is assigned Accusative from V. Note that the distribution of case in (3) is expected in this structure. As Causee is base-generated in *vP* Spec, which is Dative case position, Causee is always marked as Dative, not Accusative.

Finally, let me show the derivation of potentials below.

- (11) a. *Taroo-ni/ga eigo-o/ga hanas-(r)eru (koto).*



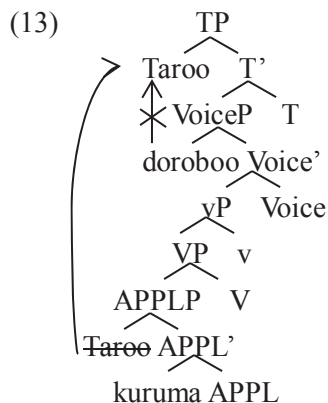
In potential sentences such as (11a), Voice has [-vol], the DP in *vP* Spec has [-vol], and the complement of V has [-vol]. In that case, three patterns of derivation are possible. If Voice finds only the DP in [Spec, *vP*], the derivation proceeds as in (11b). Voice attracts *Taroo* to its Spec. So when the derivation has converged, *Taroo* is in [Spec, TP] and *eigo* remains in the complement position of V. Therefore, *Taroo* is assigned Nominative case by T and *eigo* is

assigned Accusative case by V. If the complement of V is found by Voice, the derivation proceeds as in (11c). *Eigo* moves to [Spec, VoiceP] overtaking *Taroo*, so when the derivation has converged, *eigo* is in [Spec, TP] and *Taroo* remains in [Spec, vP]. Therefore, *eigo* is marked as Nominative and *Taroo* is marked as Dative. When we scramble DPs, the word order “*Taroo-ni eigo-ga hanaserukoto*” is obtained. If Voice finds both the DP in [Spec, VP] and the complement of V, the derivation proceeds as in (9d). As both DPs move to [Spec, VoiceP], they move to [Spec, TP] afterwards. Then, both DPs are marked as Nominative.

4. Further issues

This analysis can explain a problem concerning Pykkänen (2002). In Pykkänen (2002), seven argument introducers are proposed. These argument introducers explain a lot of phenomena concerning arguments in a vast range of languages. However, this analysis cannot capture Japanese indirect passives correctly.

- (12) *Taroo-ga doroboo-nikuruma-o*
 Taroo-NOM thief-DAT car-ACC
nusum-(r)are-ta.
 steal-PASS-PAST.
 “Taroo had his car stolen by a thief.”

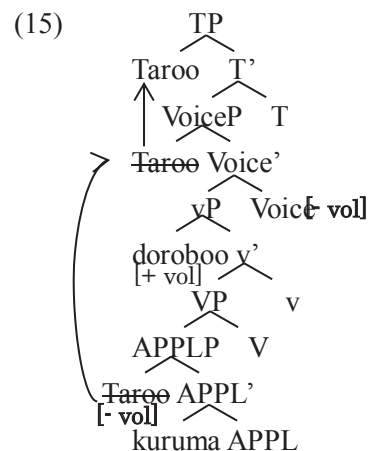


(12) is an indirect passive sentence in Japanese and (13) is the structure of (12), following Pykkänen (2002). APPL in (13) is LOW APPL, which creates a possession relation. Therefore, APPLP in (13) represents the proposition that Taroo has a car. Please note that the use of the term Voice in (13) differs from the way the term is employed here. Pykkänen (2002) uses the term to refer to a functional head with the sole purpose of introducing an external argument. The problem is that it is not clear why (13) can converge only as a passive. In other words, why (13) cannot end up as the active sentence in (14) is not clear.

- (14) **Doroboo-ga Taroo-ni kuruma-o*
 thief-NOM Taroo-DAT car-ACC
nusum-da.
 steal-PAST.
 “(Intended) ‘The thief stole Taroo’s car.’”

In (13), when T searches for an appropriate goal, it first finds *doroboo* in [Spec, VoiceP]. Therefore, there is no reason why *doroboo* cannot move to the subject position.

Following the assumptions here, the derivation of (12) is as follows.



In (15), Voice head has [- vol]. When the derivation has proceeded to VoiceP, Voice searches for an appropriate DP which has a matching volitional feature. *Doroboo* is an agent, who intentionally causes the stealing event, and therefore has [+ vol]. As this feature doesn't match the Voice head's feature, probe continues and finds the DP *Taroo*, which has [- vol]. These features match and *Taroo* moves over *doroboo* to [Spec, VoiceP]. In this way, I can provide a reason why passivization is obligatory in indirect passives in Japanese.

5. Conclusion

In this paper, I proposed a syntactic structure from which four kinds of Voice (Actives, Passives, Causatives and Potentials) are generated. The analysis here has advantages as follows. ① This structure naturally explains the peculiar distribution of case in Japanese causatives and potentials. ② Under generally-accepted assumptions, the fact that, in Japanese indirect passives, an embedded object is assigned Accusative case raises a problem. With the theory employed here, passives have the same structure as actives, so the fact described above is naturally explained. ③ In Pyllkänän (2002), the problem of Japanese indirect passives requiring the movement of indirect object to subject position is left open. According to this paper, the motivation for such a movement is to check the volitional feature of Voice and an indirect object.

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On Syntactic Complex Verbs in Japanese and Korean

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Keywords: Japanese syntactic complex verbs,
Korean complex verbs, subject honorification,
Verbal noun phrase

1. Introduction

In this paper, we investigate whether the Korean complex verb *sicakhata* (시작하다), ‘start’, has the similar properties as the Japanese syntactic complex verb with the same meaning, *hajimeru* (始める). In particular, we propose that although Korean complex verbs where V_2 is *sicakhata* bear properties similar to the Japanese syntactic complex verb *hajimeru* in the sense that the three tests discussed below can be applied to V_1 in Korean complex verbs, the verb *sicakhata* differs from *hajimeru* in terms of c-selection of the complement. While *sicakhata* takes a verbal noun phrase (VNP) as its complement, *hajimeru* takes a projection vP .

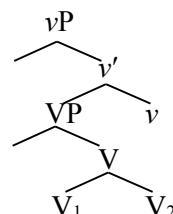
2. Complex Verbs in Japanese

2.1 Nature of Syntactic Complex Verbs

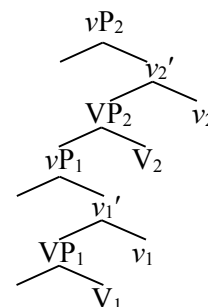
In this section, we give an overview of the difference between syntactic complex verbs (SCV) and lexical complex verbs (LCV) in Japanese. According to Kageyama (1993) and Saito

(2013), LCVs project a single maximal projection, vP , comprising a V_1 and V_2 complex. In contrast, SCVs have the form of their maximal projection (Saito 2013). Their syntactic structures are shown in (1).

(1) a. LCVs



b. SCVs



Kageyama (1993) argues that there are at least three ways to distinguish SCVs from LCVs by focusing on the differences in syntactic structure; these are shown in (2), (3), and (4). First, let us look at the test that substitutes *soo su* ‘do so’; conjugated here as *soo si*.

(2) Substitution with *soo su*¹

- a. Taroo-ga ki-o kiri-taosi-ta.
Taroo-NOM tree-ACC cut-topple-Past
‘Taroo cut down the tree.’
- b.*Hanako-mo **soo** **si**-taosi-ta.
Hanako-also so do-topple-Past
‘Lit., Hanako also started to do so.’
- c. Taroo-ga naki-hajime-ta.
Taroo-NOM cry-start-Past
‘Taroo began to cry.’
- d. Hanako-mo **soo** **si**-hajime-ta.
Hanako-also so do-start-Past
‘Hanako also began to do so.’

The phrases (2a) and (2b) show examples of LCVs, whereas (2c) and (2d) show SCVs. In the case of LCVs, as is seen in (2b), it is difficult to substitute *soo su* for V_1 since V_1 as an LCV does

not project νP , as shown in (1a). In contrast, SCVs can be replaced, as seen in (2d) because both V_1 and V_2 project νP , as is illustrated in (1b).

Second, the substitution of Sino-Japanese verbs for V_1 can be used to examine whether complex verbs are LCVs or SCVs. This test is applied to the whole set of words, rather than to parts of the set, as shown in (3).

(3) Substitution with Sino-Japanese verbs

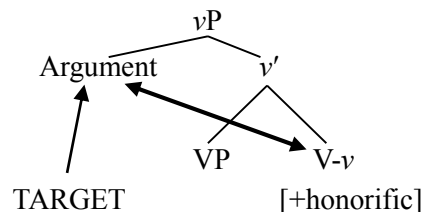
- a. Taroo-ga ki-o kiri-taosi-ta.
Taroo-NOM tree-ACC cut-topple-Past
'Taroo cut down the tree.'
- b.*Taroo-ga ki-o **bassai** si-taosi-ta.
T-NOM tree-ACC logging do-topple-Past
'Lit., Taroo cut down the tree.'
- c. Taroo-ga naki-hajime-ta.
Taroo-NOM cry-start-Past
'Taroo began to cry.'
- d. Taroo-ga **gookyuu** si-hajime-ta.
Taroo-NOM crying do-start-Past
'Taroo began to cry.'

Phrases (3a) and (3b) are examples of LCVs. In contrast, (3c) and (3d) are SCVs. It is inappropriate to substitute Sino-Japanese verbs for V_1 because LCVs are pairs of single words V_1 and V_2 , as seen in (1a). In contrast, V_1 in SCVs can be replaced as in (3d) since V_1 projects its maximal projection, namely, VP_1 , which is distinct from VP_2 .

The third test to distinguish LCVs from SCVs is to adjoin an honorific expression to V_1 by using *o-V-ni naru* 'V-Hon.' According to Kishimoto (2007), the subject-honorification mechanism in Japanese SCVs is accounted for by means of a spec-head agreement. More concisely, subject honorification is allowed only when the verb with a subject honoric marker

agrees with its argument, a person worthy of respect, with the feature [+honorific], as explained in (4).

(4) Subject honorification in Japanese



(Kishimoto 2007:96)

Assuming that Kishimoto's (2007) account is correct, it is predicted that applying honorification to only V_1 in LCVs will be unacceptable because they will no longer bear a single νP ; however, since SCVs do bear two νP s, as shown in (1b), they can accept honorification. This is, in fact, what happens. An example of this for an LCV is shown in (5).

- (5) a. Ito-sensei-ga ki-o kiri-taosi-ta.
Dr. I-NOM tree-ACC cut-topple-Past
- b.*..... **o-kiri-ni-nari** taosi-ta.
cut-HON topple-Past
- c. **o-kiri-taosi-ni-nat**-ta.
cut-topple-HON-Past
'Dr. Ito cut down the tree.'

In (5b), it is shown that subject honorific marking is not limited to only V_1 , but extends to the whole LCV *kiri-taos*, as in (5c), because LCVs bear only a single VP-shell structure, as presented in (1a). In contrast to LCVs, SCVs bear two-layered νP s, as illustrated in (1b). Therefore, since there are two different positions base-generated for the subjects; namely, a Spec of νP_1 and a Spec of νP_2 , SCVs such as *V₁-hajimeru* bear two different syntactic structures.

- (6) a. Ito-sensei-ga bentoo-o tabe-hajime-ta.
 Dr. I-NOM boxed lunch-ACC eat-start-Past
 b. …… **o-tabe-ni-nari** hajime-ta.
 eat-HON start-Past
 c. …… **o-tabe-hajime-ni-nat-ta.**
 eat-start-HON-Past
 ‘Dr. Ito started to eat a boxed lunch.’

Subject honorification in (6b) and (6c) is appropriately legitimized for the following reasons. In (6b), the lexical subject is originated from the Spec of νP_1 , so that the honorific marker is attached to the stem of the downstairs verb, *tabe* ‘eat.’ In (6c), however, the subject is base-generated in the Spec of νP_2 . Therefore, the honorific marker is attached to the stem of the whole verb, *tabe-hajime* ‘eat-start.’

3. Complex Verbs in Korean

In this section, we give an overview of studies of Korean complex verbs. There are similarities and differences between Japanese complex verbs and Korean complex verbs. The properties of LCVs and SCVs in Korean are discussed in that order.

3.1 LCVs in Korean

According to Wada (2011), there are Korean LCVs that bear properties similar to those of Japanese LCVs in that V_1 directly attaches to V_2 , as shown in (7).

- (7) a. olu-nayli-ta
 ascend-descend-Decl
 ‘To do up-down’
 b. ttwi-nol-ta
 jump-play-Decl
 ‘To bum around’ (Wada 2011:84)

In (7a) and (7b), for example, V_2 is attached to

the stem of V_1 . In this way, it is broadly accepted that some Korean LCVs are similar to Japanese LCVs.

3.2 SCVs in Korean

The case is different for SCVs in Korean. Following Tsukamoto’s (2012) suggestion, it is appropriate to argue that Korean has few SCVs similar to those in Japanese. Instead, the events denoted by the Japanese SCVs are rephrased in expressions other than complex verbs. Examples (8a), (9a), and (10a) are Korean, while (8b), (9b), and (10b) are the Japanese equivalents.

- (8) a. Yenghui-ka tosirak-ul
 Yenghui-NOM boxed lunch-ACC
 mek-nun-kes-ul ic -ess-ta.
 eat-Rel-NMNZ-ACC forget-Past-Decl.
 ‘Yenghui forgot to eat a boxed lunch.’
 b. Taroo-ga bentoo-o tabe-wasure-ta.
 T-NOM b.l.-ACC eat-forget-Past
 ‘Taroo forgot to eat a boxed lunch.’
 (9) a. Yenghui-ka tosirak-ul ta mek-ess-ta.
 Y-NOM b.l.-ACC all eat-Past-Decl.
 ‘Yenghui ate a boxed lunch completely.’
 b. Taroo-ga bentoo-o tabe-oe-ta.
 T-NOM b.l.-ACC eat-finish-Past
 ‘Taroo finished eating a boxed lunch.’
 (10) a. Yenghui-ka tosirak-ul kyaysok
 Y-NOM b.l.-ACC successively
 mek-ess-ta.
 eat-Past-Decl.
 ‘Yenghui continued to eat a boxed lunch.’
 b. Taroo-ga bentoo-o tabe-tuzuke-ta.
 T-NOM b.l.-ACC eat-continue-Past
 ‘Taroo continued to eat a boxed lunch.’

In (8a), the complex NP *mek-nun-kes*, rather

than the complex verb *mek-icnunta* ‘eat-forget,’ is used to express the same meaning as the Japanese *tabe-wasureru* ‘forget to eat something.’ To denote the events expressed in Japanese as (9b) and (10b), the respective Korean denotations (9a) and (10a) indicate the events by using adverbs such as *ta* ‘all’ and *kyeysok* ‘successively,’ rather than by using complex verbs.

From the above, Tsukamoto (2012) concludes that there are no longer SCVs in Korean.

3.3. Some Intriguing Properties of *Sicakhata*

With respect to Tsukamoto’s (2012) descriptions of Korean complex verbs, Baek (2005) states that *sicakhata* ‘start’ expresses the events inferred from an inchoative reading by attaching *sicakhata* to V_1 , in the same way that *hajimeru* ‘start’ does in Japanese, as shown in (11):

- (11) Yenghui-ka wul-ki sicakh-ess-ta
 Yenghui-NOM cry-suffix start-Past-Decl.
 ‘Yenghui began to cry.’

In (11), *sicakhata* is attached to *wul-ki*, which means ‘cry-suffix, but not the stem of V_1 , *wul*.’ With respect to the suffix *ki*, Ito (2012) argues that *ki* serves two functions as a suffix in Korean: it turns verbs into gerunds or verbal nouns, and it turns verbs into nouns.² In this paper, we adopt the latter proposal for the following reasons. When the suffix *ki* is used for nominalization of a verb, the verb to which *ki* is attached is not expected to assign an accusative case to its complement because Korean nouns cannot assign an accusative case to their complement. However, verbal nouns can do so because they retain the nature of verbs. Notably, a verb stem with the suffix *ki* can assign an accusative case to its complement when the verb is

the complement of *sicakhata*, as shown in (12).

- (12) Yenghui-ka tosirak-ul
 Yenghui-NOM boxed lunch-ACC
 mek-ki sicakh-ess-ta.
 eat-suffix start-Past-Decl.
 ‘Yenghui started to eat a boxed lunch.’

It is sufficient to consider the suffix *ki* attached to the stem of the verb *mek* as creating a verbal noun, rather than as nominalizing the verb.³ Furthermore, it is considered that Korean complex verbs such as *mekki sicakhata* resemble Japanese SCVs such as *tabe hajimeru* in the sense that V_2 is attached to verbs (or verbal nouns). This raises a question. Is there a configuration between verbal nouns and *sicakhata* as V_2 , in the same way as for Japanese SCVs where V_2 is *hajimeru*?

4. Hypothesis

4.1 Working Hypothesis

To clarify the question of the previous section, we consider the following working hypothesis.

- (13) Korean complex verbs where V_2 is *sicakhata* have the same properties as Japanese SCVs where V_2 is *hajimeru*.

4.2 Prediction

If (13) is correct, then the three tests shown in (2), (3), and (5) and (6) will succeed for Korean complex verbs where V_2 is *sicakhata*. Stated another way, the substitution with *kuleykey hata* ‘do so,’ the substitution with Sino-Korean verbs, and subject honorification, will be applicable to Korean complex verbs where V_2 is *sicakhata*.

5. Result and Discussion

In this section, we investigate the results of applying the three tests to V_1 in Korean complex verbs. First, let us look at the substitution with *kuleykey hata* in Korean.

- (14) a. Yenghui-ka tosirak-ul
 Yenghui-NOM boxed lunch-ACC
 mek-ki sicakh-ess-ta.
 eat-suffix start-Past-Decl.
 ‘Yenghui started to eat a boxed lunch.’
 b. Kuliko, Chelswu-to kuleykey
 And, Chelswu-also so
 ha-ki sicakh-ess-ta.
 do-suffix start-Past-Decl
 ‘And, Chelswu also started to do so.’

In (14b), *tosirakul mek* in *tosirakul mekki* is expressed as *kuleykey ha* from *kuleykey hata*. It means that the test regarding the substitution of V_1 for *kuleykey hata* succeeds when applied to Korean complex verbs where V_2 is *sicakhata*.

The second test is the substitution for Sino-Korean verbs.

- (15) a. Yenghui-ka namwu-lul calu-ki
 Yenghui-NOM tree-ACC cut-suffix
 sicakh-ess-ta.
 start-Past-Decl
 ‘Yenghui started to cut the tree.’
 b. Yenghui-ka pelmok-ha-ki
 Yenghui-NOM logging-do-suffix
 sicakh-ess-ta.
 start-Past-Decl
 ‘Yenghui started logging.’

As in (15b), it is shown that V_1 can be substituted with Sino-Korean verbs. In other words, *namwu-lul caluta* in (15a) is restated as *ki-o kiru* ‘cut the tree’ in Japanese, and

pelmokhata in (15b) can be rephrased as *batuboku suru* ‘cut the tree’ in Japanese.

This suggests that there is a configuration between V_1 and V_2 because the two tests noted above, the substitution of V_1 with *kuleykey hata* and the substitution of V_1 with Sino-Korean verbs succeed for Korean complex verbs where V_2 is *sicakhata*. We next consider whether *sicakhata* c-selects vP as its complement in the way that *hajimeru* c-selects vP as its complement. To make progress on this question, we consider subject honorification as the third test.

Before looking at the result of a subject-honorification test, we give an overview of several previous studies on the subject-honorification mechanism in Korean. It is well-known that there is a bound morpheme, *(u)si*, which acts as a suffix attached to verb stems to represent honorific meanings in Korean. In addition, we assume here that there is subject-verb honorific agreement in Korean (see Choi 2003, Kim 2010, among others, for more about this assumption). For example, Choi (2003) postulates that an agreement projection AgrP occurs above VP when *(u)si* occurs in a head of the AgrP. In this paper, although this issue is extensively discussed in relation to the subject-honorification mechanism in Korean, we tentatively assume that AgrP in studies of Korean concerning subject honorification is identical to vP in studies of Japanese concerning subject honorification. This is because both AgrP in Korean and vP in Japanese are situated above VP and create spec-head agreement. Therefore, we assume that the subject honorific suffix *(u)si* occupies a head of vP .

If the working hypothesis presented in (13) is correct, then *(u)si* can be attached not only to the stem of V_2 but also to a stem of V_1 . Now, consider (16), in which the honorific suffix *(u)si*

(16) Lee-sensayng-nim-i namwu-lul
Lee-teacher-HON-NOM tree-ACC
a. calu-ki sicakha-**si**-ess-ta
 cut-suffix start-HON-Past-Decl
 (V₁-suffix V₂-**HON**)
b.*calu-ki-**si** sicakh-ess-ta
 (V₁-suffix-**HON** V₂)
c.*calu-**si**-ki sicakh-ess-ta
 (V₁-**HON**-suffix V₂)
‘Dr. Lee started to cut down the tree.’

(17)

```

graph TD
    CP --> TP
    CP --> C["-ta"]
    TP --> NP1["Dr. Leei-nim-i"]
    TP --> T_prime["T'"]
    T_prime --> vP2["vP2"]
    T_prime --> T["T"]
    T --> T_spec["-ess"]
    vP2 --> ti["ti"]
    vP2 --> v2_prime["v2'"]
    v2_prime --> VP2["VP2"]
    v2_prime --> v2["v2"]
    v2 --> v2_spec["-si"]
    VP2 --> VNP["VNP"]
    VP2 --> V2["V2"]
    V2 --> sicakha["sicakha"]
    VNP --> VP1["VP1"]
    VNP --> VN["VN"]
    VN --> ki["-ki"]
    VP1 --> NP2["NP"]
    NP2 --> namwu["namwu-lul"]
    VP1 --> V1["V1"]
    V1 --> calu["calu"]
  
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The syntax tree for (17) shows the hierarchical structure of the sentence. The root is CP, which branches into TP and C (-ta). TP branches into NP (Dr. Lee_i-nim-i) and T'. T' branches into vP₂ and T. T branches into -ess. vP₂ branches into t_i and v₂'. v₂' branches into VP₂ and v₂. v₂ branches into -si. VP₂ branches into VNP and V₂. V₂ branches into sicakha. VNP branches into VP₁ and VN. VN branches into -ki. VP₁ branches into NP (namwu-lul) and V₁ (calu).

6. Consequence and Implications

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Acknowledgements

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Notes

¹ NOM = Nominative, ACC = Accusative, Rel = Relative, NMNZ = Nominalizer, Decl = Declarative, HON = Honorific

² Tsukamoto (2012) regards the suffix *ki* as turning verbs into nouns.

³ Unlike *sicakhata*, other verbs cannot directly take a *V*₁ that is attached to a suffix *ki* for the complement, as seen in (i):

- (i) Taroo-ka tosirak-ul
Taroo-NOM boxed lunch-ACC
a.*mek-ki ic-ess-ta
eat-suffix forget-Past-Decl.
b.*mek-ki kkuthn-ess-ta
eat-suffix finish-Past-Decl.
c.*mek-ki kesokh-ess-ta
eat-suffix continue-Past-Decl.

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A Scale in Scalar Adjectives in Corpus¹

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Keywords: scalar structures, copulas, speaker orientedness, corpus, quantitative study

1. Introduction

This paper investigates the context in which semantic shift occurs in scale structures in English. What we call semantic shift in this paper is expressions like the followings:

- (1) a. Although from the outside Sugar looked very complete. (BNC: CGJ-1036^{3,4})
- b. [M]y bladder suddenly seemed very full. (HW8-3205)
- c. the recording quality throughout is very acceptable. (BMC 1609)

Adjectives underlined in (1), *complete*, *full*, and *acceptable* denote either a maximal or minimum point on scales. Thus these adjectives are logically unmodifiable with such modifiers as *very*. Though illogical, these expressions are not quite rare. Given this fact, a question arises: When do these expressions occur? In this paper, we suggest that this semantic shift occurs when the speaker wants to show their attitude or how they perceived the situation.

This paper is organized as follows: We will review a previous work first, and then move to the hypothesis. In the following section, data and methods will be reviewed, and we will

argue the data based on the statistical results.

2. Adjectives with endpoint or without endpoint

2.1. Kennedy and McNally (2005)

Gradable adjectives have been classified in a number of ways. One of the recent classification is whether the standard of comparison is relative or absolute. The distinction is illustrated in the following examples:

- (2) a. My son is tall (for his age).
- b. Michael Jordan is tall (for a basketball player).
- (3) a. My son is awake.
- b. Michael Jordan is awake.

The adjective *tall* is said to have a relative standard. This is because (2a) is true if his height is compared with others, say 6 year old boys, and his height exceeds the standard. Similarly, (2b) is true if we compare with a height of an average male adult. It is nonsense to assume a standard based on 6-year old when one is talking about the height of a basketball player. Thus the standard of comparison in (2) is contextually determined, or relative to the context. On the contrary, if one is awake, then it does not matter who it is, as is illustrated in (3). As a consequence, *awake* has an absolute standard, which is insensitive to a context in which it occurs. Adjectives such as (2) is called relative adjectives, those similar to (3) are absolute adjectives, following Unger (1975).

This distinction is easily captured in co-occurrences of degree modifiers. Degree adverbs are classified into two types, one referring to maximum or minimum, and the other to degrees. Relative adjectives do not have endpoints, so degree modifiers that refer to either maximum or minimum do not co-occur.

Such adjectives nicely fit with modifiers referring to degrees such as *very*, *so*, *pretty* and so on. On the contrary, absolute adjectives have endpoints in nature, thus modifiers with maximum or minimum value like *completely*, *fully*, and others, are semantically coherent. This fact is illustrated in (4) and (5) respectively.

- (4) a. Her brother is completely ??tall/??short.
(Kennedy and McNally (2005: 355))
b. Max is fully ??eager/??uneager to help.
(ibid.)
- (5) a. The flower was fully open/closed. (ibid.)
b. The figure was completely
visible/invisible. (ibid.)

Even though the standard of comparison is lexically encoded, absolute adjectives may be interpreted relative-like way. This is clear from the sentence like *The restaurant is very full/empty tonight*. *Full* and *empty* are supposed to have endpoints, but this can be easily overridden by a context. Thus “[a]bsolute adjectives permit relative-like, imprecise interpretations (Kennedy and McNally (2005: 371))”. However, this extension is not freely allowed. The restriction is that “[w]hen the context is incompatible with imprecise interpretations – when precision is important – the use of *very* with these adjectives is precluded (ibid.)”. This limitation is illustrated in the following contrast:

- (6) a. The restaurant is very empty/full tonight.
(ibid.)
b. #Whoops! This beaker is very full. I’d
better pour out some of that liquid.
(ibid.)

For restaurants, the precision is not important to describe how full or empty it is, whereas, the

experiment has to be accurate, otherwise the result may be meaningless. Thus although (6b) is grammatically correct, it sounds strange.

2.2. Question

Kennedy and McNally (2005) have investigated the importance of scale structures in great detail and when absolute adjectives cannot extend to relative-like interpretation. However, they do not describe what context semantic shift, like in (1), occurs. It is interesting if there is a tendency therefore worthwhile further investigation.

3. Semantic shift and speakers

As we have seen, whether or not *very full* is permitted depends on how imprecise interpretations are compatible with the context: If the context requires a rigid precision like an experiment, then expressions like *very full* are not allowed. Whether or not the context requires such a precision partly depends on speaker’s judgment. Thus it should be predicted that some kind of modality-like expressions co-occurs with such a loose talk.

4. Data and methods

This section will go over the corpus data that we use in this study. As Bolinger (1967) illustrates, predicative and attributive uses of adjectives are different constructions, thus it is necessary to treat them separately. As Kennedy and McNally mainly deal with the predicative one, this paper will examine the predicative use of adjectives further below. The forms which this study investigates are listed in (7). The copulas in (7) are taken from Quirk et al. (1985: 1172) as is given in (8), and the modifiers are from Paradis (1997: 49) as listed in (9). We slightly modified her list to avoid ambiguous meanings such as *quite* which are classified as both TOTALITY and DEGREE adverbs. This paper will call the

form in (7a) Rigid use, that in (7b) Loose use. The actual data is shown in (10) and (11) respectively.

- (7) a. Rigid use
Copulas + Totality modifiers +
Adjectives_i
b. Loose use
Copulas + Degree modifiers +
Adjectives_i
- (8) Copulas
get, feel, sound, look, seem, go, become,
remain, taste, stay, be, keep, prove, appear,
fall, smell, turn, come (c.f. Quirk et al.
(1985: 1172))
- (9) a. TOTALITY adverbs:
perfectly, completely, almost, absolutely,
totally, utterly, half (c.f. Paradis (1997:
49))
b. DEGREE adverbs:
very, too, fairly, slightly, somewhat, any,
extremely, much, pretty, highly, terribly,
awfully, enough (ibid.)
- (10) Rigid use
a. The race itself was very well organised
but I was absolutely amazed at the way
in which the. . . (CB4-243)
b. He looked awfully amazed when mother
said I could not go with him to see his
books. (ABL-854)
- (11) Loose use
a. In Britain it is easy to forget that, while
we may have the publicly available
electoral register, we are almost alone in
Europe . . . (BNE-848)
b. He suddenly felt very alone. (G0L-
1648)

There are a few things to mention about the data. Because this study aims to investigate a tendency of when absolute adjectives happen to

be used in the relative-like form, we have to choose absolute adjectives from the corpus. In order to avoid arbitrariness in choosing adjectives, we made the most of a statistical technique named Distinctive Collexeme Analysis (Gries and Stefanowitsch: 2004). This technique is used to calculate a preference of lexical items that occur in two competing constructions. Consider a case of *give* that occurs in the double-object and the dative construction in English. This technique reveals that *give* significantly occurs in the double-object construction, meaning, it is the construction that *give* prefers. In our present study, if an adjective, say, *empty* occurs in a Rigid use significantly more frequently, then the adjective has an absolute standard, and vice-versa. Some of randomly chosen absolute adjectives are given in (12).

- (12) vital, essential, intact, laughable, incidental,
unsuited, feasible, opposed, blind,
inevitable

5. Examination

5.1. The distribution of copulas in each use

As we stated above, our hypothesis is that the semantic shift is sensitive to the speaker's mental attitude. A component that likely shows such an attitude in our present forms is copulas. Thus it is not surprising to compare their frequencies between the Rigid and Loose use. In this study, we calculated coefficient of difference based on a percentage of frequencies of each copulas. The result is shown in Table 1.

The first column from the left in Table 1 is a frequency of the copulas that occur in the Loose use. The second column shows a frequency of copulas, co-occurring with the Rigid use. The rightmost column shows a frequency gap in

	Loose (%)	Rigid (%)	DIFFERENCE	Preferred in
keep	0.00	0.10	-1.00	NA
smell	0.00	0.10	-1.00	NA
taste	0.00	0.10	-1.00	NA
prove	0.00	0.50	-1.00	Rigid
go	0.00	0.40	-1.00	Rigid
appear	0.00	0.30	-1.00	Rigid
become	0.58	1.94	-0.54	Rigid
be	81.98	93.53	-0.07	NA
remain	0.58	0.30	0.32	NA
seem	5.23	1.99	0.45	Loose
get	0.58	0.10	0.71	Loose
look	3.49	0.30	0.84	Loose
sound	4.65	0.25	0.90	Loose
feel	2.91	0.10	0.93	Loose
SUM	100	100		

Table 1: Frequencies and a statistical result

between two uses. If the result is closer to 1 in the absolute value, the larger difference the two frequencies have. Whether the value is positive or negative shows which use is more frequent. If it is negative, then Loose use is more frequent, and if positive, Rigid use is more frequent. Note that if a frequency of either use is 0, then the value which the calculation returns is always 1 in the absolute value. Thus we have to be careful whether such values are truly significant, or they are merely false-positive. In this case, though it is arbitrary, we go through copulas that occur at least 0.3 times: *prove*, *go* and *appear*. Furthermore, the difference values of *remain* and *be* are too low to conclude that there is a significant difference between the uses. As a result, we can conclude that *go*, *appear* and *become* are more frequent in Rigid use than in Loose use. On the other hand, *seem*, *get*, *look*, *sound* and *feel* are preferred in Loose use.

5.2. Semantic coherency of copulas and the uses in adjectives

From the statistical perspective, we concluded that there are some differences in a distribution of copulas between the two uses. Then, what are the difference among those copulas? At first glance, the result of Table 1 shows the difference in terms of some speakers' attitude. In order to make the term "attitude" clear, it is necessary to go further detail to understand what it is.

Looking at Table 1, *appear* shows a different distribution from *seem* and *look*, which behave quite similarly in a way that a proposition with them can be negated as in (13).

- (13) His leg appeared/looked/seemed broken,
but actually not.

We give two features that distinguish *appear* from *look* and *seem*. First, when these copulas are used in adverbial form, *apparently* and

	as if	like	as though	SUM
look	35.79	44.43	34.59	114.82
feel	35.90	27.18	35.37	98.46
seem	15.00	12.22	16.13	43.35
sound	9.31	14.17	8.94	32.41
become	0.05	0.60	0.00	0.65
get	0.02	0.26	0.02	0.30
appear	3.68	0.21	4.85	8.73
go	0.25	0.92	0.09	1.27

Table 2: Collocational frequencies of copulas and *as if*, *like* and *as though* in COCA

seemingly, their meanings are very different. This is illustrated in (14). *Apparently* and *seemingly* can be used in a quite similar way, but the former can also express that the utterance is without doubt. This is confirmed with the fact that *apparently* can be replaced with *obviously* and *evidently*, and *seemingly* changes the meaning drastically as it is shown in (14).

- (14) a. Apparently, he is linked to this murder.
b. Obviously, he is linked to this murder.
c. Evidently, he is linked to this murder.
d. #Seemingly, he is linked to this murder.

Second, as Dixon (2005) says, copulas like *feel*, *sound*, *look* and *seem* co-occur with *as if* phrase, though nothing is mentioned on *appear*. In order to confirm this description, we looked at collocations of *as if* and some other similar expressions, *like* and *as though*. The result is shown in Table 2, given in a percentage of the column.

The result is significant. Copulas like *look*, *feel*, *seem* and *sound* frequently co-occur with target phrases, whereas copulas from *become* to *go* rarely do.

Then, what do *as if*, *like* and *as though* phrases mean? Though further study is required, for the present, we analyze them as nonfactuality phrases, namely, the phrases make the

proposition imaginary statement. For example, in (15), none of the participants is literally an angel, but the speaker imagines that he or the guy is. In this sense, the context expressed with the nonfactuality phrases are objectively unobservable. Thus, *seem* and *look* are less factuality-based, on the contrary, *appear* is based on the fact more than the other two copulas are.

- (15) a. He sings as if he were an angel.
b. He sings as though he were an angel.
c. bald tattooed guy sings like an angel.⁵

Given the observations of semantic differences in their adverbial forms and semantic coherency with nonfactuality expressions, it is reasonable to conclude that copulas that co-occur in Rigid use are factuality-based utterance, whereas those that prefer Loose use are non-fact, or speaker's thought based utterance. If the speaker uses the nonfactuality-based copulas, whether the utterance is true or false depends on the speaker (Croft (2001: 217)).

Then, in what context does the semantic shift in adjectival scalar structures occur? Based on the statistical observations, the shift occurs when the utterance is heavily based on speakers' thought. On the other hand, if the utterance is

more factuality-based, then less likely the shift occurs.

6. Conclusion

In this paper, we investigated in what context the semantic shift occurs in scalar structures in English adjectives, following Kennedy and McNally (2005). Though they point out that absolute adjectives are readily used in relative-like use, they do not go any further detail.

The result led us to conclude that if the speaker is less committed to the fact, then the shift tends to occur, whereas, if the expression is more factuality-based utterance, then less likely the shift occurs.

Our present research has at least one implication. We concluded that the semantic shift occurs when a speaker shows their mental attitude. This is very similar to a process of subjectification (Traugott (2003)).

[S]ubjectification is the mechanism whereby meanings come over time to encode or externalise the SP/W's perspectives and attitudes as constrained by the communicative world of the speech event, rather than 'real-world' characteristics of the event or situation referred to (ibid.: 126).

Although our present study is a synchronic research, we can still say that the semantic shift is a "snapshot" of a process in subjectification.

NOTES

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³ All the instances cited in this form are taken from British National Corpus (hereafter BNC), and without any notation, emphases are mine.

⁴ All the emphasis are mine.

⁵ The example is taken from: <https://www.youtube.com/watch?v=fGUIqUanAwQ>

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Emphasis Generation Scheme*

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Keywords: emphatic cues, generation process

1. INTRODUCTION

This study reinvestigates the notion of emphasis, proposing an EGS (Emphasis Generation Scheme) to account for extraordinariness in emphatic speech in English. The model indicates the underlying speech production processes involved in making the target structures emphatic.

The working definition of emphasis in this study is: emphasis is the intentional stressing of an information unit by the speaker signaling the addressee to pay special attention to its meaning within the context of the utterance. This information unit, highlighted by its extraordinary degree or by contrastive effects, allows the addressee to prioritize the importance of various message elements sent by the speaker. To put it differently, the notable lack of emphasis leads to uncertainty where the addressee cannot distinguish important message elements from the lesser ones.

2. EGS

Based on Levelt (1989)'s speech production model, the present author developed EGS as a theoretical framework for a series of rule-bound processes embedded in the mind of a native speaker of English. This embeddedness of

rule-bound processes allows the speaker to automatically generate emphatic utterances in the speech organs. Although past studies show that emphasis is also made to draw a contrast between the two things, also known as "contrastive accent" (Bolinger (1961: 83)), EGS does not incorporate this type of emphasis in its theoretical framework.

Figure 1 presents a flow chart for EGS showing emphatic speech production processes in English that are manifested in the degree of extraordinariness of the target matter (See Figure 1).

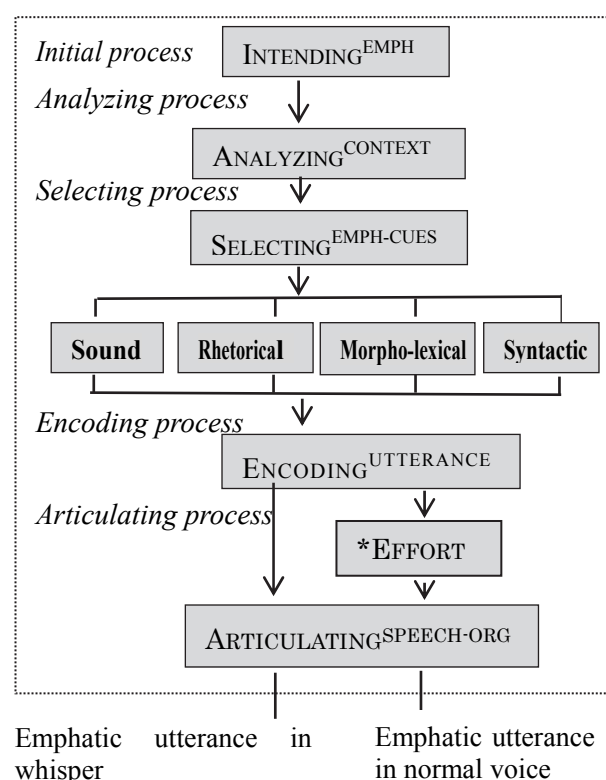


Figure 1: A flow chart for EGS in English

EGS is composed of five processes: initial, analyzing, selecting, encoding, and articulating (See Figure 1). Each of these processes contains a rule or rules for the speaker to observe at the time of producing an emphatic utterance in context. The outer square metaphorically represents an EGS context in

which the posited rules for emphatic production operate. In EGS, the operation of the internally embedded production rules for emphatic utterance leads to articulation in the speech organs from which the emphatic utterance is transmitted to the addressee by means of sound signals. In Figure 1, the arrow is indicative of the *output* of one specific process that forms the *input* of the next process. Initially the speaker does not have input to decode but intending emphasis produces the necessary rules. These initial emphatic rules become the input for the next stage in the EGS and, in like fashion, output precedes input through the remaining stages until, through the mediation of the speech organs, the speaker transmits an emphatic message to the addressee.

3. COMPONENT PROCESSES

To understand EGS better, let us now define each rule in the processes of EGS. The initial process contains the rule INTENDING^{EMPH} for the speaker to decode first and foremost. This rule requires the speaker to define what information unit to emphasize in order to raise the degree of extraordinariness of the target word or phrase. The speaker is required to decide the degree of extraordinariness. The speaker wishes to get the importance of the target information unit across to the addressee so that the addressee will notice its markedness. The term *markedness* here refers to what is not normal or natural in the Prague School of the 1930's.

The outputs of the initial process, which contain what information unit to emphasize, its meaning and the degree of extraordinariness the speaker wishes to raise, are sent to the ensuing process with rule called ANALYZING^{CONTEXT}. As a result, the speaker incorporates the outputs

of the initial process into the analysis of social and situational factors in the context. In this connection, Levelt (1989: 65) states "The speaker ... takes into account the rights, capabilities, propensities, and feelings of the other parties." The target rule requires the speaker to weigh up a wide array of social and situational factors in the context so that the speaker can choose appropriate emphatic cue(s) in the following selecting process. For example, as McMahon (2002) notes, the way in which the speaker articulates his/her words can depend on what kind of impression he/she wishes to make and the formality of the situation. Other factors that the speaker considers at the time of speech involve who the speaker wishes to identify with, who the speaker is talking to, the volume of noise which surrounds the speaker, and the frequency of the words (Roach et al. (2003)). This process is called the analyzing process.

The speaker then takes the product of this factoring process and goes on to the selecting process with the rule SELECTING^{EMPH-CUES}. This rule requires the speaker to select or combine linguistic cues for the purpose of emphasis with an appropriate degree of markedness so that the addressee will pay special attention to an emphasized information unit of importance (Levelt (1989)). The linguistic cues include any of the following: sound, rhetorical, morpho-lexical, and syntactic. These cues are readily available in the speaker's working memory. Each of the terms or cues represented in Figure 1 under the label SELECTING^{EMPH-CUES} is a cover term for a full term, for example, sound represents sound cues.

Satisfying SELECTING^{EMPH-CUES} with the chosen cues for emphasis causes the speaker to proceed to the next stage. Here the information

units are encoded in the correct grammatical order and their phonological forms retrieved (Levelt (1989)). This process is called the encoding process with the rule $\text{ENCODING}^{\text{UTTERANCE}}$. Only after the encoding process is completed does an emphatic utterance take its phonemes thus triggering the rule $\text{ARTICULATING}^{\text{SPEECH-ORG}}$ to begin the articulating process. The speaker makes his/her articulatory effort to pronounce each phoneme of the emphatic utterance. Within the matrix of EGS, emphasis takes two sound forms, emphasis in whisper and emphasis in non-whisper (Coleman (1914)). Emphasis in non-whisper causes violation of *EFFORT since the speaker is expected to expend more articulatory energy for emphasis than usual. *EFFORT means that the principle of linguistic economy should be respected at the time of articulation (Tanaka (2009)). By contrast, emphasis in whisper does not violate *EFFORT since the speaker expends less articulatory energy than usual when he/she whispers.¹ Regarding whispery voice, Harris and Rubinstein (1975: 262) say that "...speakers of English, ... associate a LOUDER VOICE with some degree of 'anger' or 'disturbance'; or SOFT, LOW tone with 'intimacy' or 'confidentiality'." A posteriori, the present author argues that whispering for emphasis also helps create "intimacy or confidentiality" (Harris and Rubinstein (1975: 262)) among those who participate in a conversation. If we interpret whispery voices for emphasis as a linguistic apparatus that helps the speaker exude "intimacy or confidentiality" (Harris and Rubinstein (1975: 262)) towards the addressee, then it can be argued that the speaker is arguably programming whether to use whispery voices in the analyzing process of EGS.

3.1. SUPPORTING EXAMPLES

This subsection presents two representative examples which endorse the underlying rules of EGS since the author created EGS inductively as well as on the Levelt (1989)'s speech production model. The first example concerns emphasis of the adverb "maybe," as discussed by Bolinger (1978: 487). As the initial process starts, the speaker has to meet the rule-based requirements. $\text{INTENDING}^{\text{EMPH}}$ causes the speaker to decide on what information unit to emphasize, i.e. *máybe*. $\text{INTENDING}^{\text{EMPH}}$ also requires the speaker to map the expression of emphasis to the target word at an appropriate level according to his/her degree of suspiciousness. Thus, the speaker sees to it that the target matter is given a degree of extraordinariness set at a more than usual. For the sake of argument, the speaker has a few levels of suspiciousness about a thing; that is, high level of suspiciousness—say high, medium, and low—about something, and further that each of the three levels will variously influence his/her pronunciation of the word 'maybe.'

The analyzing process sets in with the outputs from the initial process. Suppose the speaker wishes to give the addressee an impression that he/she is "emphatically skeptical" (Bolinger (1978: 487)) about things at hand. This causes the speaker to shift stress to the edge in the target word as in "maybe" (Bolinger (1978: 487)) in the selecting process. Markedness emerges as a result of the stress shift since the final CV syllable *-bé* that normally does not attract primary stress bears it (Burzio (1994)). Evidently, stress shift is one of the sound cues for emphasis.

$\text{ENCODING}^{\text{UTTERANCE}}$ helps the speaker set all the words and phrases in grammatical order and assign them an appropriate phoneme (Levelt (1989)). The target word is assigned /meɪ.bi:/

(where the final syllable receives primary stress). When the speaker emphasizes the target word in non-whispering voices, violation of *EFFORT is triggered in due course so that based on the assigned phonemes, the speech organs will all collaborate in producing the emphatic sounds in the articulating process so that the target word will be transmitted to the addressee via sound signals.

Another example concerns the epenthesis of a reduced vowel in the word-initial onsets of words whose syllabic structure is *CCVC* such as *crash* and *crunch* (Cassidy (1983)) when the target words are emphatically pronounced in American English. As EGS starts with the rule *INTENDING^{EMPH}*, the speaker creates an intention of deciding to use the verb *crash*, when emphasizing the severity of damage caused when tsunami crashed onto the shores of northeastern Japan on March 11, 2011 expresses its significance as in (1-B).

(1) “A: Did you see the tsunami on TV?

B: Yeah, the giant tsunami was crashing the shore.” (Kobayashi (2014a))

Speaker (A) assumes that the speaker (B) is aware that the tsunami claimed a large number of people’s lives when he asked the question. Speaker (B) confirms his supposition and emphasizes the seriousness of the damage the Japanese suffered to the present author who is the addressee (A). The speaker is going to offer condolences to the relatives of those who lost their lives in the wake of the huge earthquakes. The rule *ANALYZING^{CONTEXT}* deals with this process. The selecting process begins with that consideration. *SELECTING^{EMPH-CUES}* requires the speaker to choose appropriate linguistic cues for emphasis in the context. The speaker intuitively that epenthesis of the reduced vowel in the

word-initial onsets would give a playful or jocular impression on a Japanese addressee and instead chooses *r*-sound lengthening as a marker of emphasis in order to describe extraordinarily heavy damage of the tsunami (Kobayashi (2014a)). The speaker is going to reduce the tempo when he/she pronounces the target word for emphasis, resulting in *r*-sound lengthening.

After this, the rule *ENCODING^{UTTERANCE}* requires the speaker to arrange all the words and phrases in grammatical order so that the utterance can be made. To see this, let us consider the target utterance “A giant tsunami was crashing the shore!” The phonemes /ə ʔaɪənt tsuːnɑːmi wəz kɹːæʃɪŋ ðə ʃɔːr/ are assigned to the utterance in an orderly manner which accords with English grammar. When the speaker wishes to say these in non-whispering voices, violation of *EFFORT will be triggered so that the speech organs will collaborate in producing the target utterance. *ARTICULATING^{SPEECH-ORG}* requires the human speech organs to move in an orderly manner so that emphatic sounds will be generated for the purpose at hand and thereafter transmitted to the addressee.

3.2. EMPHATIC CUES

This subsection addresses each emphatic cue that is used in the selecting process of EGS with familiar examples.

3.2.1 SOUND CUES

As noted in §3, sound cues is a cover term-full term being phonetic and phonological cues for emphasis. Phonetic cues for emphasis variously involves making prominence in intonation; reducing and increasing local tempo; decreasing and increasing the syllable length. By contrast, phonological cues for emphasis

includes inserting schwa in word-initial biconsonantal onsets as well as word-initial triconsonantal onsets and heterosyllabic consonantal clusters in American English (Wolfram and Johnson (1982); Cassidy (1983); Hooper (1976); Kobayashi (2014b)) and applying higher degree of stress.² Let us see some examples of sound cues. In utterance (2-a) where the auxiliary *will* in prominence is headed by the second person pronoun, the speaker wishes to express annoyance or exasperation at the addressee's continuing baiting of other children.

In Example (2-b) Cruttenden (2008: 179) shows that “any initial accented vowel may be reinforced by a preceding glottal stop when particular emphasis is placed on the word” in RP (Received Pronunciation). It seems that in example (2-b), the initial syllable of the word *empty* /em.ti:/ gain “a feature of the onset of initial vowels” (Cruttenden (2008: 181)) under emphatic pronunciation, as in [ʔem.ti:]. The glottal stop also resolves the vowel-voiceless plosive sequence, as in (2-c) where an “emphatic articulation of the glottal component will readily convert this ([stɒʔp]) into an ejective, thus [stɒpʔ]” (Wells 1982: 261).

- (2) a. “Why *will* you keep teasing the other children?” (Declerck (1991: 361))
- b. “It’s [ʔ]empty.” (Cruttenden (2008: 179))
- c. “Stop!” (Wells (1982: 260))

Although Wells (1982) and Cruttenden (2008) show the use of [ʔ] as a marker of emphasis, there have been few formal accounts of the issue.

3.2.2 RHETORICAL CUES

This sub-section takes a closer look at an example of rhetorical cues for emphasis:

hyperbole. Hyperbole (also referred to as exaggeration or overstatement) is defined as substitution of a stronger expression for a weaker one, creating counter-actuality (McCarthy and Carter (2004)), that is, a discrepancy between reality and impossible worlds (Bolinger (1972)). Utterance (3) below could be irony and emphatic if someone complained to one of the waiters about the delay at the restaurant. Common sense tells us that a queue which people in general make at the restaurant cannot be as long as a million miles. The actual queue might be about 20 yards long at the most. In order to make the complaint, the speaker exaggerates the fact that he/she has been waiting in the sandwich line for ages and has become very impatient.

- (3) “The line for sandwiches was a million ... miles ... long!” (Kreuz and Roberts (1995: 29))

3.2.3 MORPHO-LEXICAL CUES

English morphology permits an intensive prefix to be appended to the root causing the word to lengthen by one syllable of the prefix. When the speaker wishes to emphasize the onomatopoeic words such as *blam* and *flop* (See Utterances 4-a, 4-b), he/she appends the intensifying prefix *ker-* to the word, and it forms an adverb or a verb (Cohen (1976); Cassidy (1983)).

English allows the speaker to choose an emphatic word as a lexical cue for emphasis instead of a general word or phrase. Utterance (4-c) shows that the emphatic word *eviscerate* is selected instead of *weaken* or *make something much weaker* (Sinclair (2008)).

- (4) a. “ker-blam.”
- b. “ker-flip ker-flop.”
- (Miller (2014: 164))

- c. “Democrats say the petition will eviscerate state government.” (Sinclair (2008: 534))

3.2.4 SYNTACTIC CUES

We turn to inverted utterance (5-a), which represents the combination of a sound cue with a syntactic cue for emphasis (See Figure 1). The speaker emphasizes the information unit, which he/she is going to pre-pose in the target utterance in the selection process of EGS (Curme (1931); Bolinger (1986)). The speaker arranges the combination of inversion and intonational prominence over the inverted words as emphatic cues (Huddleston (1988)).

Utterance (5-b) shows that certain adverbs such as *absolutely*, *terribly*, and *extraordinarily* are available as syntactic cues for emphasis. Gradations of the state of being rotten show itself according to the adjectival phrases such as *slightly rotten*, *very rotten*, and *absolutely rotten* in an ascending order.

- (5) a. “In not many years will Christmas fall on Sunday.” (Emonds (1976: 28))
 b. “Absolutely rotten.”
 (Coleman (1914: 14))

4. CONCLUSION

This paper adumbrates EGS, a theoretical framework governing the generation of emphatic utterances in the spoken English. EGS is composed of five different processes, each of which has its own rules for the native speaker of English to decode in the order shown in Figure 1 so that the emphatic utterance will be articulated in the speech organs and transmitted to the addressee via sound signals. Establishing the robustness of EGS requires the present author to further investigate examples of emphatic cues that support the operation of the underlying rules

such as INTENDING^{EMPH} and ANALYZING^{CONTEXT} in the mind of the speaker. In this respect, [?] may be another piece of evidence that confirms the operation of all the processes in EGS.

NOTES

- *My gratitude goes to those who came to see a poster of EGS and offered me invaluable comments at the 7th International Spring Forum.
 1 “All other things being equal, whispery voice, for instance, will be accompanied by lower amplitude” whereas there is a high likelihood that “tense voice will be accompanied by a greater amplitude range” (Pittman (1987: 103)).
 2 The degrees of stress phonologically range from three to six different levels in American English (Wolfram and Johnson (1982)).

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Semantics of English Determiners

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Keywords: quantificational, individual-denoting, discourse anaphora, distributivity, proportion problem

0. Introduction

This paper aims to propose a unified approach to the semantics of English determiners such as *a(n)*, *some*, *every*, *most*, etc., which will explain quantification and distributivity in the unified way, by modifying some assumptions of the Discourse Representation Theory (DRT).¹⁾

1. A Non-Unified Approach to Quantification

Traditionally, the English determiner *a(n)* is treated as the existential quantifier (\exists) and *every* as the universal quantifier (\forall), with a sentence as their quantification scope. However, *a(n)* can bind a variable which occurs in a subsequent sentence, while *every* cannot, as in (1)

- (1) a. [A student]_i came in the room.
[He]_i sat down on a couch.
b. [Every student]_i came in the room.
*[He]_i sat down on a couch.

The traditional approach cannot explain the two determiners' behaviors in a so-called 'donkey sentence' like (2), whose intuitional meaning is represented as in (3). In (3), the pronoun *it* is bound by *every* but not by *a*, and the indefinite noun phrase *a donkey* is translated as if it is *every donkey*.

- (2) Every farmer who owns [a donkey] beats [it].
(3) $\forall x \forall y [[\text{farmer}(x) \wedge \text{donkey}(y) \wedge x \text{ owns } y] \rightarrow x \text{ beats } y]$

In order to solve the problems raised mainly by the discourse binding phenomena, Heim (1982) assumes that (i) indefinites are bound variables; (ii) anaphoric pronouns are (plain) bound variables; (iii) determiner *every* is capable of binding multiple variables in its scope (unselective binding); and (iv) the existential quantifier (\exists) is given to the nuclear scope of a quantifier and to a discourse (existential closure). The DRT of Kamp and Reyle (1993) basically accepts her assumptions on quantification.

DRT further modifies its assumptions so as to adopt the claims that English determiners be classified into individual denoting (or non-quantificational) determiners such as *a*, *some*, *1,2,3*, etc. and quantificational ones such as *every*, *most*, *many*, *few*, etc. Then, individual denoting determiners form indefinite noun phrases by combining with common nouns, and the resulting indefinite noun phrases are just variables without rendering any quantificational force. The third assumption above is changed so that quantificational determiners are capable of binding multiple variables.

In addition, this approach deals with the quantification in sentence (4) differently from the quantification caused by quantificational determiners. Sentence (4) means that there are at least 2 students who came in, and is translated as (5), roughly. However, the determiner *some* is a non-quantificational determiner which does not have any quantificational force. Then, the quantification in (4) should be treated differently.

- (4) Some students came in.
(5) $\text{Some}_x [\text{students}(x) \wedge x \text{ came in}]$

DRT solves this problem through distributivity such that a non-quantificational NP denotes a set consisting of individuals and a distributive predicate following the NP is applied to every individual of the set. Thus, sentence (4) is first translated into (6), then into (7), which is equivalent to (5) except for the presence of a plural variable *X* which is to be mapped to a set of at least two individuals.

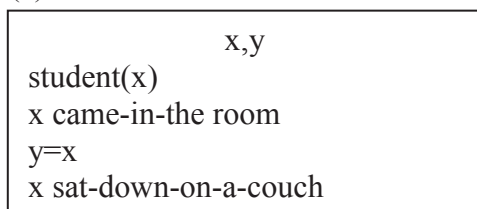
- (6) $\exists X [\text{student}(X) \wedge |X| \geq 2 \wedge X [\text{came-in}]_{\text{distributive}}]$

- (7) $\exists X [\text{student}(x) \wedge |X| \geq 2$
 $\wedge \forall [x \in X \rightarrow x \text{ came-in}]]$

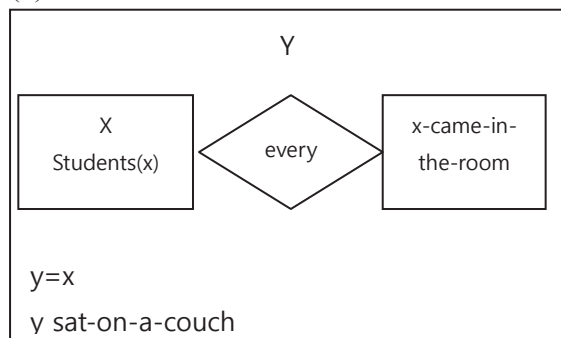
In short, this approach treats quantificational force in two distinct ways: the quantificational force of a sentence with a quantificational determiner originates from the quantificational determiner, and the quantificational force of a sentence whose subject has a non-quantificational determiner comes from its distributive predicate. In this sense, this is a non-unified approach toward quantification.

For the sake of convenience, I here introduce the box notation, as a notational variant of the predicate logical formula, proposed by Kamp (1981 and Kamp and Reyle (1993) to represent a discourse. They stipulate that an indefinite NP (or an individual denoting NP) should introduce a new discourse referent which acts just like a variable in a predicate logical language together with appropriate conditions, which is in turn equivalent to predicate logical formulas. A quantificational determiner introduces a duplex condition which is composed of two boxes connected by the quantifier of the NP. Now discourses (1a) and (1b) are represented as (8) and (9), respectively.³⁾

(8)



(9)



2. A Unified Approach Toward Quantification
 DRT's non-unified approach to quantification mainly stems from the classification of English determiners into quantificational and non-

quantificational. Roberts (1987: 192) first proposed this classification and his classification is adopted by Kamp and Reye (1993).²⁾ To evaluate whether or not this classification of determiners is well grounded, I will examine the classificatory criteria of Roberts.

The first test provided in Roberts (1987) to classify determiners into quantificational and individual-denoting (or non-quantificational) is that quantificational NPs cannot be antecedents of discourse anaphora while individual-denoting ones can as in (10)

- (10) a. [Every student]_i came in.
 *He_i sat down on a couch.
 b. [Some students]_i came in.
 They_i sat down on a couch.

But this test is misleading because a quantificational NP can be an antecedent of a discourse anaphora as in (11). Note that pronoun *they* but not *he* is proper in this situation.

- (11) a. Every student came in.
 They gathered in the hall.
 b. Most (Many, or Few) students came in.
 They gathered in the hall.

The second test is that only individual-denoting NPs can occur felicitously as the subject of a predicate with a floated quantifier, and NPs with *most*, *many* and *few* cannot felicitously occur at those positions.

- (12) a. The students all left.
 b. #Few students all left.

This test is also inappropriate because, as Dowty (1986) points out, the appropriateness of (12) depends on the definiteness of the determiners. He judges sentence (13) to be unacceptable.

- (13) *Some students all left.

The third test is that only individual-denoting NPs can be the objects of the prepositions *among* and *between* as shown in (14).

- (14) a. Ellen found a thistle among some roses.
 b. #Ellen found a thistle among few roses.

However, Root (1986) reports that even NPs

with individual-denoting determiners such as *some* (stressed) and numerals such as *five* are not accepted as complements of the preposition *among*. It means this test is also dubious as a basis of the classification of determiners.

- (15) *among many (every, most, some, five) ducks

Now, it can be said that the classification of English determiners into quantificational and non-quantificational is not well grounded. Then, a non-unified approach based on this sort of determiner classification is not tenable, either.

As an alternative approach to quantification, I propose a set of assumptions specified in (16).

- (16) (i) All the English NPs are variables of their own kinds--singular or plural.
(ii) The quantificational force of a sentence uniquely comes from predicates, but not from determiners.
(iii) The function of the determiner of an NP is to specify the cardinality of the set to which the NP is mapped.
(iv) Only two quantifiers are allowed--the existential quantifier \exists and the universal quantifier \forall . The existential quantifier is provided to the discourse and the nuclear scope of a quantifier, whereas the universal quantifier is introduced due to the distributivity of a predicate.

In this approach, all the determiners are dealt with on the same footing: it does not distinguish determiners as being quantificational and non-quantificational; it maintains that all the determiners assume the same role as the indicator of the cardinality of a set; and no determiners have quantificational force. From now on, I call the approach which accepts the assumption set of (16) as the Unified Approach toward Quantification and Distributivity.

Now, sentences in (17) are first converted into (18), then into (19), respectively.

- (17) a. Some students came in.
b. Every student came in.
c. Most students came in.

- (18) a. $\exists X[\text{student}(X) \wedge |X| \geq 2$

$\wedge X [\text{came-in}]_{\text{distributive}}$

- b. $\exists X[\text{student}(X) \wedge |X| = |\text{student}|$

$\wedge X [\text{came-in}]_{\text{distributive}}$

- c. $\exists X[\text{student}(X) \wedge |X| \geq 1/2 |\text{student}|$

$\wedge X [\text{came-in}]_{\text{distributive}}$

- (19) a. $\exists X[\text{student}(X) \wedge |X| \geq 2$

$\wedge \forall x[x \in X \rightarrow x \text{ came-in}]]$

- b. $\exists X[\text{student}(X) \wedge |X| = |\text{student}|$

$\wedge \forall x[x \in X \rightarrow x \text{ came-in}]]$

- c. $\exists X[\text{student}(X) \wedge |X| \geq 1/2 |\text{student}|$

$\wedge \forall x[x \in X \rightarrow x \text{ came-in}]]$

The binding relation and the meaning of the donkey sentence (2) are explained properly in this approach. Sentence (2) is first translated into (20), then into (21) due to the distributive predicate, and finally into (22) by unselective binding.

- (2) Every farmer who owns [a donkey]_i beats [it]_i.

- (20) $\exists X[\text{farmer-who-own-a-donkey}(X)$

$\wedge |X| = |\text{farmer-who-own-a-donkey}|$

$\wedge X [\text{beats it}]_{\text{distributive}}$

- (21) $\exists X[\text{farmer-who-own-a-donkey}(X)$

$\wedge |X| = |\text{farmer-who-own-a-donkey}|$

$\wedge \forall [[x \in X \wedge \text{donkey}(y) \wedge x \text{ owns } y] \rightarrow [x \text{ beats } y]]$

- (22) $\exists X[\text{farmer-who-own-a-donkey}(X)$

$\wedge |X| = |\text{farmer-who-own-a-donkey}|$

$\wedge \forall_x \forall_y [[x \in X \wedge \text{donkey}(y) \wedge \text{donkey}(y) \wedge x \text{ owns } y] \rightarrow [x \text{ beats } y]]$

3. More Evidence for the Unified Approach

3.1 Discourse Binding

DRT proposed by Heim (1982), Kamp (1981) and Kamp and Reyle (1993), does not explain why the binding relation in (10a) is acceptable. Note that in (10a) the pronoun *they* refers to a plural entity made of all the individuals who are students.

- (10a) [Every student]_i came in.
[They]_i gathered in the hall.

This phenomenon does not pose any problem to the Unified Approach because the NP *Every student* introduces a plural variable which is to

be mapped to the set of all the students and to be bound by the existential quantifier provided by existential closure. The variable introduced by *They* is legitimately linked to the plural variable which is introduced by *Every student*. However, it is problematic to DRT because the NP *Every student* introduces a singular variable in the scope of the universal quantifier introduced by the determiner *every*. The variable translated from pronoun *They* in (10a) cannot be equated to the variable introduced by *Every student* since there is a mismatch between the types of the two variables--one is singular and the other is plural. The two variables are not in the same scope of a quantifier, either.

3.2 Proportion Problem

The proportion problem poses a serious problem to the assumption of unselective binding. This problem occurs in donkey sentences which have, as their subjects, those NPs with quantificational determiners which are not fully universal like sentence (23).

(23) Most farmers who own [a donkey]_i beat [it]_i.

If *most* is an unselective quantifier, then sentence (23) would mean that most farmers who own a donkey beat most donkeys they own. However, sentence (23) actually means that most farmers who own a donkey beat every donkey they own. This phenomenon seems as if the quantifier only binds the variable introduced by *most farmers*, but not the variable introduced by *a donkey*. That's why this problem is also called the problem of asymmetric quantification (in Root 1986).

Interestingly, in a donkey sentence, an indefinite NP in the relative clause is interpreted universally regardless of the determiner of the subject NP. Sentences in (24) are interpreted roughly for most (many, few, some, three) men, x, who own a donkey, y, which is owned by such a man x, x beats y.⁴⁾

- (24)
- a. Most men who own a donkey beat it.
 - b. Many men who own a donkey beat it.
 - c. Few men who own a donkey beat it.
 - d. Some men who own a donkey beat it.
 - e. Three men who own a donkey beat it.

In sum, the proportion problem poses two important problems: whether or not the unselective binding assumption should be maintained and where and how the universal meaning of the indefinite NP is obtained. The quantifiers in (24) bind only variables introduced by the quantificational NPs (*most men, many men, etc.*), but not the variable introduced by the indefinite NP (*a donkey*). If unselective binding is discarded, then the universal reading of the indefinite NP of an original donkey sentence and various donkey sentences in (24) is unable to be accounted. If it is maintained, it should be found the way how to allow the quantifiers (*most, many, etc.*) to bind only the variables introduced by the quantificational NPs.

Kamp and Reyle (1993) try to solve the questions by stipulating that the quantifier of a quantificational NP bind only the designated variable which is introduced by that NP ("principal discourse referent" in their term), and an invisible universal quantifier unselectively bind the other variables in its scope. This approach is not different from the approaches which maintain that the donkey sentence, for example, sentence (23), has a complex quantifier like *most-every*.⁵⁾

In this way they weaken unselective binding to the extent that only non-designated variables are unselectively bound by an invisible universal quantifier. For example, in sentence (2), the indefinite NP *a donkey* gets its universal meaning from the invisible universal quantifier.

(2) Every farmer who owns [a donkey] beats [it].

Then, a donkey sentence cannot be regarded as a powerful proof in favor of unselective binding. And this approach does not still show why the invisible, given in default, quantifier should be *every*.⁶⁾

On the other hand, the Unified Approach solves the two problems inherent in the proportion problems, keeping unselective binding intact. This approach makes explicit that the indefinite NP of a donkey sentence gets its universal reading owing to the distributivity of the predicate. The universal quantifier which is given by the distributive operation of the predicate unselectively binds variables in its scope. I will show how the two problems are

solved in the Unified Approach by taking sentence (23) as an example. Sentence (23) is first translated into (25), then, into (26) by the distributivity of the predicate. In (26), the universal quantifier unselectively binds variables x and y , making it equivalent to (27).

- (25) $\exists X[\text{farmer-who-own-a-donkey}(X)$
 $\wedge |X| \geq 1/2 \mid \text{farmer-who-own-a-donkey} \mid$
 $\wedge X [\text{beats it}]_{\text{distributive}}]$
- (26) $\exists X[\text{farmer-who-own-a-donkey}(X)$
 $\wedge |X| \geq 1/2 \mid \text{farmer-who-own-a-donkey} \mid$
 $\wedge \forall [[x \in X \wedge \text{donkey}(y) \wedge x \text{ owns } y] \rightarrow$
 $[x \text{ beats } y]]]$
- (27) $\exists X[\text{farmer-who-own-a-donkey}(X)$
 $\wedge |X| \geq 1/2 \mid \text{farmer-who-own-a-donkey} \mid$
 $\wedge \forall_x \forall_y [[x \in X \wedge \text{donkey}(y) \wedge \text{donkey}(y)$
 $\wedge x \text{ owns } y] \rightarrow [x \text{ beats } y]]]$

Representation (27) means that there is a group consisting of more than half of the farmers who own a donkey and each member of the group beats every donkey he owns. In this approach, the universal quantifier *every* is introduced by the distributive predicate but not by any determiners, and it binds all the variables in its scope unselectively. The existential quantifiers are provided to the discourse by the existential closure.

3.3 Combinatorial Strength of Determiners

In a non-unified approach, a quantificational NP is predicted to be followed only by a distributive predicate but not by a collective one while a non-quantificational NP by either a distributive predicate or a collective one. However, this prediction is wrong because counter examples are easily found as in (28).

- (28) a. Most students gathered in the hall.
 b. Many students gathered in the hall.
 c. Few students gathered in the hall.

Moreover, one quantificational NP is different from another in terms of its ability to take collective predicates as in (29), (30) and (31). Note that the NP with the determiner *every* cannot be followed by any collective predicates,

but the NP with *most* can take *gathered in the hall* as its predicate while the NP with *many* can take *gathered in the hall* and *performed a symphony*. This data points to that the capability of a quantificational NP to take a collective predicate varies, providing strong counter-evidence against the non-unified approach.

- (29) a. *Every student gathered in the hall.
 b. *Every student performed a symphony.
 c. *Every student is a large group.
- (30) a. Most students gathered in the hall.
 b. *Most students performed a symphony.
 c. *Most students are a large group.
- (31) a. Many students gathered in the hall.
 b. Many students performed a symphony.
 c. *Many students are a large group.

Meanwhile, a non-quantificational NP can be followed by each of these predicates as in (32)

- (32) a. Fifty students gathered in the hall.
 b. Fifty students performed a symphony.
 c. Fifty students are a large group.

The data also show that the classification of predicates into distributive or collective is coarse-grained. The classification should be more fine-grained to cope with the data. I roughly classify the predicates as in (33) a la Dowty (1986, p112).⁷⁾

(33) Classification of Predicates

Distributive: *fall asleep*, ...

Type 1 Collective: *gather*, ...

Type 2 Collective: *perform a symphony*, ...

Type 3 Collective: *be a large group*, ...

The data above indicate that there is a certain ordering among the types of predicates such that while an NP can take a Type 3 collective predicate, it can also take a distributive, Type-1, or Type-2 collective predicate. If an NP can take a Type-2 collective, then it also takes Type-1 collective or distributive predicates. I

figuratively refer to Type-1 collective predicates as being stronger than distributive ones. Then distributive predicates are the least strong, and Type-3 collectives the strongest

In the same vein, determiners should be classified more fine-grained as in (34).

(34) Classification of Determiners

Type1: can only take a distributive predicate:
a(n), every, each, both

Type2: can take a distributive or Type-1 collective: *most, few*

Type3: can take a distributive, Type-1, or Type-2 collective: *many, a few, all, some*

Type4: can take a distributive, Type-1, Type-2, or Type-3 collective: *the, the two, two*

Then, the varying degrees in the combinatorial strength of determiners are not properly addressed by the non-unified approach which classifies determiners into two categories of quantificational determiners and non-quantificational ones. This approach is not able to explain the fact that a quantificational NP can take a collective predicate which requires a set denoting noun phrase. Furthermore, the fact that a certain quantificational NP can take a certain type of collective predicates while cannot not be followed by another type of collective predicates raises a difficult problem to solve to this approach.

The Unified Approach proposed solves the problem of diverse combinatorial strength of determiners (i) by letting a determiner require a certain type of predicates which are ordered in terms of combinatorial strength, and (ii) by assuming that a quantificational NP denotes a set or an i-sum, thus being translated as a plural variable. In other words, a certain type of determiner requires or subcategorizes a certain type of predicate, thus allowing quantificational determiners to combine with appropriate predicates.

4. Conclusion

So far, after critically reviewing a non-unified approach to quantification and distributivity, I have formulated a Unified Approach by asserting that (i) every NP with a determiner is a variable of its kind (singular or plural); (ii) the

quantificational force of a sentence is obtained through the distributivity of the predicate of the sentence but not from the determiner of its subject NP; and (iii) unselective binding and existential closure are maintained intact.

I have also shown that the Unified Approach can properly explain the phenomena of (i) discourse binding where a pronoun and its antecedent are not in the same sentence, (ii) the proportional problem or the asymmetric quantification where unselective binding does not seem to be observed; and (iii) varying degree of combinational strength of determiners with predicates.

Notes

- 1) The main ideas of the paper were first presented in the author's Ph. D. dissertation.
- 2) Roberts (1987) classifies English determiners into *quantificational* and *individual-denoting*. Among quantificational determiners are *each, every, no_{sg/pl}, most, few, many, both, neither, etc.* Individual denoting determiners are *a, some_{sg/pl}, 1,2,3,..., the_{sg/pl}, this, that, these, those, etc.*
- 3) DRs are organized in such a manner that the Main DR is accessible from sub-DRs, and The left DR of a complex condition introduced by a quantificational determiner is accessible from the right DR. That is, a discourse referent in the Main DR can be linked to a discourse referent of a sub-DR which is introduced by a pronoun. But a discourse referent introduced by a pronoun into the main DR cannot be linked to a discourse referent of a sub-DR.
- 4) Heim (1990) reports that this reading of sentence (24) was acknowledged by many authors including Root (1986), Rooth (1987), and others. Kamp and Reyle (1993) also judge that the indefinite NP *a donkey* has a universal reading.
- 5) Buerle and Egli (1985), Rooth (1987), and Reinhart (1987) propose a complex quantifier such as *most-every*.

- 6) Heim (1990) also points out some problems in this kind of approach as follows:
- “There are two big problems about this kind of approach: One is whether there is any principled way of predicting the force of the implicit secondary quantifier. ...The second question is how to implement the analysis without ad hoc maneuvers in either the syntax or the semantics. (Heim 1990: 163)”
- 7) Classification of Predicates (Dowty 1986: 112)
- I. Purely distributive predicate: *fall asleep, be pregnant, ...*
 - II. Collective predicates with distributive sub-entailments:
 - A. Collectives whose only entailments may be distributive sub-entailments: *gather, ...*
 - B. Collectives with both collective and distributive entailments: *be a happy couple, surround the fort, ...*
 - III. Purely collective predicates: *be numerous, be few in number, be a large group, ...*
 - IV. Predicates ambiguous between Collective (II-B) and Distributive:
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A Merge Condition-Based Approach to Doubling Constituents*

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Keywords: Merge Condition, Doubling Constituent,
Movement Theory of Antecedent,
Specific-Feature, A-Binding

1. INTRODUCTION

The purpose of this paper is to show that the Merge Condition (Wurmbrand 2014) may restrict the applicability of Movement Theory of Antecedent (MTA) based on Doubling Constituents (Kayne 2002, 2005). In order to demonstrate it, I propose that Specific-F(eature)s are subject to the Merge Condition. In addition, I also argue that both the MTA and A-Binding (Reinhart 2006, Reuland 2010) are indispensable.

The paper is organized as follows: Section 2 outlines the mechanism of MTA and presents a potential empirical problem against the MTA. Section 3 offers my assumptions, proposal and analysis. Finally, section 4 concludes this paper and points out a remaining issue.

2. MTA AND ITS EMPIRICAL PROBLEM

2.1. BACKGROUND

In this section, I briefly provide the theoretical background. To begin with, let us review the traditional approach called Bind (Chomsky 1981) to the typical binding phenomenon defined in (1).

(1) *Bind*

α binds β iff α c-commands β and α and β are co-indexed. (Chomsky (1981: 184))

(1) enables to deal with the basic data as in (2a)

which includes a universal quantifier and Bound Pronoun (BP). In (2a), the interpretation as described in (i) is available.

- (2) a. Everyone_i thinks that he_i is smart.
(i) If we assume *everyone* such as John, Bill, and Bob, John/ Bill/ Bob thinks that John/ Bill/ Bob is smart respectively.
b. Someone_i thinks that he_i is smart.
(i) If we assume *someone* such as John, John thinks that John is smart.

In (2a), *everyone* can c-command *he* and the same type of index is assigned to both *everyone* and *he* respectively. This means that *everyone* and *he* are identical since it is possible for (2a) to meet (1). Thus, (1) is able to account for the co-referential reading in (2a).

However, under the framework of the Minimalist Program (MP), (1) does not go through because indices obviously violate the Inclusiveness Condition (Chomsky 1995, 2000) defined in (3).

(3) *Inclusiveness Condition*

- a. Any structure formed by the computation [...] is constituted of elements already present in the lexical items selected for N; no new objects are added in the course of computation apart from rearrangement of lexical projects. (Chomsky (1995: 228))
b. No new Fs are introduced by Human Language Computation.

(Chomsky (2000: 113))

Chomsky assumes that there are no indices in the Numeration (Chomsky 1995) so they have to be introduced at some stage of the derivation. But (3) does not permit the introduction. Therefore, within the framework of the MP, we cannot adopt (1) since (1) is based on indices which are incompatible with (3).

2.2. MECHANISM

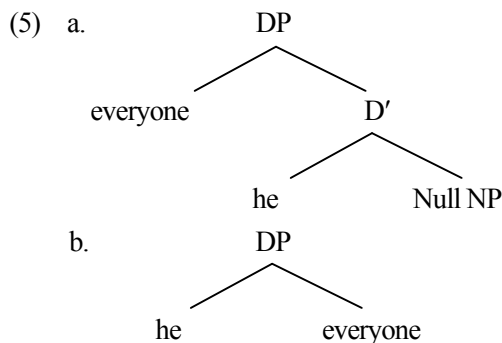
In contrast, it is possible for the MTA to capture (2a) without utilizing indices. For (2a), Kayne (2002, 2005) presents the mechanism illustrated in (4).

- (4) everyone thinks that [~~everyone~~, he] is smart



(4) is a part of the derivation of (2a). First of all, in (4), *everyone* and *he* form the syntactic unit called Doubling Constituent in the sense of Kayne. After that, only *everyone* antecedent-moves to the subject position in the matrix clause. With these steps in mind, Kayne assumes that the antecedent-movement enable to deal with the co-referential interpretation in (2a) because movements can establish the co-referential relation between moved and in situ elements.¹ In conclusion, the MTA enables to capture (2a) with not indices but antecedent-movements. In addition, it is also possible for the MTA to deal with (2c) in the same way. (2c) includes an existential quantifier and gives rise to the reading as described in (i).

Next, we check the internal structure of Doubling Constituents in Kayne's sense illustrated in (5).



In (5a), *everyone* is base-generated in Spec, DP and *he* is in D. On the other hand, Cecchetto (2000) demonstrates another type of internal structure represented in (5b). In (5b), *everyone* is located in not Spec, DP but the Complement position. However, to investigate the most valid internal structure of Doubling Constituents is beyond the scope of this paper. Furthermore, my analysis works well in both (5a) and (5b). For the reason, in this paper, I follow Kayne and assume (5) without any further discussion.

2.3. EMPIRICAL PROBLEM

2.3.1. MIYAMOTO (2008)

We confirmed the theoretical advantage of MTA in section 2.2. However, there is a potential empirical problem against the MTA. Before I present the problematic data of the MTA, we need to observe the basic quantifier scope interaction and Clause-Boundedness Restriction (May 1977) as shown in (6).

- (6) a. Someone loves everyone.
 $[\exists > \forall]$ or $[\forall > \exists]$ (ambiguous)

- (i) If we assume *someone* such as Mary and *everyone* such as John, Bill and Bob, Mary loves all the members (John/ Bill/ Bob). ***Collective Reading***

- (ii) If we assume *someone* such as Mary, Nancy and Suzan and *everyone* such as John, Bill, Bob, Mary/ Nancy/ Suzan loves John/ Bill/ Bob respectively.

Distributive Reading

- b. Someone thinks that John loves everyone. $[\exists > \forall]$ (unambiguous)

(6a) has two interpretations called collective and distributive readings in the sense of May as described in (i) and (ii), while we can interpret (6b) only as the collective reading since scope interaction is generally clause-bounded.

On the other hand, (7) includes BPs.

- (7) a. Everyone₁ said that he₁ loves more/ less than two girls.² $[\forall > \exists]$ or $[\exists > \forall]$ (ambiguous) (Spencer Robinson, Wayles Browne (p.c.))

- (i) If we assume *everyone* such as John, Bill, and Bob and *two girls* such as Mary, Nancy/ Suzan, Kate/ Jane, Catherine, John/ Bill/ Bob said John/ Bill/ Bob loves more/ less than Mary, Nancy/ Suzan, Kate/ Jane, Catherine respectively. ***Distributive Reading***

- (ii) If we assume *everyone* such as John, Bill and Bob, *two girls* such as Mary and Nancy, all the members (John/ Bill/ Bob) said that all the members (John/ Bill/ Bob) loves more/ less than Mary and Nancy. **Collective Reading**
- b. Each boy₁ said that he₁ loves more/ less than two girls. [$\forall > \exists$] or [$\exists > \forall$] (ambiguous)
- c. All boys₁ said that they₁ love more/ less than two girls. [$\forall > \exists$] or [$\exists > \forall$] (ambiguous)
- d. Most boys₁ said that they₁ love every girl. [$\forall > \exists$] or [$\exists > \forall$] (ambiguous)

In (7), we predict that (7) is unambiguous because two quantifiers are not clause-mates. But the facts do not bear out the prediction. (7a) gives rise to two readings as described in (i) and (ii).

In order to capture (7), Miyamoto (2008) offers the analysis represented in (8).

- (8) a. everyone said that [~~everyone~~, he] ... two girls
- ↑
- Antecedent-Movement**
- b. [_{NP} everyone [_{NP} [~~everyone~~, he] ... two girls]]³
- Q-F/Q-F Q-F
- ↑
- Q-F Absorption**

(8a, b) are a part of the derivation of (7a). First of all, Miyamoto assumes the MTA and Q(uantificational)-F Absorption (Watanabe 2000). The Q-F Absorption is able to establish the inverse scope reading (like the collective reading in (7)) by applying the F-movement of the Q-F. In (8a), it is possible for *everyone* and *two girls* to fulfill the Clause-Boundedness Restriction since they are clause-mates in the original position. In addition, in (8b), we can attach Q-F of *two girls* to that of *everyone*. From these reasons, Miyamoto claims that the MTA and Q-F Absorption enables to explain (7).

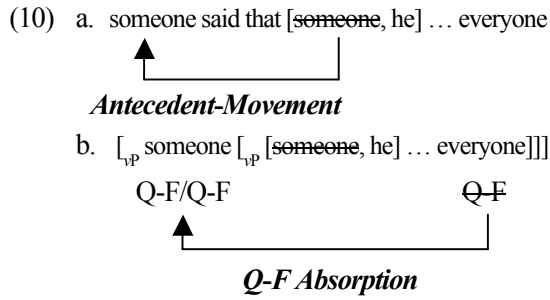
2.3.2. PARADIGM

However, the analysis faces the potential empirical

problem as in (9a-f) as long as adopting the MTA.

- (9) a. Someone₁ said that he₁ loves everyone.⁴
[$\exists > \forall$] (unambiguous)
(Spencer Robinson, Wayles Browne (p.c.))
- a'. Someone₁ talked to everyone about his₁ mother.⁵ [$\exists > \forall$] or [$\forall > \exists$] (ambiguous)
- b. A boy₁ said that he₁ loves every girl.
[$\exists > \forall$] (unambiguous)
(Wayles Browne (p.c.))
- b'. A boy₁ talked to every girl about his₁ mother. [$\exists > \forall$] or [$\forall > \exists$] (ambiguous)
- c. Two girls₁ said that every boy loves them₁. [$\exists > \forall$] (unambiguous)
(Spencer Robinson (p.c.))
- c'. Every boy talked to two girls₁ about their₁ mother. [$\exists > \forall$] or [$\forall > \exists$] (ambiguous)
- d. Many boys₁ said that they₁ love some girls. [many NPs > some NPs] (unambiguous)
- d'. Many boys₁ talked to some girls about their₁ mother. [many NPs > some NPs] or [some NPs > many NPs] (ambiguous)
- e. Several girls₁ said that most boys love them₁. [$\exists > \forall$] (unambiguous)
- e'. Most boys talked to several girls₁ about their₁ mother. [$\exists > \forall$] or [$\forall > \exists$] (ambiguous)
- f. A few boys₁ said that they₁ love two girls. [a few NPs > two NPs] (unambiguous)
- f'. A few boys₁ talked to two girls about their₁ mother. [a few NPs > two NPs] or [two NPs > a few NPs] (ambiguous)

If we assume the MTA, it incorrectly predicts that (9a-f) are ambiguous since (9a-f) are able to meet the Clause-Boundedness Restriction and apply the Q-F Absorption illustrated in (10) because of existence of BPs.



(10a, b) are a part of the derivation of (9a). It is possible for (10a) to fulfill the Clause-Boundedness Restriction because *someone* and *everyone* are clause-mates. In addition, in (10b), we can attach Q-F of *someone* to that of *everyone*. Thus, the MTA concludes that (9a-f) are ambiguous. However, the facts do not bear out the conclusion. For this reason, (9a-f) are empirical problems of the MTA.

3. ASSUMPTIONS, PROPOSAL AND ANALYSIS

3.1. ASSUMPTIONS AND PROPOSAL

To solve the problem, I assume four assumptions summarized in (11).

- (11) a. A difference between universal and existential quantifiers is whether they have Specific-Fs or not. (Enç (1991))
- b. Specific-Fs are active semantic Fs in the syntactic component. (Diesing and Jelinek (1995), Kim (2004))
- c. A'-bound pronouns are semantic variables. = BPs bound by A'-elements (like quantifiers) have unvalued Specific-Fs. (Higginbotham (1983))
- d. *Merge Condition*
Merge α and β if α can value a F of β . (Wurmbrand (2014: 2))

First, as described in (11a), Enç (1991) attributes the difference between universal and existential quantifiers to Specific-Fs. Second, Diesing and Jelinek (1995), Kim (2004) as in (11b) attempt to demonstrate that Specific-Fs are syntactically available semantic Fs. Third, Higginbotham (1983) as represented in (11c) considers that BPs bound by quantifiers have unvalued Specific-Fs. Last,

Wurmbrand (2014) designs the device called Merge Condition defined in (11d) which is based on Value (Chomsky 2000, 2001).⁶

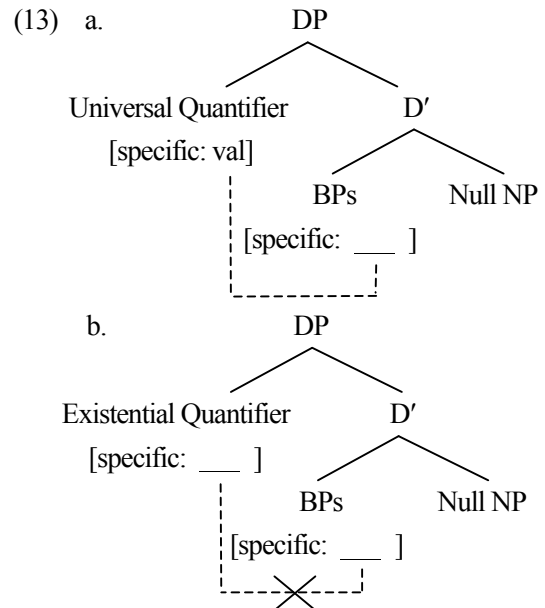
With these assumptions in mind, I propose (12).

- (12) Specific-Fs are subject to (11d).

In previous literatures, whether semantic Fs like Specific-Fs are subject to (11d) is not obvious. Thus, in this paper, I would like to explore the possibility.

3.2. ANALYSIS

Following my assumptions and proposal, in this section, I analyze the target data of this paper as illustrated in (13).



(13a) is the internal structure of the Doubling Constituent in (7), while (13b) is in (9a-f). According to my assumptions, universal quantifiers have the valued Specific-F and BPs have the unvalued Specific-F. This signifies that we can apply Reverse Agree (downward valuation) (Wurmbrand 2014) between Specifier and Head in (13a). Then, it is possible for BPs to receive the value of Specific-Fs from universal quantifiers. Thus, the MTA based on the Doubling Constituent is applicable to (7) because (13a) can satisfy (11d). For the reason, my analysis is able to conclude that (7) are ambiguous.

On the other hand, existential quantifiers do not have the valued Specific-F. As a result, BPs cannot receive the value from existential quantifiers by

applying Reverse Agree between Specifier and Head. Therefore, the MTA is not applicable to (9a-f) since (13b) cannot meet (11d). This means that (9a-f) are unambiguous because it is not possible for (9a-f) to fulfill the Clause-Boundedness Restriction and apply Q-F Absorption. In sum, my analysis can successfully deal with the contrast between (7) and (9a-f).

3.3. A-BINDING

3.3.1. MECHANISM

However, at least one issue remains. I have to capture the co-referential relation in (9a-f) without utilizing the MTA. In order to realize it, I adopt the A-Binding (Reinhart 2006) defined in (14).

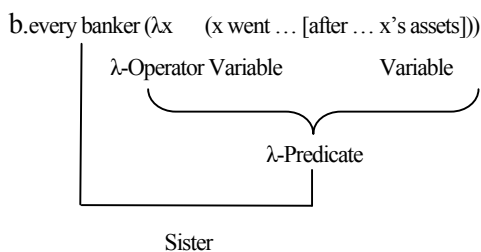
(14) A-Binding

α A-binds β iff α is the sister of a λ -predicate whose operator binds β .

(Reinhart (2006: 171))

Following (14), Reinhart gives the analysis illustrated in (15).

- (15) a. Every banker_i went bust after the crash destroyed his_i assets.

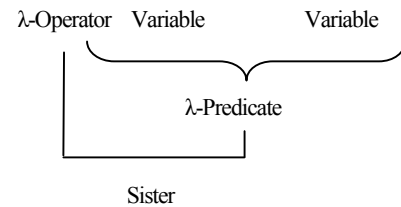


(15b) illustrates a part of the semantic representation of (15a). To begin with, *every banker* moves by applying Quantifier Raising (QR) in the sense of May (1977). *Every banker* leaves the variable (x) as the Copy in the original position. In (15b), the BP (*his*) changes into x . Then, (λx (x went bust [after the crash destroyed x 's assets])) which includes the λ -Operator (λx) and two variables creates the λ -Predicate. Lastly, *every banker* is the sister of the λ -Predicate so *every banker* can A-Bind *his assets*. In this way, (14) can account for the co-referential relation of (15a) with the λ -Operator and variable.

However, λx and x are not compatible with (3)

so we cannot use them under the framework of the MP. To solve this problem, Reuland (2010) develops the modified analysis based on not λx and x but ϕ -Fs illustrated in (15c).

- (15) c. [every banker _{ϕ} [ϕ went ... [after ... ϕ 's assets]]]

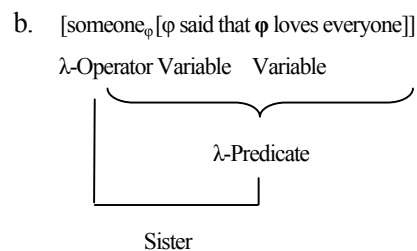


(15c) is a part of the semantic representation of (15a). *Every banker* quantifier-raises and it leaves the ϕ -F as the Copy in the original position. The BP turns into the ϕ -F in (15c). The ϕ -F of *every banker* functions as the λ -Operator. *Every banker* is the sister of the λ -Predicate ([ϕ went bust [after the crash destroyed ϕ 's assets]]) so *every banker* is able to A-Bind *his assets*. Thus, Reuland's modification enables to capture the co-referential reading in (15a) without violating (3).

3.3.2. ANALYSIS

With Reuland's A-Binding in mind, I give the account for (9a-f) illustrated in (16).

- (16) a. Someone_i said that he_i loves everyone. (= 9a)



(16b) shows a part of the semantic representation of (16a). In (16b), *someone* raises and it leaves its ϕ -F. The BP (*he*) replaces the ϕ -F. *Someone* is the sister of the λ -Predicate ([ϕ said that ϕ loves everyone]) so *someone* can A-Bind *he*. Thus, the A-Binding modified by Reuland can account for the co-referential relation in (16a) without violating (3). The same story can also be applied to (9b-f).

4. CONCLUSION

In this paper, I proposed that Specific-Fs are subject to (11d). In addition, I demonstrated that (11d) may limit the applicability of MTA. If these conclusions are on the right track, I can summarize the applicability of MTA and A-Binding as in (17, 18).

- (17) a. Everyone_i thinks that he_i is smart.(= 2a)
 b. Everyone_i said that he_i loves more/ less than two girls. (= 7a)
 c. Someone_i thinks that he_i is smart.(= 2b)
 d. Someone_i said that he_i loves everyone.
 (= 9a)
- (18) a. (17a) → The MTA and A-Binding are applicable.
 b. (17b) → We need the MTA. Only the A-Binding is not enough.
 c. (17c, d) → We cannot apply the MTA. We need the A-Binding.

Following (18), we need both the MTA and A-Binding. Thus, children have to acquire two mechanisms for (17). However, this is undesired from the perspective of language acquisition so this point is my remaining issue of this paper.

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NOTES

¹Strictly speaking, antecedent-movements should be able to establish the co-referential relation between

everyone and not *he* but *everyone*'s copy in Spec, DP. Thus, we may require at least another mechanism in order to build up the identical relation between *everyone*'s copy and *he*. This point is the remaining issue for everybody which assumes Kayne's MTA.

²Sloan (1991) points out the data based on the BP on scope interaction between *everyone* and *who* as shown in (i).

- (i) Who did everyone_i say that he_i met ~~who~~?
 [WH > V] or [V > WH] (Sloan 1991: 234)

³In (8b), [everyone, he] is located in Spec, vP edge so *everyone* does not have to move to the vP adjoining position. However, *everyone* cannot c-command *two girls* in (8b) if there is no movement to the vP adjoining position. If this is on the right track, in (8b), we should not be able to apply the Q-F Absorption because it requires the c-command relation as the precondition. For the reason, this point is a remaining issue.

⁴Miyamoto (2008: note 5) offers the data as in (9, ia).

- (i) a. Who_i said that he_i loves everyone?
 [WH > V]
 a'. Who_i did everyone talk to ~~who~~ about his_i mother? [WH > V] or [V > WH]

(ia) is a counterexample against the MTA.

⁵Ausin (2000) presents the generalization as shown in (i).

- (i) Someone/ Some NP_i ... everyone/ every NP_i
 ... {anaphor_i / BP_i} [∃ > V] (unambiguous)

Ausin notes that the sentence is not ambiguous if the sentence has the schematic structure like (i). Following (i), we predict that (9a-f) and (9a'-f') are unambiguous. However, Spencer Robinson and Wayles Browne (p.c.) points out that (9a'-f') are ambiguous and (9a-f) are unambiguous so in this paper, I obey their judgment.

⁶There is another version of the Merge Condition developed by Pesetsky and Torrego (2006) and it requires only Match (Chomsky 2000, 2001).

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VP-Deletion, Parallelism, and the Role of Aux: A Phase-Theoretic Approach*

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Keywords: VP-Deletion, pseudogapping, sluicing,
focus, parallelism

1. Introduction

As first considered by Bresnan (1976), VP-Deletion must be licensed by the auxiliary (Aux) that immediately precedes the deletion site. McDowel (1987) further points out that Aux should be restricted to non-epistemic usage, as shown in (1a). As the contrast in (1b, c) shows, another interesting property of Aux is that it allows the deletion site to be insensitive to the identity of voice morphology if it is focused (see Kertz (2010), Nakamura (2013a, b), among others).

- (1) a. John must wash his car every day,
and Peter must too.
(*epistemic/deontic)
(Authier (2012: 2))
- b. *This problem was looked into by
JOHN, and (similarly) BOB did, too.
(Tanaka (2011: 478))
- c. The janitor MUST remove the trash
whenever it is apparent that it
SHOULD be. (Merchant (2008: 169))

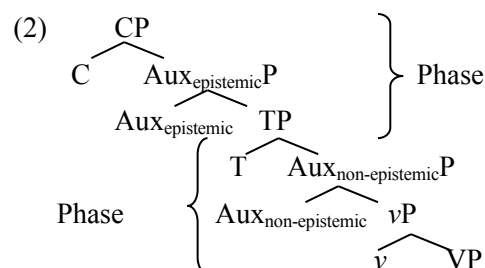
The aim of this paper is to account for the two seemingly unrelated properties illustrated in (1) by arguing that phases are constituted in a

context-dependent manner by non-epistemic Aux. It will then be demonstrated that voice mismatch effects are attributed to the violation of the parallelism condition produced by A-movement.

2. Background Assumptions

2.1. (Non-)epistemic Aux

Let us first review the clause structure adopted in this paper.



As shown in (2), following Butler (2003) and Cinque (1999), among others, we assume that epistemic Aux projects above TP, but that non-epistemic Aux layers below TP. Given that TP is the lower limit of the CP phase, we further assume that non-epistemic Aux participates in the verbal phase formation in lieu of *v* (contra Chomsky (2000, 2008)).¹ Combined with the phase theory that we will review next, this further implies that only non-epistemic Aux affects a VP-Deletion operation.

2.2. Phase Theory

Following Chomsky (2008), we assume that phrases are computation units. Furthermore we assume that deletion also applies at the phase level to the phase complement (see Bošković (2014), among others).

- (3) ... along with Transfer, all other operations will also apply at the phase level, as determined by the label/probe.
(Chomsky 2008: 143))

Thus, VP-Deletion applies to the complement of verbal phases, namely *vP* in (2). In addition, we adopt the Phase-Impenetrability Condition, stated

in (4).

(4) Phase-Impenetrability Condition

In phase α with head H, the domain of H is not accessible to operations outside α , only H and its edge are accessible to such operations. (Chomsky (2000: 108))

Thus, any items must move to the phase edge to enter a subsequent computation. Moreover, deletion is disallowed to apply to the complement of the next lower phase.

However, departing from Chomsky (2000, 2008), who specifies what head forms a phase, we take a dynamic phase view instead, proposed recently by Bobaljik and Wurmbrand (2005) and Bošković (2014), among others. We especially adopt the following view point.

- (5) The status of XP as transfer domain is determined by its selector.

Given the clause structure we reviewed in the preceding section, this assumption enables us to state that ν Ps can be transferred regardless of their featural make-up, depending on the selector, namely the non-epistemic Aux.

2.3. Parallelism

Finally, let us review one of the general conditions imposed on a deletion operation, parallelism. It is presented in (6), taken from Fox (2000).

(6) Parallelism (a consequence of)

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 .

(Fox (2000: 32))

When calculating parallelism, we follow Fox and Lasnik (2003) and Hartman (2011) and assume that

- (7) Intermediate landing sites are relevant for parallelism.

(Fox and Lasnik (2003: 150 fn. 4))

Furthermore, following Hartman (2011), we assume that A-movement also creates variable-binding configurations via a λ operator insertion such that it also affects parallelism.

- (8) A'-, A-, and head movement share a basic uniformity: none of these movement types is categorically excluded from the narrow syntax, and all create variable-binding configurations at LF. (Hartman (2011: 383))

Then, to satisfy Parallelism, A-movement should skip over intermediate landing sites that the Phase-Impenetrability Condition requires it to stop by in certain environments. It thus yields ungrammatical results.

3. A Proposal

The main proposal is presented in (9) and schematically illustrated in (10), where the boxed phrases stand for phases and the shaded phrases, transferred domains to be deleted.²

- (9) Non-epistemic auxiliaries form phases in the VP domain if and only if
a. they select transitive ν , or
b. they are focused.

- (10) a. $\boxed{[\text{AuxP DP}_i \text{Aux}_{[\text{Foc}]} \nu\text{P } t_i \nu_{\text{trans}} [\text{VP}]]}$
b. $\boxed{[\text{AuxP DP}_i \text{Aux}_{[\text{Foc}]} \nu\text{P } \nu [\text{VP}]]}$

As shown in (10a), if non-epistemic Aux selects a transitive ν (and also an unergative ν), it forms a phase regardless of whether it is focused. Alternatively, as (10b) shows, the Aux head with a focus feature forms a phase even if ν is not transitive. Because the complement ν P becomes a transfer domain in these cases, DP in ν P moves to Spec-AuxP to escape transfer and enter a subsequent computation. Our proposal also entails that non-epistemic Aux does not form

phases otherwise. Therefore, the non-focused, non-epistemic Aux that selects passive *v* does not form a phase.

At this point, we have answered the question of why or how only non-epistemic Aux licenses VP-Deletion: non-epistemic Aux participates in the verbal phase formation and thus has the potential to trigger VP-Deletion; epistemic Aux, residing in a CP phase, cannot trigger VP-Deletion due to the Phase-Impenetrability Condition. The next section attempts to answer the second question: how auxiliary focus evens out voice mismatch violations.

4. An Analysis

Before giving an account of the second issue we raised in the preceding section, let us first discuss how voice mismatch violations are formulated. Consider the example in (1b), where subject focus is involved.

- (1b) *This problem was looked into by
JOHN, and (similarly) BOB did, too.

On the basis of our proposal and assumptions, the schematic analysis is given in (11) of the antecedent and the elliptic sentence. Note that the agentive *by* phrase is base-generated within passive *v*P (see Collins (2005) for a discussion).³

- (11) a. [TP [this problem]_i was_k [AuxP t_k [_vP
↑
v_[passive] [_{VP} V t_i] by JOHN]]]
b. [TP BOB_i did_k [AuxP t_i t_k [_vP t_i
↑
v_[transitive] [_{VP} V this problem]]]]

Aux is not focused in the antecedent passive sentence. According to the proposal (9), no phase is thus formed in the verbal domain; the internal argument *this problem* moves directly to Spec-TP, as shown in (11a). On the other hand, the elliptic sentence is an active sentence whose main verb is transitive. Given that the Aux, *did*,

is also a non-epistemic Aux selecting transitive *v*, it forms a phase in the verbal domain, and the Phase-Impenetrability Condition requires the external argument to land at Spec-AuxP to reach Spec-TP.⁴ Here, a parallelism violation arises. To satisfy Parallelism, the A-movement in (11b) should skip over the intermediate landing site Spec-AuxP, which results in a violation of the Phase-Impenetrability Condition. In other words, the so-called voice mismatch violations are reduced to parallelism violations.

With this analysis in mind, let us consider a case where Aux focus evens out voice mismatch violations. The example in (1c), repeated below, has the following schematic structure:

- (1c) The janitor MUST remove the trash
whenever it is apparent that it SHOULD
be.

- (12) a. [TP the janitor_i MUST_{[Foc]k} [AuxP t_i t_k
↑
[_vP t_i v_[transitive] [_{VP} V the trash]]]]
b. [TP it_i SHOULD_{[Foc]k} [AuxP t_i t_k
↑
... [_vP v [_{VP} V t_i]]]]

The antecedent sentence is an active sentence whose main verb is transitive; thus, the Aux forms a phase. Moreover, the Aux in the elliptic sentence is focused and contrasted with the Aux in the antecedent sentence.⁵ As stated in (9b), the Aux in the elliptic sentence thus forms a phase though it selects passive *v*. Therefore, the surface subjects undergo A-movement in such a manner as to obey the parallelism condition, as shown in (12a, b). They stop by the intermediate landing site, namely Spec-AuxP, to land at Spec-TP. By triggering a phase formation and providing a Spec as an intermediate landing site for A-movement, Aux focus evens out voice mismatch violations.⁶

In this section, we have illustrated how our proposal accounts for a voice mismatch phenomena. The next section discusses the consequences of our proposal for other deletion phenomena.

5. Consequences

5.1. Pseudogapping

One of the controversies concerning pseudogapping is whether it is reduced to VP-Deletion or not.⁷ In this respect, it is interesting to note that pseudogapping is, similar to VP-Deletion, sensitive to voice mismatches when subject focus is involved, as shown in (13a), and it becomes insensitive when Aux focus is involved, as shown in (13b).

- (13) a. *ROSES were brought by SOME, and
OTHERS did LILIES.

(Merchant (2008: 170))

- b. ?MY PROBLEM WILL be looked into
by Tom, but he WON'T into YOURS.

(Tanaka (2011: 477))

This contrast is easily captured if we reduce pseudogapping to VP-Deletion and extend our analysis of the voice mismatch phenomena given in the preceding section to pseudogapping.

First, let us consider the unacceptable cases, where subject focus is involved. The example in (13a) is schematically analyzed, as shown in (14).

- (14) a. [TP ROSES_i were_k [AuxP t_k [vP v_[passive] [VP V t_i] by SOME]]]

- b. [TP OTHERS_i will_k [AuxP t_i t_k [vP t_j]]]
[v_[transitive] [VP V t_m] LILIES_m]]

The non-focused Aux in (14a) selects passive *v* and does not constitute a phase, whereas the Aux in (14b) selects transitive *v* and constitutes a

phase. Thus, as indicated by arrows, the two subjects must take different routes on their way to Spec-TP; only *OTHERS* should stop by Spec-AuxP. This leads to a parallelism violation.

The example (13b) is schematically analyzed in (15).

- (15) a. [TP [MY PROBLEM]_i WILL_{[Foc]k} [AuxP t_i]]
[t_k [vP v_[passive] [VP V into t_i] by Tom]]]
b. [TP he_i WON'T_{[Foc]k} [AuxP t_i t_k [vP t_j]]]
[v_[transitive] [VP V t_m] [into YOURS]_m]]]

In this case, the Aux in the elliptic sentence (15b) selects a transitive *vP*. Thus, it forms a phase that requires the surface subject to stop at its Spec. The Aux in the antecedent sentence (15a) is contrastively focused and also forms a phase. Thus, both the surface subjects stop at Spec-AuxP on the way to Spec-TP. Therefore, the parallelism condition is obeyed.

To summarize, our analysis of the voice mismatch phenomena in VP-Deletion extends to pseudogapping, and suggests that pseudogapping should be reduced to VP-Deletion.

5.2. Sluicing

In this section, we will consider the voice mismatch phenomena in sluicing, namely the deletion of a unit larger than VP. It will be shown that in this case also, A-movement indirectly or covertly affects the calculation of parallelism.

As the examples in (16) show, sluicing exhibits voice mismatch effects.

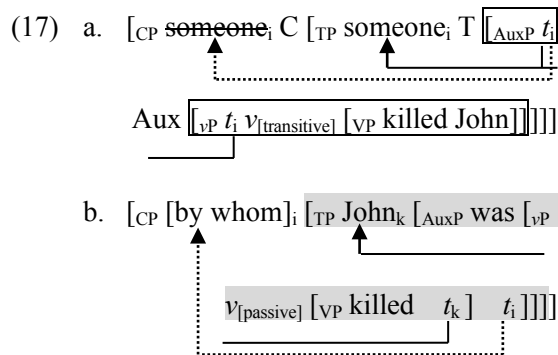
- (16) a. *Joe was murdered (by someone),
but we don't know who.

- b. *Someone murdered Joe, but we don't know by whom.

(Merchant (2013: 81))

Here, note that in sluicing, the C head, not the v head, triggers deletion to elide TP. Since sluicing necessarily deletes Aux, the voice mismatch violations cannot be undone in the same manner as in the case of VP-Deletion and pseudogapping. Thus, let us illustrate how the voice mismatch effects are produced in sluicing.

We attempt to reduce them to the parallelism violations produced by the interaction of invisible A-movement and A'-movement. Let us consider the example in (16b). It is schematically analyzed as in (17). Here, we follow Chomsky (2008) and assume that the A-movement of the subject to Spec-TP and the A'-movement of the subject to Spec-CP are operated in a parallel manner. First, let us observe the A-movement paths, which are indicated by solid arrows.



In the antecedent clause (17a), AuxP forms a phase (and attracts the surface subject into its Spec) because it selects transitive v . On the other hand, AuxP does not form a phase in the sluiced clause (17b), because it does not assume a focus feature and selects passive v . If it had a focus feature, it could not be deleted due to the recoverability condition (see Chomsky (1965)). In both the derivations, the A-movement to Spec-TP is launched from within vP ; however, the A-movement must stop by Spec-AuxP in

(17a), whereas it skips over Spec-AuxP and proceeds directly in (17b). This leads to a parallelism violation.

Such a parallelism violation is again caused by the subsequent A'-movement. To satisfy parallelism, the correlate to the sluiced remnant *wh*-phase, *someone*, should also undergo A'-movement of some sort or other operations (see Chung et al. (1995), Fox and Lasnik (2003), among others, for the latter approach). As indicated by dotted arrows, the A'-movement in (17a) is launched from a different position than the one in (17b): from Spec-AuxP in the antecedent and from within vP in the sluiced sentence. In this manner, the subsequent A'-movement also produces a parallelism violation.

In summary, the parallelism violation that sluicing exhibits is indirectly or covertly attributed to the presence or absence of A-movement in the verbal domain, which, on the basis of our proposal, is in turn attributable to the phasehood of the verbal domain. Since sluicing deletes Aux but no focused Aux can be deleted, the Aux in sluicing cannot form a phase when it selects passive v .

6. Conclusion

We have proposed that non-epistemic Aux, if focused, constitutes a phase head. We subsequently presented a phase-based analysis of the voice mismatch phenomena in VP-Deletion, pseudogapping and sluicing.

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Notes

¹ Non-Epistemic Aux subsumes root modals, perfect *have*, progressive *be*, and passive *be*.

² As pointed out by Yoshihito Dobashi (p.c.), our proposal might be problematic because it is disjunctive in nature. We leave this issue for future research (see also Nakamura (2014) for an alternative proposal).

³ We simply assume here that Aux moves to T to satisfy a PF-interface condition.

⁴ There exists an example similar to (i), where both the antecedent clause and the deleted clause are passive and the subjects are focused.

(i) TOM was arrested by the pigs, but FRED wasn't. (Jackendoff (1972: 269))

As neither of the Aux in the antecedent clause nor that of the deleted clause forms a phase, both the subjects undergo the same movement path that conforms to parallelism.

However, note here that in such a case deletion should not be operated in the verbal phase because our proposal (9) requires that a non-focused Aux that takes passive *vP* does not form a phase and thus does not trigger VP-Deletion. Alternatively, we could assume that CP phase triggers the deletion of the *vP* directly or indirectly. In the latter case, a movement operation such as *vP*-Topicalization might be involved *a la* Johnson (2001) to attract the *vP* to a position close enough to the C head, which then deletes it. We leave this for future research.

⁵ For expository purposes, we ignore the second non-focused auxiliary *be*. It will form with the focused modal *should* the following layered AuxP structure:

(i) $\boxed{[_{\text{AuxP}} \text{SHOULD} [_{\text{AuxP}} \text{be} [_{\text{vP}} \dots]]]}$

Because the AuxP headed by *be* is the phasal complement to which VP-Deletion applies in (i), *be* would undergo head movement and adjoin to *should*.

⁶ As Kensuke Takita points out, it is desirable that we find an independent piece of evidence for the phasehood of the verbal domain to avoid circularity. We leave the matter for future research.

⁷ As for the detailed derivation of pseudogapping, see Agbayani and Zoerner (2004), Gengel (2013), Jayaseelan (1990, 2001), Lasnik (1995), Takahashi (2004), among others.

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Puzzles with the Desirative Predicate *Hoshii* 'Want' in Japanese

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Keywords: complex predicate formation, *hoshii*
'want,' passive, potential, *te*-form

1. INTRODUCTION

This paper points out two puzzles with the desirative predicate *hoshii* 'want' in Japanese, and argues for (i) the hypothesis that the morpheme *TE* is a COMP for an infinitival clause, and (ii) the Optional Complex Predicate Formation Hypothesis.

The organization of this paper is as follows. Section 2 reviews previous studies on the properties of the desirative predicate *hoshii* 'want' in Japanese as the background to the subsequent sections. Section 3 provides the two puzzles with the predicate. Section 4 discusses what they might suggest for the theory of (Japanese) syntax. Finally, Section 5 concludes this paper.

2. PREVIOUS STUDIES

2.1. TAKEZAWA (1987)

Takezawa (1987) was the first researcher who pointed out that the desirative predicate *hoshii* 'want' takes a complement clause whose subject can be marked either dative or nominative, as shown in (1a) and (1b), respectively. Note that the complement clause of the predicate *hoshii* 'want' must be followed by the particle *te* 'TE,' the properties of which we will return to later.

- (1) a. Watashi-wa ototoo-ni

I-Top younger brother-Dat
uchi-e kaettteki-te-hoshii.
home-to return-TE-want
'I want my younger brother to return home.'

- b. Watashi-wa ototoo-ga
I-Top younger brother-Nom
uchi-e kaettteki-te-hoshii.
home-to return-TE-want
(Takezawa (1987, 78, slightly edited))

Takezawa (1987) accounts for this dative/nominative alternation by proposing the LF Optional CP Deletion Hypothesis (Takezawa (1987, 167)). Under this hypothesis, the predicate *hoshii* 'want' takes a CP (S') complement, and while the dative subject appears when CP is not deleted, as in (2a), the nominative subject appears when the CP is deleted, as in (2b).

- (2) a. Watashi-wa [_{CP} [_{IP} ototoo-ni
I-Top younger brother-Dat
uchi-e kaettteki-te]]-hoshii.
home-to return-TE-want
'I want my younger brother to return home.'
- b. Watashi-wa [_{IP} ototoo-ga
I-Top younger brother-Nom
uchi-e kaetttek-ite]-hoshii.
home-to return-TE-want

The nominative subject in (2b) is licensed by the matrix Tense under Takezawa's (1987) hypothesis.

Note here that Takezawa (1987) assumes that both (1a) and (1b) are grammatical in Japanese.

2.2. MAKI (2005)

Maki (2005) found a slight difference in grammaticality between (1a) and (1b), and conducted a questionnaire-based survey on it. Using the examples in (3), Maki (2005) asked the participant to indicate the degree to which s/he would judge each of the examples in (3) on the three

level scale shown in (4).

- (3) a. Watashi-wa asu Ichiroo-ni
I-Top tomorrow Ichiro-Dat
Shiatoru-ni ki-te-hoshii.
Seattle-to come-TE-want
'I want Ichiro to come to Seattle
tomorrow.'
- b. Watashi-wa asu Ichiroo-ga
I-Top tomorrow Ichiro-Nom
Shiatoru-ni ki-te-hoshii.
Seattle-to come-TE-want

(4) The Scale

- 1 totally ungrammatical
- 2 not perfectly grammatical
- 3 perfectly grammatical

Maki (2005) conducted a *t*-Test: Paired Two Sample for Means (hereafter, *t*-Test) on the data that mark 3 (perfectly grammatical) on the scale. The level of statistical significance was set at $p < .05$. The result of the *t*-Test for (3a) and (3b) is shown in (5).

(5) The Result of the *t*-Test ((3a) and (3b))

	(3a) (3)	(3b) (3)
Mean	.91	.47
Observations	1150	1150
<i>t</i> Stat	23.96	
P(T<=t) two-tail	.01	
<i>t</i> Critical two tail	1.96	

(5) shows that there is a statistically significant difference between those who judge (3a) perfectly grammatical and those who judge (3b) perfectly grammatical. (Note that (3a) (3) and (3b) (3) indicate the data that mark 3 for examples (3a) and (3b).) As the mean scores indicate, (3a) is considered grammatical by more participants than (3b).

To summarize, Takezawa (1987) assumes that the complement of *hoshii* 'want' with a dative subject is as good as that with a nominative subject, and Maki's (2005) analysis based on a *t*-Test indicates that the complement of *hoshii* 'want' with a dative

subject is considered grammatical by more participants than that with a nominative subject.

3. THE PUZZLES

Having established the particular background, let us now consider the puzzles that arise from the desirative predicate *hoshii* 'want' in Japanese. The first puzzle is that in (6), the dative phrase *Ichiroo-ni* 'Ichiro-Dat' sounds perfect, while the nominative subject is degraded to some native speakers of Japanese.

- (6) a. Watashi-wa Ichiroo-ni warat-te hoshii.
I-Top Ichiro-Dat smile-TE want
'I want Ichiro to smile.'
- b.(*)Watashi-wa Ichiroo-ga warat-te
I-Top Ichiro-Nom smile-TE
hoshii.
want

On the other hand, when the subject of the complement clause is inanimate such as *ame* 'rain,' the sentence becomes ungrammatical with the dative subject, but is better with the nominative subject, as shown in (7).¹ This is extensively discussed in Takezawa (1987).

- (7) a. * Watashi-wa ame-ni fut-te hoshii.
I-Top rain-Dat fall-TE want
'I want it to rain.'
- b. Watashi-wa ame-ga fut-te hoshii.
I-Top rain-Nom fall-TE want

The second puzzle arises from the fact that *hoshii* 'want' must change to the 3rd person form *hoshigatteiru* 'want.3,' when the subject is a 3rd person, as shown in (8). Note here that the predicate *hoshii*, which ends with the vowel *i*, behaves like an adjective, and takes a nominative object, as shown in (8a), and the predicate *hoshigatteiru*, which ends with the vowel *u*, behaves like a verb, and takes an accusative object, as shown in (8b).

- (8) a. Watashi-wa mizu-ga
I-Top water-Nom

- hoshii/*hoshigatteiru.
 want/want.3 ‘I want water.’
 b. Shinjoo-wa mizu-o
 Shinjo-Top water-Acc
 *hoshii/hoshigatteiru.
 want/want.3 ‘Shinjo wants water.’

Now, let us consider the examples in (9), where the dative subject is perfect, as shown in (9a), while the nominative subject is totally ungrammatical, as shown in (9b).

- (9) a. Shinjoo-wa Ichiroo-ni warat-te
 Shinjo-Top Ichiro-Dat smile-TE
 hoshigatteiru.
 want.3 ‘Shinjo wants Ichiro to smile.’
 b. * Shinjoo-wa Ichiroo-ga warat-te
 Shinjo-Top Ichiro-Nom smile-TE
 hoshigatteiru.
 want.3

Furthermore, when the subject of the embedded clause is inanimate, the sentence becomes ungrammatical, no matter what case marker the subject bears, as shown by the examples in (10).

- (10) a. * Shinjoo-wa ame-ni fut-te
 Shinjo-Top rain-Dat fall-TE
 hoshigatteiru.
 want.3 ‘Shinjo wants it to rain.’
 b. * Shinjoo-wa ame-ga fut-te
 Shinjo-Top rain-Nom fall-TE
 hoshigatteiru.
 want.3

Since both the predicate forms *hoshii* ‘want’ and *hoshigatteiru* ‘want.3.’ take the clause headed by *TE*, the structure of the *TE*-clause should be identical in (7b) and (10b). Yet, only (10b), which has a nominative subject in the clause, is completely ungrammatical.

4. DISCUSSION

Let us consider what the above puzzles may suggest for the theory of (Japanese) grammar. First of all, let

us consider what the ungrammaticality of (7a) with the dative inanimate subject suggests. It is well-known that Japanese shows subject-predicate agreement in terms of animateness of the subject, as shown in (11).

- (11) a. Asoko-ni neko-ga
 over there-at cat-Nom
 iru/*aru.
 exist[+animate]/exist[-animate]
 ‘There is a cat over there.’
 b. Asoko-ni pen-ga
 over there-at pen-Nom
 *iru/aru.
 exist[+animate]/exist[-animate]
 ‘There is a pen over there.’

It seems then that the animate restriction may be put on the dative subject in the *hoshii* ‘want’ construction in Japanese. That is, the animate restriction forces a dative subject to be animate, and if it is inanimate, the sentence becomes ungrammatical. Therefore, unless the dative subject is personated, the sentence is ungrammatical in (7a).

With this in mind, let us consider the contrast between (7b) with the nominative subject and (10b) with the nominative subject, the second puzzle. (We address the second puzzle first for ease of exposition.) The ungrammaticality of (10b) seems to be attributed to the fact that the nominative Case is somehow unavailable on the subject in the embedded clause in (10b). We claim, essentially following Maki’s (2005) suggestion, that the element *TE* is a COMP for an infinitival clause, similar to *for* in English, so that there is a CP boundary between the matrix predicate and the embedded predicate. Since the embedded predicate is infinitival, it cannot license nominative Case on the subject in the embedded clause, so that (10b) is correctly ruled out.

If *TE* is the head of CP, then, this raises the question of why the grammaticality judgment for

(6b) with the nominative subject in the embedded clause varies from grammatical to ungrammatical, and why (7b) sounds grammatical. This was the first puzzle. Remember that Takezawa (1987) assumes that (6b) is grammatical, and argues that the complement clause of the predicate *hoshii* ‘want’ is a CP, whose node optionally deletes. When the CP node deletion takes place, the matrix Tense lowers to the embedded predicate, licensing the nominative Case on the embedded subject. On the other hand, when the CP node deletion does not take place, the matrix Tense cannot lower to the embedded predicate, so that only the dative subject is possible. However, as Takezawa (1987) assumes that (6b) is grammatical, the question remains as to why (6b) is judged ungrammatical by some native speakers of Japanese.

In the following discussion, we will slightly revise Takezawa’s (1987) hypothesis, and tentatively propose the Optional Complex Predicate Formation Hypothesis in (12).

- (12) The Optional Complex Predicate Formation Hypothesis (Tentative)
Complex predicate formation may take place among the matrix predicate, COMP, and the embedded predicate.

The major difference between Takezawa’s (1987) claim and our claim is that while Takezawa (1987) assumes that his hypothesis is uniformly assumed by native speakers of Japanese, so that the grammaticality of (6b) is shared by them, we assume that while some native speakers of Japanese assume the hypothesis in (12), others do not.

Let us now examine whether the hypothesis in (12) can provide an adequate account for the first puzzle, namely, the fact that (6b) is grammatical to some native speakers of Japanese, and is ungrammatical to the other native speakers of Japanese. For those who allow (6b), complex predicate formation takes place, and the sequence

warat-te hoshii ‘smile-TE want’ becomes a single stative predicate, as shown in (13), and the matrix Tense licenses the nominative Case on the subject, just as in (14).

- (13) Watashi-wa Ichiroo-ga [warat-te-hoshii].
I-Top Ichiro-Nom smile-TE-want
‘I want Ichiro to smile.’
(14) Watashi-wa mizu-ga hoshii.
I-Top water-Nom want ‘I want water.’

On the other hand, for those who disallow (6b), such complex predicate formation does not take place, and the nominative Case on the subject is not licensed due to the CP boundary by *TE*, as shown by the structure of (6b) represented in (15).

- (15) * Watashi-wa [_{CP} [_{IP} Ichiroo-ga warat]-te]
I-Top Ichiro-Nom smile-TE
hoshii.
want ‘I want Ichiro to smile.’

The proposed hypothesis, however, is faced with a problem. This is because it will incorrectly predict the examples in (9b) and (16) to be grammatical.

- (16) * Shinjoo-wa Ichiroo-o warat-te
Shinjo-Top Ichiro-Acc smile-TE
hoshigatteiru.
want.3 ‘Shinjo wants Ichiro to smile.’

These examples suggest a revision of the hypothesis in (12), as in (17).

- (17) The Optional Complex Predicate Formation Hypothesis (Final)
Complex predicate formation may take place among the matrix predicate, COMP, and the embedded predicate when the matrix predicate is stative.

Note that the predicate *hoshii* behaves like an adjective, and takes a nominative object, as shown in (8a), and the predicate *hoshigatteiru* behaves like a verb, and takes an accusative object, as shown in (8b). Therefore, the matrix predicates in (9b) and (16) are verbal. Thus, they cannot form complex predicates with the embedded predicates under the

revised hypothesis in (17). The relevant structures of (9b) and (16) are thus (18) and (19), respectively.

- (18) * Shinjoo-wa [_{CP} [_{IP} Ichiroo-ga warat]-te]
 Shinjo-Top Ichiro-Nom smile-TE
 hoshigatteiru.
 want.3 'Shinjo wants Ichiro to smile.'
- (19) * Shinjoo-wa [_{CP} [_{IP} Ichiroo-o warat]-te]
 Shinjo-Top Ichiro-Acc smile-TE
 hoshigatteiru.
 want.3 'Shinjo wants Ichiro to smile.'

In (18), the embedded subject is within the CP that does not have Tense, so that it cannot be marked nominative. In (19), the embedded object is within the CP that contains an intransitive verb, which cannot assign accusative Case, so that it cannot be marked accusative.

The Optional Complex Predicate Formation Hypothesis will also account for the fact that (7b) is grammatical to many informants, but is degraded to some. (See footnote 1.) The complex predicate is formed for those who accept (7b), and is not for those who do not.

Let us then examine whether the predictions the Optional Complex Predicate Formation Hypothesis may make are actually borne out. Along with the examples with *hoshii* 'want,' Japanese has other examples that contain clauses followed by *TE*, as shown in (20) and (21).

- (20) Ichiroo-wa [_{CP} [_{IP} PRO sono ringo-o
 Ichiro-Top the apple-Acc
 tabe]-te] oita. 'Ichiro ate the apple
 eat-TE put in advance.'
- (21) Ichiroo-wa [_{CP} [_{IP} PRO sono ringo-o
 Ichiro-Top the apple-Acc
 tabe]-te] shimatta. 'Ichiro finished
 eat-TE finished eating the apple.'

The matrix predicates are all verbs, thus not stative, but they can be made stative with an addition of the potential predicate (*rar*)e 'can' to the matrix predicates, as shown in (22) and (23).

- (22) Ichiroo-wa [_{CP} [_{IP} PRO sono ringo-o
 Ichiro-Top the apple-Acc
 tabe]-te] ok-e-ta.
 eat-TE put-can-PAST
 'Ichiro was able to eat the apple in advance.'
- (23) Ichiroo-wa [_{CP} [_{IP} PRO sono ringo-o
 Ichiro-Top the apple-Acc
 tabe]-te] shima-e-ta.
 eat-TE finish-can-PAST
 'Ichiro was able to finish eating the apple.'

The matrix predicates are now changed to stative predicates, and the informants we consulted all judge the examples in (22) and (23) to be grammatical.

Now, the Optional Complex Predicate Formation Hypothesis will predict that the embedded object can be marked nominative, when the embedded predicate, *TE*, and the matrix (complex) predicate constitute a single complex predicate. To see this, let us consider the examples in (24) and (25), where the embedded object is marked nominative, and the matrix subject is marked dative.

- (24)(*) Ichiroo-ni-wa sono ringo-ga tabe-te
 Ichiro-Dat-Top the apple-Nom eat-TE
 ok-e-ta. 'Ichiro was able to eat
 put-can-PAST the apple in advance.'
- (25)(*) Ichiroo-ni-wa sono ringo-ga tabe-te
 Ichiro-Dat-Top the apple-Nom eat-TE
 shima-e-ta. 'Ichiro was able to
 finish-can-PAST finish eating the apple.'

Interestingly enough, some informants we consulted judge the examples in (24) and (25) to be grammatical, while the other informants judge them to be ungrammatical. This is exactly what the Optional Complex Predicate Formation Hypothesis will predict. This is because for those who allow (24) and (25), complex predicate formation takes place, and the sequence of the embedded predicate, *TE*, and the matrix (complex) predicate becomes a single stative predicate, which licenses the nominative Case on the embedded object, and for

those who disallow those examples, such complex predicate formation does not take place, and the nominative Case on the embedded object is not licensed due to the CP boundary by *TE*.

The Optional Complex Predicate Formation Hypothesis will also predict that the embedded object can be passivized and realized as a nominative subject, when the embedded predicate, *TE*, and the matrix predicate (*r*)are 'PASS' constitute a single complex predicate. Before examining the core data, let us first consider the examples with fixed complex predicates containing *TE*, as shown in (26) and (27).

- (26) a. Ichiroo-wa Shinjoo-o Shiatoru-ni
 Ichiro-Top Shinjo-Acc Seattle-to
 tsure-te-itta.
 accompany-TE-went
 'Ichiro took Shinjo to Seattle.'
- b. Ichiroo-niyotte Shinjoo-ga Shiatoru-ni
 Ichiro-by Shinjo-Nom Seattle-to
 tsure-te-ik-are-ta.
 take-TE-go-PASS-PAST
 'Shinjo was taken to Seattle by Ichiro.'
- (27) a. Ichiroo-wa Shinjoo-o Shiatoru-ni
 Ichiro-Top Shinjo-Acc Seattle-to
 tsure-te-kita.
 accompany-TE-came
 'Ichiro brought Shinjo to Seattle.'
- b. Ichiroo-niyotte Shinjoo-ga Shiatoru-ni
 Ichiro-by Shinjo-Nom Seattle-to
 tsure-te-ko-rare-ta.
 accompany-TE-go-PASS-PAST
 'Shinjo was brought to Seattle by Ichiro.'

The complex predicates with *TE* in the *a*-examples in (26) and (27) are fixed expressions. Since they are characterized as transitive verbs, the object of the embedded predicate can be passivized, as shown in the *b*-examples in (26) and (27).

Let us now examine whether passivization is

possible with non-fixed complex predicates with *TE*. Consider the examples in (28) and (29).

- (28) a. Ichiroo-wa [_{CP} [_{IP} PRO sono kuruma-o
 Ichiro-Top the car-Acc
 naoshi]-te] oita.
 fix-TE put
 'Ichiro fixed the apple in advance.'
- b. (*)Ichiroo-niyotte sono kuruma-ga
 Ichiro-by the car-Nom
 naoshi-te ok-are-ta.
 fix-TE put-PASS-PAST
 'The car was fixed by Ichiro in advance.'
- (29) a. Ichiroo-wa [_{CP} [_{IP} PRO sono ringo-o
 Ichiro-Top the apple-Acc
 tabe]-te] shimatta.
 eat-TE finished
 'Ichiro finished eating the apple.'
- b. (*)Ichiroo-niyotte sono ringo-ga
 Ichiro-by the apple-Nom
 tabe-te shimaw-are-ta.
 eat-TE finish-PASS-PAST
 'The apple was eaten by Ichiro completely.'

Just as in the cases with the potential predicate (*rar*)e 'can,' some informants we consulted judge the examples in the *b*-examples in (28) and (29) to be grammatical, while the other informants judge them to be ungrammatical. This is exactly what the Optional Complex Predicate Formation Hypothesis will predict. This is because for those who allow the *b*-examples in (28) and (29), complex predicate formation takes place, and the sequence of the embedded predicate, *TE*, and the matrix (complex) predicate becomes a single stative predicate, which licenses the nominative Case on the embedded object, and for those who disallow those examples, such complex predicate formation does not take place, and the nominative Case on the embedded object is not licensed due to the CP boundary by *TE*.

Interestingly enough, it is not necessarily true that those who allow complex predicate formation with the potential predicate (*rar*)*e* ‘can’ also allow complex predicate formation with the passive predicate (*r*)*are* ‘PASS.’ This indicates that complex predicate formation with *TE* is a very subtle grammatical process, and further investigation is required to uncover the nature of the complex predicate formation with *TE* in Japanese.

The Optional Complex Predicate Formation Hypothesis will also predict that the embedded object can be marked nominative in the complement clause of *hoshii* ‘want,’ when the embedded predicate, *TE*, and the matrix predicate *hoshii* ‘want’ constitute a single complex predicate. This is because there will be no CP boundary between the embedded clause and the matrix clause, so that the Tense of the matrix clause can license the nominative object. To see this, let us consider the example in (30), where the predicate in the embedded clause is transitive.

- (30)(*)*Watashi-wa Ichiroo-ni sono ringo-ga*
 I-Top Ichiro-Dat the apple-Nom
tabe-te hoshii.
 eat-TE want
 ‘I want Ichiro to eat the apple.’

As the Optional Complex Predicate Formation Hypothesis predicts, (30) is grammatical to some native speakers of Japanese, but is not to the other native speakers of Japanese.

5. CONCLUSION

In this paper, we first pointed out two puzzles that arise from the desirative predicate *hoshii* ‘want’ in Japanese, and then argued for (i) the hypothesis that the morpheme *TE* is a COMP for an infinitival clause, and (ii) the Optional Complex Predicate Formation Hypothesis, under which the predicates that sandwich *TE* optionally constitute complex predicates, when the matrix predicates are stative.

We then examined the predictions that the Optional Complex Predicate Formation Hypothesis would make for the other predicates (the potential predicate (*rar*)*e* ‘can’ and the passive predicate (*r*)*are* ‘PASS’), and showed that the predictions were borne out. Of course, further investigation is required to uncover the nature of the complex predicate formation with *TE*, as it is a very subtle grammatical process.

FOOTNOTE

¹ To some native speakers of Japanese, (7b) is slightly degraded. It seems that (7b) sounds good because it is understood as something like (i).

- (i) [[*Ame-ga furu*] to] ii no da ga.
 rain-Nom fall COMP good NO be but
 ‘It is good if it would rain.’

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Recursive Compounds in Phase Theory

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Keywords: recursive, compound, Phase,

1. INTRODUCTION

Recursion is said to be a fundamental property of human language that potentially differentiate language both from other human cognitive domains and known communication systems in animals (Hauser, Chomsky & Fitch 2002). In this paper I will argue that what Tokizaki (2011) calls recursive compounds are derived in the narrow syntax in the Phase Theory (Chomsky 2001, 2008). The examples of recursive compounds in Japanese are represented below from Tokizaki (2011).

- (1) [[nise danuki] shiru]
mock badger soup
'mock-badger soup'
- (2) [[booeiki gaisha] shachoo]
trading company president
'president of a trading company'

The examples (1)-(2) are called recursive compounds according to Tokizaki (2011), Bisetto (2010) and Mukai (2006, 2008, 2013). Before starting the discussion let us define what recursion is. Summarizing the definitions by a number of linguists, such as Chomsky (1965), Ralli (2013), Bisetto (2010), Corballis (2011), and many others, recursion is defined as follows: recursion is a phenomenon of embedding structures within structures in cyclic fashion to

create sentences or words as complex and long as we like (Mukai 2013). (1) and (2) are recursive compounds as they are complex and created by merging another noun (*shiru* or *shachoo*) after a compound (*nise+danuki* or *booeiki+geisha*) is formed.

Secondly, the paper criticizes Bauke's (2009) theory of compound word formation. As word formation is also recursive like phrase formation is, I will argue that word formation takes place in the narrow syntax. Then I will propose a better theory based on my criticisms of Bauke. The aim of this paper is not to criticize other theories of compounding in other frameworks, but to show that word-formation can be analyzed using the Phase Theory, as it is recursive and productive as phrase formation is. Knowing about recursion of compounds will reveal some aspect of human language, different to those of other animals. Also, looking at compounds in unrelated languages, English, Japanese and Mainland Scandinavian, will enable us to understand universality of compounding.

This paper is organized as follows. In Section 2, I will show some characteristics of recursive compounds. This section is followed by a review of Bauke's analysis of compounding and criticisms in Phase Theory (Chomsky 2001, 2008). Section 4 proposes a better analysis of compounding in Phase Theory. The conclusion of this paper will show that compounding can be derived in the narrow syntax using the Phase Theory and some implications for future research.

2. RECURSIVE COMPOUNDS

Recursive compounds are phrase-like in the following sense. First, they are pronounced like two independent words and there is a slight

pause in between the second and third constituents. Also, they are very productive and internal structure is visible to syntax. However, they do show word-like characteristics in that functional category is excluded and it is impossible to delete part of them.

Let us show the above arguments are true.

(3) [[nise danuki]| shiru]

(4) [[booeiki gaisha]| shachoo]

‘|’ stands for a short pause. However, it is impossible to have a functional category or partial deletion.

(5) a. [[nise (*no) danuki] shiru]

mock (*GEN) badger soup

b. *Ibaragi de [[nise danuki] ~~shiru~~ o

Ibaragi DAT[[mock badger] ~~soup~~ ACC

tabe-ta ga, Kochi de [[nise danuki]

eat-PAST but, Kochi

shiru] o tabe-naka-tta.

soup] ACC eat- NEG-PAST

‘I ate mock badger soup in Ibaragi, but didn’t eat in Kochi’.

(6) a. [[booeiki (*no) gaisha] shachoo]

trading (*GEN) company president

b. *Kobe de wa [[booeiki gaisha] ~~shachoo~~ -

Kobe DAT TOP trading company ~~pres.~~

ni a-tta ga, Osaka de wa

DAT meet-PAST but, Osaka DAT TOP

[[booeiki gaisha]shachoo] ni awa-na-

trading company pres. DAT meet-NEG

katta.

PAST

‘I met a trading company president in

Kochi but I did not in Osaka’.

The functional category, genitive case marker cannot intrude the examples or it is impossible to delete its part.

The following examples (7-10) are what Tokizaki (2011) calls recursive compounds, and they share the same characteristics of the above

compounds: they are phonologically two words, so there is a short pause between the ‘second’ and ‘third’ constituents. (7) and (8) are from English, (9) and (10) are from Mainland Scandinavian, which includes Danish, Swedish and Norwegian.

The (a) examples show that there is a short pause between the second and third constituents and (b) examples show the genitive case marker in each language does not interfere.

(7) a. [waste disposal]| plan]

b. [waste (*of) disposal] plan]

(8) a. [peanut butter]| sandwich]

b. [peanut (*of) butter] sandwich]

(9) a. [jule-mand]| kostume]

Christmas-man kostume

‘Santa Claus man’

b. [jule-(*s)-mand] costume]

(10) a. [bo-stand]-s-kvarter]

live-place-LINK-area

‘residential area’

b. [bo-(*s)-stand]-s-kvarter]

In this section the author has argued recursive compounds in English, Japanese and Mainland Scandinavian are word-like in that they obey Lexical Integrity, but they are syntactic in that they are productive and pronounced as two words. The next section will review Bauke’s analysis of compounding and criticize the analysis in Phase Theory (Chomsky 2001, 2008).

3. BAUKE’S ANALYSIS

In this section, I will review and criticize Bauke’s analysis of compounds.

Bauke argues that compound word formation can be derived using the Phase Theory (Choomsky 2001, 2008), analyzing the following examples in German.

(11) a. Landkarte

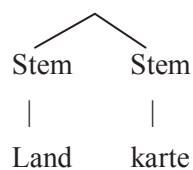
- country+map
'map'
- (11) b. Landsmann
country+GEN+man
'compatriot' or 'man who loves the countryside' or 'man who advocates for the conservation of the countryside' etc.

- (11) c. Landeskirche
country+GEN+church
'national church' or 'church that is associated with the country' or 'church that shows country's typical architecture' etc.

- (11) d. Länderspiel
country+PL+match
'match between two national teams' or 'game that involves knowledge about certain countries' or 'game that is typically played in certain countries' etc.

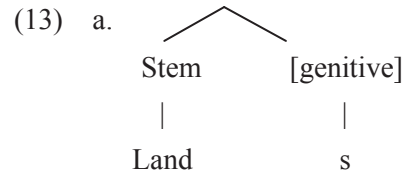
As can be seen in the translations, the example (a) is non-compositional while the forms in (b) - (d) allow for a compositional interpretation. So (a) is lexical compound while (b) – (d) are syntactic compounds.

(12)

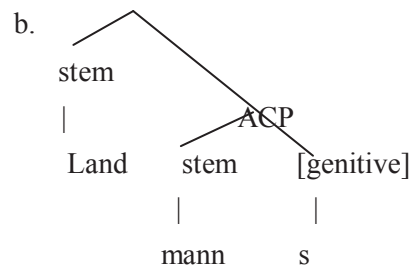


In her analysis Bauke uses Chomsky's merge operation. (12) is the structure for lexical compounds, such as the example (11a). Lexical compounds are derived with merging two uninflected stems in the lexicon and as a result, the meaning is fixed and potentially drifted.

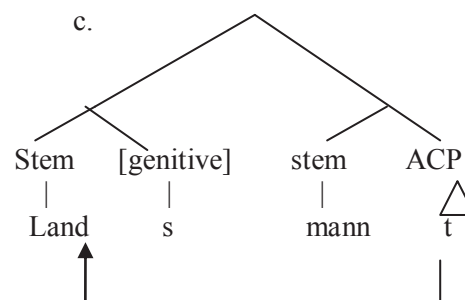
Let us now show how syntactic compounds are derived in her analysis.



First, a stem is merged with a categorizing nominal head (cf. Marantz 2007) that carries inflectional features.



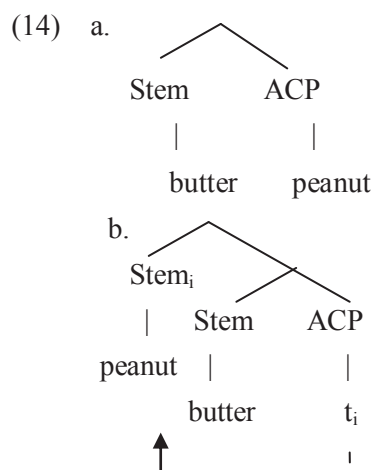
This structure is inserted into the Abstract Clitic Position of the compound head (Keyser & Roeper 1992).



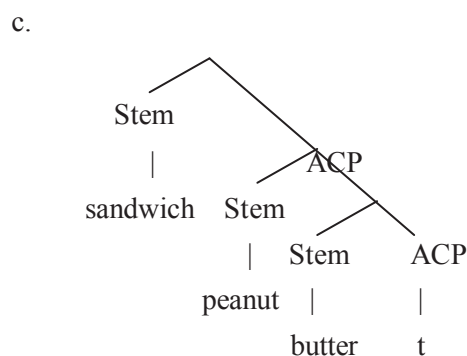
The structure [Land+head] in the Abstract Clitic Position is moved.

Following Boeckx (2008) that every second instance of merge constitutes a phase, set-merge (Chomsky 2000) of a head and non-maximal projection below the word-level is the same as above the word-level. Also, Bauke argues that there is a phase at which the non-head (the first inflected stem and lexical kind of functional category) is transferred to the interpretational component and is spelled-out. The interpretational features [plural] or [lexical genitive case] are computed. As a result, the compositional interpretation of the whole compound is captured.

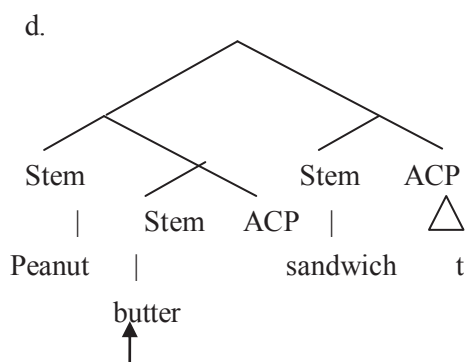
Bauke does not have an analysis for recursive compounds, but she assumes the Abstract Clitic Position, so follows Roeper, Snyder and Hiramatsu's (2002) analysis.



In their analysis, we first create the compound *peanut butter*.



Then the result is inserted into the ACP position of the N *sandwich*, to obtain the meaning of 'peanut butter sandwich', or 'sandwich of the kind associated with peanut butter'.



Then the compound in the ACP is moved.

However, this theory has some serious problems. First, the operation movement in the Minimalist Program should be caused by feature checking requirements involving a functional category. However, in this theory, there is no feature to be checked or a functional category involved in the derivation of compounding. Nor does the noun which originates in the Abstract Clitic Position have any semantic or syntactic features which should be checked by another noun in the course of the derivation.

The second problem is related to the first one. The moved noun is merged twice with the same head noun. For instance, in the derivation (14), the noun, *peanut* is merged with *sandwich*. Although Roeper *et al* or Bauke do not discuss headedness the idea clearly is that *sandwich* is the head of the whole compound. The N *peanut butter* is merged again with the same head, *sandwich*. As a result, their analysis certainly does not adhere to the Minimalist theory of phrase structure rules.

In summary this section has reviewed and criticized Bauke's analysis of compounding in Phase Theory. Her analysis is applicable for recursive compounds. However, it has been discussed that her analysis does not adhere to Minimalist theory of phrase structure rules.

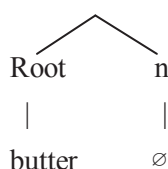
4. NEW ANALYSIS OF COMPOUNDING

As word formation is also recursive like phrase formation, in this paper, it is assumed that it takes place in the narrow syntax. Following Marantz (2007), lexical or syntactic compounds are assumed to be formed in the narrow syntax. In addition, following Marantz (2007), (at least some) words also seem to be units of independent sound and meaning, suggesting that words, too, may be phases (Marantz 2007). Phase is spelled out when all uninterpretable

features on its head are checked.

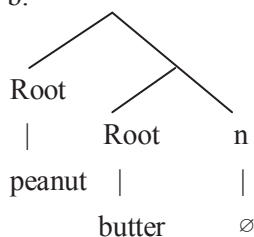
Let us see how a compound is derived first. First, a category-less root is merged with a categorizing head (Zhang 2007, Marantz 2007), thus turning the root in the category, *n*. The proposal that roots have no category is widely accepted in Minimalist Program.

(15) a.



After a category-less root is merged with a nominal head, another root is merged to form a two-member compound word.

(15) b.

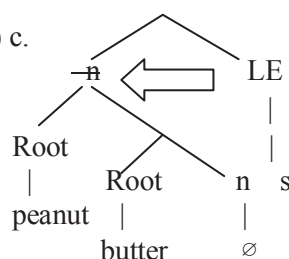


The roots are not merged immediately, as the interpretation of the whole compound allows for alternative compositional interpretation, merging a category-less root with a syntactic head. Also, assuming that there is no categorizing head merged with the 'first' root (peanut) can capture the fact that this constituent does not have any word class feature and in many cases of compounds in general, it is not possible to have inflected forms or a D feature as the non-head of a compound.

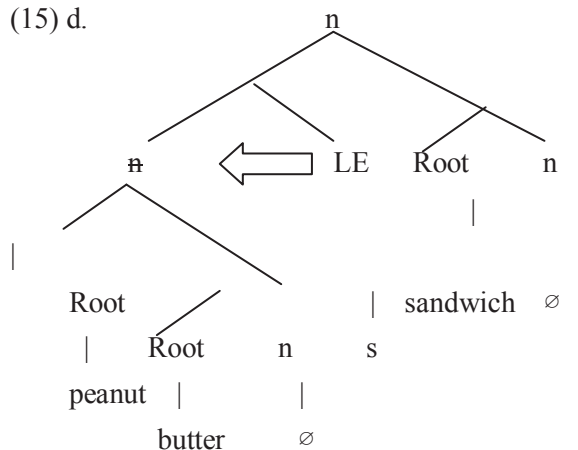
The result is transferred to the interpretational component and is spelled-out. The word is interpreted semantically and phonologically. Here, the effect of the Lexical Integrity condition is explained. It is not necessary to move any constituent, as movement is Last Resort.

The categorizing head is merged as in recursive compounds, there is a slight pause between the second (e.g. *butter*) and third constituents (e.g. *sandwich*). Here, Tokizaki (2011) argues that there is a head. However, as it is not possible to have two heads in a word, i.e. recursive compound, here, I will argue that a linking morpheme (LE), which is phonetically there in Mainland Scandinavian, but not in Japanese or English, is merged to check the categorical feature on the *n*.

(15) c.



(15) d.

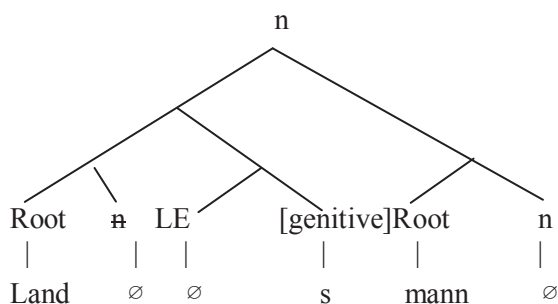


The resulting structure can be merged with another (root +*n*), which is constructed in parallel. The derivation, as a result, does obey minimalist phrase structure rules, as every new element is merged with the top node of the tree in the new analysis and no element is merged twice with the same element, unlike in Bauke's analysis. As a result, the 'final' categorizing nominal head is the head of the whole compound word.

It is necessary to discuss how syntactic compounds in German, (11b) – (11d) are derived in the new analysis.

The structure (16) is for (11b) with genitive case feature.

(16)



As it is impossible to have two heads in one structure, a linking morpheme is merged and checks the nominal feature and transferred to interpretational component and spelled out. The category spelled out as *-s* is a complex morpheme, a LINK with a genitive feature. If it does not have any unvalued feature, it will not percolate, so the tree [*Land+n*] can merge with the *n*-headed tree [*mann+n*]. Similarly, (11c) has the same structure and (11d), too, but with a different feature [Plural], instead of [genitive]. Thus, my analysis can easily explain structures for two-member compounds. In all these cases the head of the whole compound is the ‘final’ *n*. In this section, the author has proposed a new analysis of compounding in Phase Theory (Chomsky 2001, 2008) based on the criticisms of Bauke’s analysis of compounding discussed in Section 3. In the new theory it is possible to follow the minimalist phrase structure rules, especially no unnecessary movement, unlike in Bauke’s analysis. Also, the issue of headedness is solved by assuming that there is a functional element, Linking Element. Linking Element is there for Economy reason.

5. CONCLUSION

The main aim of this paper has been to propose unified structures for recursive compound words in Japanese, English and Mainland Scandinavian within the Phase Theory.

In Section 2 it was found that recursive compounds obey the Lexical Integrity, while they are phrase-like in that they are productive and recursive and pronounced as two words. Based on the observations of recursive compounds I analyzed recursive compounds using Bauke’s analysis of compounding and criticized that her analysis does not adhere to minimalist phrase structure rules.

In my theory I argued that there is no movement in the structure, and that there is a projection of a linking morpheme between compound words in the language which has recursive compound words. The linking morpheme is there, because otherwise the compound will have two heads, nominal feature being unsaturated on both members of the whole compound.

However, a question immediately arising is why not all languages seem to be subsumed under the same principles for recursive compound word formation. For example, why are recursive compounds productive in Germanic languages, Asian languages but not in Romance languages? This question might be answered using the proposed theory, but not in the syntax but in the PF (c.f. Tokizaki 2013).

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Voice Alternation in Japanese Sentence Fragments*

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Key words: deletion, sentence fragments, voice alternation, information structure

1. INTRODUCTION

In this brief paper, we argue that voice alternation is possible in *sentence fragments* or *fragments*, a kind of elliptical expression exemplified in (1B) and (2B), contrary to what Merchant (2013) claims, providing examples from Japanese for support.

(1) A: What did you eat for lunch?

B: Pizza.

(2) A: Has Harriet been drinking scotch again?

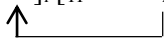
B: No, bourbon.

(Culicover and Jackendoff (2005))

Fragments have full-sentential interpretations, despite their non-sentential surface forms: in (1B), “I ate pizza for lunch.” and in (2B), “Harriet’s been drinking bourbon.”

In the standard view, fragments are derived from full-fledged sentences ((Morgan (1973), Merchant (2004) and Nishigauchi (2006)). For example, (1B) is derived from “I ate pizza for lunch.”, by deleting the whole structure except the NP “pizza.” We call this view as the *Deletion Analysis* here. The latest version of the Deletion Analysis is proposed by Merchant (2004), which is illustrated in (3). In this analysis, the derivational process of a fragment

has the following two steps: the fragment undergoes A'-movement to the left periphery and the TP which contains the trace of the fragment is deleted. This derivational process ensures that deletion in fragments is constituent deletion. Since fragments are inherently foci, the landing site of the fragment should be SpecFocP (Merchant (2004) and Nishigauchi (2006)).

(3) $[_{Foc} [pizza]_i [_{TP} \text{I ate } t_i \text{ for lunch}]]$


However, if we appeal to the intuition that fragments are simpler than sentences, they should not have invisible sentential structures (Culicover and Jackendoff (2005) and Casielles (2006)). Accordingly, the fragment (1B) is represented just as an NP, as in (4).

(4) $[_{NP} \text{Pizza}]$

That is, fragments are directly generated as what they are (Yanofky (1978), Culicover and Jackendoff (2005) and Progovac (2006)). We call this view as *the Direct Generation Analysis*.

The goal of this paper is to support the Direct Generation Analysis, showing that fragments allow voice alternation. Merchant (2013), based on the Deletion Analysis, argues that voice alternation in fragments is impossible and argues that this fact suggests that TP-deletion is involved in fragments. Nevertheless I insist that the restriction on voice alternation in fragments is due to violation of an information-structural condition originally proposed for VP-Ellipsis by Kertz (2013), and demonstrate that voice alternation is in fact allowed in Japanese fragments, when that condition is not violated.

2. VOICE ALTERNATION IN ELLIPSIS

2.1 DELETION ANALYSIS

Merchant (2013) proposes a generalization on the distribution of voice mismatch in elliptical constructions: “low” ellipsis, that is, VP-ellipsis, allows voice alternation, while “high” ellipses, elliptical constructions with TP-deletion, namely sluicing, gapping and fragments, do not allow voice alternation. Excerpts from Merchant (2013) are shown in (5) to (8).

VP-Ellipsis

- (5) a. The janitor must remove the trash whenever it is apparent that it should be. <removed>
b. The system can be used by anyone who wants to. <use it>

Sluicing

- (6) a. *Someone murdered Joe, but we don’t know who by.
b. *Joe was murdered, but we don’t know who.

Gapping

- (7) a. *Some bring roses and lilies by others.
b. *Lilies are brought by some and others roses.

Fragment

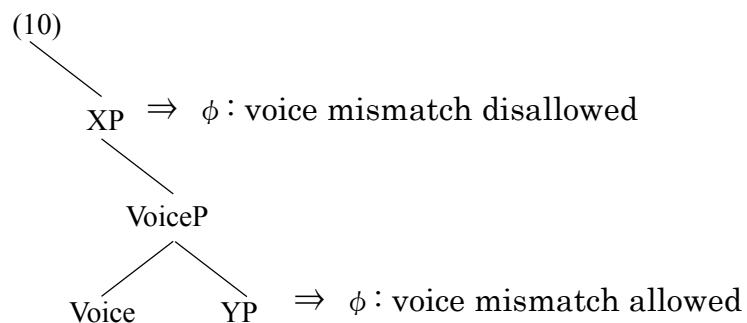
- (8) A: Who is sending you to Iraq?
B: *By Bush.

In (5) to (7), the (a) examples involve active-to-passive alternation, while the (b) examples involve passive-to-active alternation. In (8), only an example of active-to-passive alternation is shown. The reason for this is explained later.

Assuming that VoiceP is projected above vP as in (9), Merchant argues that high ellipses includes Voice(P), while low ellipsis does not.

- (9) [CP C [TP T [VoiceP Voice [vP v ...]]]]

When an XP above VoiceP is deleted, a high ellipsis occurs and a voice mismatch is disallowed. When a YP below VoiceP is deleted, on the other hand, a low ellipsis occurs and a voice mismatch is allowed. This is schematized in (10).



How this analysis is applied to the fragment in (9) is illustrated in (11). The constituents subject to the deletion identity are shaded.

- (11) A: [CP Who_i [TP is [Voice Voice_[Active] [vP t_i v [VP sending you to Iraq]]]]]?
B: [CP [PP By Bush_i] [TP I_j am [Voice Voice_[Passive] [vP t_i [VP sent t_j]]]]]

The deletion of the TP in (11B) is illegitimate, since different voice features are contained in the deleted part and its counterpart in the antecedent sentence.

2.2 INFORMATION STRUCTURE ANALYSIS

The uneven distribution of voice mismatches in ellipses, which we have seen above, can be explained in terms of information structure. First of all, it should be noted that voice alternation in VP-ellipsis is not always allowed. See the examples in (12). The voice mismatch in (12a) is unacceptable, while that in (12b) is well-formed.

- (12) a. *This problem was looked into by John, and Bob did too. [look into the problem]

- b. This problem was looked into by John, even though Bob already had (*too). [looked into the problem] (Kehler (2000))

This fact cannot be predicted by Merchant (2013).

In terms of discourse coherence, Kehler (2004) generalizes that voice alternation is disallowed when the target clause and its antecedent clause has a *resemblance* relation, while it is allowed when other coherence relations are established.¹ In (12a), a resemblance relation is established between the first and second clauses, which causes the voice mismatch to be disallowed. In (12b), on the other hand, no resemblance relation is constructed and the voice mismatch is allowed. (12b) becomes unacceptable if an expression signaling a resemblance relation, such as “too”, is added to it, as indicated in the example.

Kehler’s analysis is empirically challenged, however. See the pair of examples in (13). Although (13a) does not involve a resemblance relation, it disallows voice alternation, just as in (13b), which obviously involves a resemblance relation

- (13) a. *The problem was looked into by Kim even though Lee did.
b. *The problem was looked into by Kim just like Lee did.

For such problems, Kertz (2013) proposes an alternative, reinterpreting resemblance relation as parallelism in information structure, that is, contrastive topic relations. She introduces the constraint in (14).

(14) Constraint on Contrastive Topic Relations:

A contrastive topic relation is well formed if members of the topic set are sentence topics.

(Kertz (2013))

With (14), the contrast in (12) can be accounted for. In the target clause of (12a), (14) is violated because the focus falls on the subject, that is, the topic of this clause. In the target clause of (12b), on the other hand, the auxiliary “had”, which cannot be a topic, is the focus. Thus, no contrastive topic relation is involved in this case. This is illustrated in (15).

- (15) a. *[This problem]_{Top} was looked into by John, and [Bob]_{TF} did too.
b. [This problem]_{Top} was looked into by John, even though Bob already [had]_F.

(Top = topic, F = focus, TF = topic focus)

The unacceptability of (13a) is also attributed to (14). Although (13a) involves no resemblance relation, an infelicitous contrastive topic relation is established here, just as in (13b). This is illustrated in (16).

- (16) a. *[The problem]_{Top} was looked into by Kim even though [Lee]_{TF} did.
b. *[The problem]_{Top} was looked into by Kim just like [Lee]_{TF} did.

To sum up, the patterns of voice alternation in VP-ellipsis is predicted by (14).

2.3 EXTENSION TO OTHER ELLIPSES

The information-structural analysis of Kertz (2013) can be extended to other elliptical constructions. First, we consider gapping. Kehler (2000) argues that gapping is felicitous only in a resemblance relation. Accordingly, his coherence analysis predicts gapping to disallow

voice mismatch. As in the case of VP-ellipsis, the information-structural analysis of Kertz (2013) can take the place of Kehler's. As shown in (17), a contrastive topic relation is constructed between the subjects in a gapping clause and its target clause.

- (17) a. *[Some]_T bring [roses]_F and [lilies]_{TF} [by others]_F.
 b. *[Lilies]_T are brought [by some]_F and [others]_{TF} [roses]_F.

Given that a subject is the topic of the sentence it belongs to, the first remnant in a gapping structure is a topic focus, being subject to the information-structural constraint (14) above.

The present analysis is also extended to sluicing. The sluicing examples in (6) are repeated below.

- (6) a. *Someone murdered Joe, but we don't know who by.
 b. *Joe was murdered, but we don't know who.

In (6b), the infelicity of the voice mismatch is simply attributed to (14), because the remnant WH-phrase "who" is the subject of the embedded clause. In (6a), however, it appears that the voice mismatch is not subject to (14), because the WH-phrase in the embedded clause is not a subject.

A solution for this problem is to assume that a fragment should be a topic if its correspondent is a topic. We propose (18).

- (18) Information-Structural Identity in Ellipsis:

A remnant in an elliptical construction and its correspondent should have the same topic-comment structure.

Since in (6a) the correspondent "someone" is the subject of the antecedent clause, the remnant

"who" should be the topic of the sluicing sentence.² This is illustrated in (19).

- (19) a. *[Someone]_T murdered Joe, but we don't know [who]_{TF} by.
 b. *[Joe]_T was murdered, but we don't know [who]_{TF}.

Even if (18) is applied to (5) and (12a), in which VP-ellipsis with voice alternation is allowed, the results do not change. In these cases, auxiliaries are obligatorily focused and, therefore, should be regarded as remnants. Since auxiliaries cannot be topics, (18) is irrelevant or has no effect in them.

Nevertheless one may doubt that the remnant WH-phrase in a sluicing clause is the topic of this clause, because it seems strange that the topic appears without any comment. In (19b), the sluicing clause only has a topic, while nothing about the topic is presented. We can assume, however, that topic-comment structures need not to be fully expressed. Compare the second sentence of (6b) "we don't know who" to its full-sentential counterpart "We don't know who murdered him." Since they are equivalent in meaning except that "murdered him" is presupposed in the former, they must have the same topic-comment structure. Hence, the WH-phrase "who" should be a topic even in the former. The absent comment, "murdered him", is recovered from the discourse. The same explanation can be made for (6a). Therefore, a remnant in an ellipsis can be interpreted as a topic.

3. VOICE ALTERNATION IN FRAGMENTS

Returning to fragments, Merchant (2013) asserts that fragments disallow voice mismatches, but he notes that English cannot

show the entire paradigm. As we have seen above, active-to-passive alternation in fragments is evidently impossible. Example (8), supporting this claim, is repeated below.

(8) A: Who is sending you to Iraq?


B: *By Bush.

Passive-to-active alternation in fragments appears to be possible, based on the acceptability of (20).

(20) A: Who were you sent by?

B: Marcus. (Merchant 2013)

According to Merchant, however, we cannot exclude the possibility that the fragment answer (20B) is derived from a passive structure, as illustrated in (21), because of the poor case morphology and the availability of preposition stranding in English.

(21) [Marcus_i [I was sent by *t_i*]]


Whether we assume the Deletion Analysis or not, the possibility that (20B) corresponds to a passive sentence is not ignorable, because preposition dropping in fragments is generally accepted in English (Merchant (2004)).

The infelicity of the voice mismatch in (8) can be accounted for in the present information-structural analysis, exactly as in (6a). (8) violates (14), the constraint on contrastive topic relations, if (18) is applied to it. The fragment “By Bush” in (8B) corresponds to “who” in (8A), which is the subject of the antecedent sentence. Therefore, the fragment is regarded as the topic of (8B), although it is not a subject. Based on what we have discussed about topic-comment structures in sluicing above, it is not illegitimate for the fragment to be a topic, but the active-to-passive alternation here violates (14).

Now, the question is whether fragments still resist voice mismatch even if violation of the constraint in (14) is avoided. To examine this, we should consider cases in which no contrastive focus relation is constructed. Short answers to WH-questions, such as (8), are not appropriate for this purpose. We have to make use of the other kind of fragment, which Merchant (2004) calls “stripping”, such as (2), which is repeated below.

(2) A: Has Harriet been drinking scotch again?

B: No, bourbon.

In a typical stripping case, the fragment corresponds to the focus of the antecedent sentence (in (2), “scotch”). Hence, voice mismatches in stripping-type fragments should be infelicitous, as in (22).

(22) A: Obama sent you to Iraq.

B: *No, by Bush.

What we need is cases where correspondents are implicit in antecedent sentences. In such cases, voice mismatches should not violate the constraint in (14), since (18) does not apply when there is no correspondence relation.

Unfortunately, it is difficult to test this prediction in English, where implicit arguments are very restricted. The type of cases required should be found in Japanese, where fragments can be felicitous even when there is no correspondent in antecedent sentences, as in (23) and (24).³

(23) (Waiting for several persons to come)

A: Ki-ta?

come-Pst

‘Did someone come?’

B: Un, Taro-wa.

yes Taro-Top

‘Yeah, just Taro.’

(24) A: Taro-wa hur-rare-ta-no?
 Taro-Top dump-Pass-Pst-Comp
 ‘Was Taro dumped?’

B: Un, Hanako-ni.
 yes Hanako-Dat
 ‘Yeah, by Hanako.’

Given (14), voice alternation should be allowed in such cases.

This prediction is born out, as demonstrated by (25) and (26).

(25) A: Omae, kanshi-s-are-tei-ru-zo.
 you watch-Do-Pass-Asp-Prs-Part
 ‘You are being watched.’

B: (Masaka), CIA-ga?
 Surely CIA-Nom
 ‘The CIA?’

(‘Is the CIA watching me?’)

(26) (A talks to B about what he heard about B from B’s friend, Taro.)

A: Taro i-tte-ta-yo,
 Taro say-Asp-Pst-Part,
 yoku nige-rare-ru-tte.
 often escape-Pas-Prs-Comp
 ‘Taro said you often escape.’

B: Boku-ga?
 I-Nom
 ‘Me?’
 (‘I often escape?’)

These fragments are not so good for some speakers but, even if degraded, they are not sufficiently bad to be considered ungrammatical. As expected, if the correspondents are explicit in (25) and (26), voice mismatches are infelicitous, as in (27) and (28).

(27) A: Omae, dareka-ni
 you someone-Dat
 kanshi-s-are-tei-ru-zo.
 watch-Do-Pass-Asp-Prs-Part
 ‘You are being watched by someone.’

B: ^{?(?)}CIA-ga?
 CIA-Nom
 ‘The CIA?’

(28) A: Taro i-tte-ta-yo,
 Taro say-Asp-Pst-Part,
 kimi-ni-wa yoku nige-rare-ru-tte.
 you-Dat-Top often run-Pass-Prs-C
 ‘Taro said you often escape.’

B: ^{??}Boku-ga?
 I-Nom
 ‘Me?’

Even in correspondent-absent fragments, active-to-passive alternation is disallowed. Examples (29) and (30) are completely unacceptable.

(29) A: Omae-o kanshi-si -tei-ru-zo.
 you-Acc watch-Do-Asp-Prs-Part
 B: *Masaka,CIA-ni?
 Surely CIA-Dat
 ‘The CIA?’

(30) A: Taro i-tte-ta-yo,
 Taro say-Asp-Pst-Part,
 yoku nige -ru-tte.
 often escape-Prst-Comp
 ‘Taro said you often escape.’

B: *Boku-ni?
 I-Dat
 ‘Me?’

Therefore, only passive-to-active alternation in fragments is possible both in English and Japanese. I conjecture that this is because fragments have no voice marker even with a passive interpretation, unlike VP-ellipsis. Given that active is the unmarked category of voice,

fragments can be active without indication (after all, there is no active marker in Japanese, as in many other languages).

4. CONCLUSION

We have seen that voice alternation in sentence fragments are basically allowed, contrary to Merchant (2013). This fact disproves the Deletion Analysis and supports the Direct Generation Analysis.

ACKNOWLEDGEMENTS

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NOTES

¹ Kehler's definition of resemblance coherence is cited below.

"[C]ommonalities and contrasts among corresponding sets of parallel properties and entities [should] be recognized using comparison and generalization operations."

(Kehler (2000: 542))

² There is another possible explanation: it is illegitimate that the WH-phrase, "Who by", functions as the topic of the sluicing sentence while it is not the subject of this clause.

³ The abbreviations used in this paper are as follows: acc = accusative; asp = aspect; comp = complementizer; dat = dative; nom = nominative; part = particle; pass = passive; prs = present; pst = past; top = topic.

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The Relationship between Subjective Ellipsis and Grammatical Patterns*

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Keywords: subject ellipsis, grammatical patterns, subjectification, the verb *feel*

1. INTRODUCTION

English is generally regarded as a language which needs the grammatical subject, however, the subject ellipsis sometimes occurs with perception verbs in a certain context (Carter and McCarthy (2006)) as in (1).

- (1) a. *Feels* good to have them on again.
b. *Feels* fifty thousand dead soul screaming.
(COHA)

The aim of this study is to demonstrate the relationship between the subject ellipsis and grammatical patterns focusing on the verb *feel* from the semantic point of view.

To be more precise, Case study 1 investigates the change of frequently occurring patterns with the verb *feel* in early 1800s and 2000s using COHA (*Corpus of Historical American English*).¹ By doing so, it is possible to observe the change of patterns with the verb *feel* chronologically and to utilize its data when analyzing the subject ellipsis in Case study 2.

Case study 2 investigates the relationship between the subject ellipsis and the

grammatical patterns with the verb *feel*.

This paper proposes that the subject ellipsis often occurs in the grammatical patterns with the verb *feel* that are highly subjective (e.g. *It feels* + adjective or *It feels like...*) where the experiencer and the conceptualizer are assimilated with each other (Langacker (1990)). With regard to the definition of “subjectification”, Langacker (1991: 215) suggests as follows; “subjectification (discussed more fully in Langacker 1990b) is a semantic shift or extension in which an entity originally construed objectively comes to receive a more subjective construal”.

2. PREVIOUS STUDIES

In previous studies, factors that cause the occurrence of the subject ellipsis have been approached based on the pragmatic perspective. For example, Carter and McCarthy (1995) indicate the following factors that cause the subject ellipsis such as the immediate context, the situational context and speech style (e.g. a conversation with the family members or close friends, an informal conversation).

Thomas (1979) quotes “law of least effort” (Martinet (1964)) originally suggested by Zipf (1949: 20), that is, “people make an effort to minimize the labor consumption when they solve the immediate problems they face”. Mackenzie (1998) cites Grice’s “maxim of quantity” (1975: 45), that is to say, “do not make your contribution more informative than is required”. Moreover, it is also reported that the subject ellipsis occurs in the patterns co-occurring with the subject “*it*” according to the retrieval of omitted subjects (Nariyama (2004)).

3. PROBLEMS

When we try to solve the problems only on the basis of the pragmatic perspective, we cannot solve the following problems.

First, it is difficult to explain about the case where the subject ellipsis occurs depending on verbs. For example, it is said that “the subject ellipsis sometimes occurs with the mental process verbs such as *think*, *hope*, *guess* etc.” (Carter and McCarthy (2006: 183)). Nevertheless, the reason why such a case happens is rarely discussed, or an explanation is not pervasive enough even if it is offered.

Second, researchers fail to explain why the subject ellipsis occurs in the patterns co-occurring with the subject “*it*” from any perspectives even though it is suggested that such cases are frequently observed (Nariyama (2004); Carter and McCarthy (2006)). Considering these facts, this paper proposes that the semantic factors, as well as the pragmatic factors, play an important role in the case of the subject ellipsis.

Focusing on the second problem mentioned above, this research investigates (1) whether the subject ellipsis has a relationship with the grammatical patterns, (2) whether the subject ellipsis tends to occur more in the patterns with the inanimate subject including “*it*” than in those with animate ones. Furthermore, this research analyzes what cognitive process occurs in the patterns where the subject ellipsis occurs. In other words, it examines whether the subject ellipsis tends to occur in the highly subjective patterns.

4. CASE STUDIES

4.1. CASE STUDY 1 - DATA

The purpose of Case study 1 is to investigate how the patterns with the verb *feel* change in

the early 1800s and 2000s by observing the frequently occurring patterns with the verb *feel* using *COHA*. Besides, Case study 1 has another role of a prior procedure for Case study 2 (i.e. the relationship between the subject ellipsis and the grammatical patterns). As a result of the investigation, the following grammatical patterns of the verb *feel* are observed.

Table 1. *Feel* patterns

<i>Feel</i> Patterns	Examples
1 A <i>feels</i> noun	<i>He feels its hot impress.</i>
2 A <i>feels</i> adj.	<i>She feels good.</i>
3 A <i>feels</i> adj. phr.	<i>She feels prepared to</i>
4 A <i>feels</i> like...	<i>She feels like a solemn duty.</i>
5 A <i>feels</i> as if...	<i>He feels as if he is a king.</i>
6 It (<i>that</i> , etc.) <i>feels</i> adj.	<i>It feels good.</i>
7 It (<i>that</i> , etc.) <i>feels</i> like...	<i>It feels like an hour.</i>
8 It <i>feels</i> as if...	<i>It feels as if they are dabbling.</i>
9 It <i>feels</i> adj. to	<i>It feels good to be home.</i>
10 Others	Prepositional phrases

A = animate, adj. = adjective, phr. = phrase

In Tables 1 and 2 concerning the grammatical patterns, animate entities are positioned in the subject slot in the patterns from 1 to 5, while inanimate ones are from 6 to 9. After investigating the change of patterns with the verb *feel* from 1820s to 1850s and 2000s, its data is shown in Table 2 and Figure 1 respectively. In Table 2, the upper tier of the figures shows the frequency of the patterns in

each era and the bracketed figures are converted and shown per million for a common denominator. To put it simply, a frequency per million means that how often a pattern appears in a million words in each era. Figure 1 is shown by the frequency per million. That way, it is possible to compare with figures from the other era even if the total number of frequency occurred is different.

Table 2. A change of frequently occurring patterns with *feel* through the era (COHA)

	1820s	1830s	1840s	1850s	2000s
1 A <i>feels</i> noun	181 (26.06)	340 (24.48)	209 (29.67)	398 (23.88)	338 (20.08)
2 A <i>feels</i> adj.	12 (1.72)	42 (3.02)	31 (4.40)	69 (4.14)	165 (9.80)
3 A <i>feels</i> adj. phr.	19 (2.73)	27 (1.94)	14 (1.98)	36 (2.16)	33 (1.96)
4 A <i>feels like</i>	2 (0.28)	1 (0.07)	4 (0.56)	9 (0.54)	48 (2.85)
5 A <i>feels as if</i>	3 (0.42)	7 (0.50)	3 (0.42)	5 (0.3)	16 (0.95)
6 <i>It (that, etc.) feels</i> adj.	6 (0.86)	10 (0.72)	11 (1.56)	6 (0.36)	222 (13.19)
7 <i>It (that, etc.) feels like</i>	1 (0.14)	1 (0.07)	2 (0.26)	2 (0.12)	132 (7.84)
8 <i>It feels as if</i>	2 (0.28)	1 (0.07)	0 (0)	2 (0.12)	16 (0.95)
9 <i>It feels</i> adj. to	0 (0)	0 (0)	1 (0.14)	1 (0.06)	20 (1.18)
10 Others	0 (0)	3 (0.21)	3 (0.42)	4 (0.24)	10 (0.59)
TOTAL	226 (32.53)	432 (31.10)	278 (39.4)	532 (31.92)	1000 (59.39)

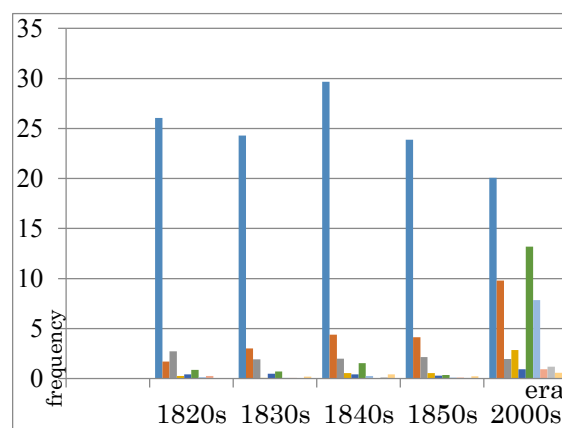


Figure 1. A change of frequently occurring patterns with *feel* per million (COHA)

4.2. CASE STUDY 1 - DISCUSSION

What is remarkable in 2000s is that the patterns are diversified as a whole. Comparing the patterns used in the early 1800s with those in 2000s, we can observe a tendency that the frequency of SVC patterns (patterns No. 2 to 9 in Table 2) has greatly increased compared with that of SVO patterns (a pattern No. 1 in Table 2). In other words, in the verb *feel* patterns, SVO pattern such as “A *feels* noun” (e.g. *He feels its hot impress.*) is mainly used during 1820s and 1850s. In contrast, SVC patterns (e.g. *He feels good, It feels like...*) are frequently used in 2000s. Furthermore, it is also found that the patterns co-occurring with the subject “*it*”, “*that*” or any inanimate entities are increasing, especially “*It (that, etc.) feels* adj” or “*It (that, etc.) feels like*” patterns.

In addition, the data shows that longer or more complicated sentences such as “*It feels as if...*” or “*It feels adjective to*” are not remarkably increasing. It is assumed that concise and shorter sentences tend to be used lately. Considering the change of patterns as a whole, it is inferred that the verb *feel* patterns seems to be subjectified in course of time.²

4.3. CASE STUDY 2 – DATA

Case study 2 investigates as to whether there is a correlation between the grammatical patterns with the verb *feel* and the subject ellipsis. This case study is based on the result of Case study 1. As for Table 3 and Figure 2, the frequency is calculated and shown by using the same method done in Case study 1. Concerning the method of retrieving the omitted subject, it is conducted by judging from the immediate context and the situational context.

Table 3. A change of frequently occurring patterns with *feel* and the subject ellipsis (COHA)

	1820s	1830s	1840s	1850s	2000s
1 <i>A feels</i> noun	3 (0.42)	11 (0.79)	1 (0.14)	6 (0.36)	3 (0.17)
2 <i>A feels</i> adj.	0	0	0	2 (0.12)	0
3 <i>A feels</i> adj. phr.	0	0	1 (0.14)	0	0
4 <i>A feels like</i>	0	0	0	0	0
5 <i>A feels as if</i>	0	0	0	0	0
6 <i>It (that, etc.) feels</i> adj.	0	0	0	0	7 (0.37)
7 <i>It (that, etc.) feels like</i>	0	0	1 (0.14)	0	10 (0.59)
8 <i>It feels as if</i>	0	0	0	0	0
9 <i>It feels</i> adj. <i>to</i>	0	0	0	0	0
10 Others	0	0	0	0	0
TOTAL	3 (0.42)	11 (0.79)	3 (0.42)	8 (0.48)	20 (1.13)

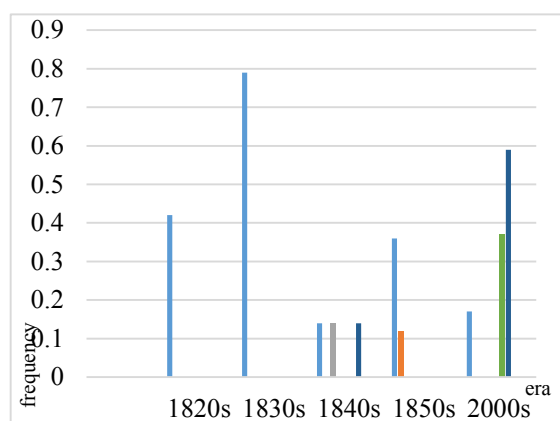


Figure 2. A change of frequently occurring patterns with *feel* and the subject ellipsis per million (COHA)

4.4. CASE STUDY 2 – DISCUSSION

The data suggests that the subject ellipsis mainly occurs in “*A feels* noun” pattern from 1820s to 1850s, while it occurs in “*It (that, etc.) feels* adj.” and “*It (that, etc.) feels like*” patterns in 2000s. There are two possible reasons for explaining about the increase of the last two patterns.

First, it is assumed that it is simply influenced by the higher occurrence of these patterns. However, it is not always the case. Looking at the data for “*A feels* adj.” (e.g. *She feels good.*) in 2000s in Table 3, there is no ellipsis appeared even though it has a higher frequency of 9.80 per million described in the counterpart in Table 2. Judging from this phenomenon, presumably we can say that the total number of the patterns occurred in Table 2 and the frequency of the subject ellipsis in Table 3 are not linked together.

Second, it might be said that the subject ellipsis occurs in the highly subjective patterns. To be more precise, as the date in Table 3 shows, the total of 17 subject ellipses (or 0.96 per million) occurs in the patterns of “*It feels (that, etc.)* adj.” and “*It (that, etc.) feels like*” in 2000s.” Looking at these patterns, the

perceptive objects are positioned in the subject slot and these patterns do not express the conceptualizer. Furthermore, nor do they express it in the form of “to me” or “to us”. In that case, it is assumed that these patterns are subjective according to the idea of subjectification by Langacker (1991).

The following are some of the examples elicited from *COHA*. On the right side of the sentences in each example, the implicit subject is retrieved based on the immediate context and the situational context. The conceptualizer who is backgrounded can be retrieved not as a form of the subject but as that of “to me” or “to us” based on the context.

- (2) Feels like I am eating for twelve. – (It) feels like (to me) I am eating for twelve.
- (3) Usually feels great while we’re doing it – Usually (it) feels great (to us) while we are doing it.
- (4) Feels like sweat slipping beneath my breast – (It) feels like sweat slipping beneath my breast (to me). (COHA)

In the examples (2) to (4) described on the left side, since the conceptualizer is not actually expressed linguistically as mentioned earlier, it can be presumably said that the subjectification process occurs in those expressions. Judging from the fact that subject ellipsis occurs in them, we might say that subject ellipsis occurs in the patterns which are highly subjective.

Figure 3 *Increasing subjectivity of G* (Langacker (1991: 94)) shows the degree of subjectification. First, let us briefly confirm what each of the figures (a) (b) (c) illustrates. Langacker (2002: 318) uses the term G which stands for “ground” “for the speech event, its participants, and its immediate circumstances

(such as the time and place of speaking)”. In Figure (3a), “the structure profiles an element of the ground, thus making it the focal point within the objective scene” (Langacker (1991: 94)). In this case, it is said that G indicates “expressions such as *I, you and now*” (Langacker (2002: 319)). G is objectified and profiled on stage. Concerning the pattern with the verb *feel*, the expression “*I feel good*” is applied to Figure (3a).

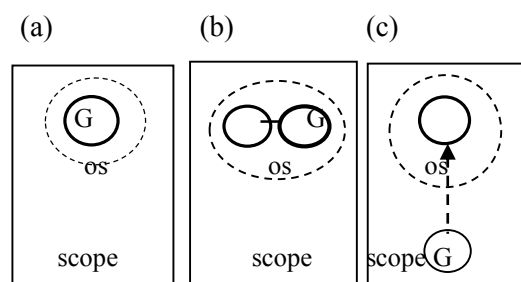


Figure 3. *Increasing subjectivity of G*
(Langacker (1991: 94))

In Figure (3b), “an expression like *identified to us* or *known to us* and *near me* profiles the grounding relationship” (Langacker (2002: 323)). Figure (b) illustrates that G is objectified as well as Figure (a). Hamada and Tsushima (2012: 19) suggest that “G has a relationship with the event and has become part of the conception, which is concerned”. As for the example sentences in (2) to (4) on the right side written on the left column, such as “(It) feels like (to me) I am eating for twelve”, these are applied to (3b) .

However, in fact, “to us” or “to me” are not expressed in the example sentences (2) to (4) actually elicited from *COHA*. It means that they are more highly subjectified since any conceptualizers are not expressed. Whether the existence of the speaker is explicitly expressed or not is one important feature as Fukada (2001: 65) suggests. Fukada (2001: 65)

mentions that “in order to judge the degree of subjectification, whether the speaker is expressed or not is one yardstick for the subjectification”.

In Figure (3c), “both the ground and this grounding are subjectively construed” (Langacker (1991: 94)). G is implicit and offstage. This type of subjectification is explained by the following examples.

(5) The balloon rose slowly.

(6) The hill gently rises from the bank of the river. (Langacker (1991: 218))

In (5), “the trajectory” that is, *the balloon* “moves objectively through physical space”, while in (6), the conceptualizer “moves subjectively through the scene, mentally tracing an upward path along the hill’s expanse” (Langacker (1991: 218)).

Judging from the explanations about (3b) and (3c), it is presumed that “*It feels good*” pattern can be categorized between (3b) and (3c) process.

Lastly it is essential that we should focus on the “*A feels noun*” pattern in 1820s to 1850s in Table 3. Among them, the frequency of the subject ellipsis in 1830s is remarkable compared to that in the other eras. Here, it is necessary to analyze why these phenomena occur.

Closely looking at the genre of the text in 1830s, which is described in the subject ellipsis in Table 3, according to the categorization in *COHA*, five are poems, another five are novels and one is a magazine out of eleven cases. These figures show that poems dominate almost half of the total frequency of eleven cases. Since this paper focuses on the “discourse in written English,”

poems should not be the subject of this research. Because poems have a unique style and the subject ellipsis often occurs there.

The same is true of “*A feels noun*” pattern, which is described in the subject ellipsis in the other eras in Table 3. Similarly, it is found that two out of three cases are poems in 1820s and three out of six cases in 1850s respectively.

In light of these results, the following can be suggested. The subject ellipsis which occurs in the duration of 1820s to 1850s, often occurs in the poems. Even though it occurs, the frequency is rather low.

5. CONCLUSION

The Case study 1 shows that 1) the diversification of the patterns with the verb *feel* is observed in recent years. 2) The patterns co-occurring with the subject *it* without indicating a conceptualizer, have increased lately. From this perspective, it is assumed that patterns with the verb *feel* as a whole are subjectified.

The Case study 2 suggests that the subject ellipsis occurs in the specific patterns. Especially it tends to occur more in the ones which are highly subjective such as “*It (that, etc.) feels adj.*” or “*It (that, etc.) feels like*” in modern era.

This paper has analyzed the patterns with the verb *feel* based on the semantic point of view. In conclusion, it is revealed that there is a relationship between the subject ellipsis and the grammatical patterns.

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Forum of the English Linguistic Society of Japan, held at Doshisha University on April 19-20, 2014. All remaining errors are my own.

NOTES

¹ Although *COHA* is a historical data in America from 1810 to 2009, the number of data in 1810s is too small for the subject of investigation. Therefore, this research starts from 1820s.

² The relationship between grammatical patterns and subjectification process is discussed later.

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Problems of Feature Inheritance*

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Keywords: Phase Theory, Inheritance, agreement

1. Introduction

There have been questions of long-standing interest to linguists, especially those who are involved with Generative Grammar. The central issues are to shed light on Universal Grammar and to explicate Language Acquisition, and the current studies are pursuing an idea that Universal Grammar is, in fact, rather simple. Therefore Syntacticians are to face a perplexing problem, that is, how they elaborate the simpler grammatical operations and structures. This gave birth to Phase Theory.

Two models have been raised up to the present as to the way syntactic derivations proceed within that theory, differentiated by whether or not they employ the mechanism of Feature Inheritance. Although few studies have concentrated on, it is important to verify which one is adequate from the theoretical and empirical viewpoints. This paper is then aiming at reevaluating the early model of Phase Theory, which is now being suppressed by the late model with Feature Inheritance.

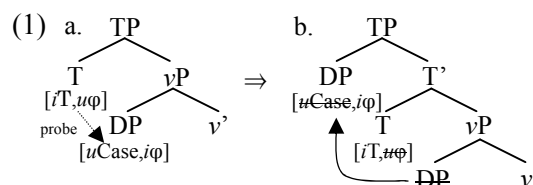
In so doing, it is demonstrated that the discussion here will also capture idiosyncratic behaviors of the English accusative gerund, if we adopt the ideas by Pesetsky and Torrego

(henceforth P&T) (2001, 2004).

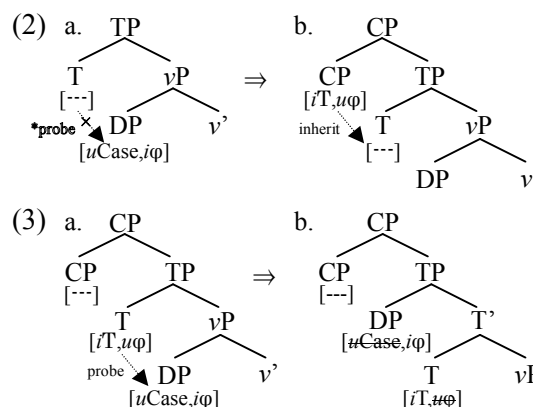
2. The Literature and Issues

2.1 Phase Theory

As is introduced above, there are two models of Phase Theory. The first is the one suggested by Chomsky (2000, 2001), where all syntactic objects have their own features from the beginning, and the derivation proceeds in a strict bottom-up fashion. For example, in (1a), the merger of T to the vP immediately brings the agreement relation of them, hence comes (1b).



The other model is proposed by Chomsky (2007, 2008), where there exists no inherent feature of functional heads other than that of phase heads. In this model, the phase heads are counted as something like the commandant of syntactic operations, so that it is not until they have passed on their features to the relevant heads later in the derivation that the operations start. This is what is called Feature Inheritance. For example, in (2a), the merger of T to the vP does NOT establish any agreement relation, since T bears no feature at this point. Later in (2b), the stage where C with Tense and ϕ features are merged with TP, T inherits them from C and agree with the subject DP as in (3a), resulting (3b).



Richards (2007) has presented the rationale for the mechanism grounded on the premise that the design of language is of optimal. More concretely, in order not to crash the derivation due to the nature of uninterpretable features, Value and Transfer must happen simultaneously, and in order to keep successive computation, phase-edges and their domains must also be transferred separately. The only way to cope with both of these is for syntax to employ Feature Inheritance.

Looking back this section, there seems to be at least one theoretical problem with each phase model. With regard to the early one, Transfer of checked uninterpretable features to Semantics is undesirable if Richards is on the right track. Concerning with the late one, the counter-cyclic operation of ‘Inheritance’ is odd in contrast with the bottom-up building of the structure.

2.2 Complementizer Agreement

Now that the controversial points on the two models of Phase Theory have been unveiled, let us next consider which one is valid in terms of empirical data.

We shall first take the examples from West Germanic languages, illustrated in (4) and (5).

- (4) Kvinden **dan** die boeken te diere zyn.

I-find **that-PL** the books too expensive are
‘I find those books too expensive.’

<West Flemish> (Carstens (2003: 402))

- (5) ...**datso** do soks net leauwe moast

that-2Sg yousuch not believe must-2Sg
‘...that you must not believe such things’

<Frisian> (Carstens (2003: 402))

The complementizers here exhibit the agreement morphology with their embedded subject, which lead us to think about how the two models can accommodate such phenomena. In the early one, there arises no problem because C is allowed to have its own features. The late model, however,

has some trouble due to its rationale. Since its essential mechanism ‘Feature Inheritance’ is followed from the premise that Value and Transfer must happen together, it is not allowed to leave the checked uninterpretable features on phase heads. Consequently, this approach would be forced to claim that the form of C in question is not the inflection but just the reflection of T, considering their relationship. It is apparently reasonable from the above examples, however, such a possibility is eliminated by the following (6) called ‘External Possessor Agreement,’ first reported by Haegeman and van Koppen (henceforth H&K) (2012).

- (6) a. ...**omda-n**/*omdat André en Valère

because-PL/because André and Valère
toen juste underen computer kapot **was**.
then just their computer broken **was**

- b. ...omdat/***omda-n** André en Valère

because/**because-PL** André and Valère
underen computer kapot **was**.
their computer broken **was**

‘because A and V’s computer broke (just then).’

<West Flemish> (H&K (2012: 449))

This contrast shows that if there is an intervening adverbial in the subject phrase in West Flemish, the agreement morphology on the complementizer varies from that of the relevant finite verb; here the former displays the plural agreement with ‘*André and Valère*,’ and the latter, the singular agreement with ‘*their computer*’ in (6a). As for (6b), which does not contain an intervening adverbial within the subject phrase, C and T display the same singular agreement.

From the discussion above, the early model of Phase Theory seems to be stronger in that it can properly grasp the overall situation. We will further look into other cases of complementizer agreement from a different angle in order to reinforce the argument.

Then, it is worth mentioning here that what is called Edge-Feature adopted in the Feature Inheritance system is also quite problematic. According to Chomsky (2008: 148), one of the roles of that feature is to attract a *wh*-element to the edge of C, and this does not involve feature matching and agreement (Chomsky (2008: 161, footnote 49)). This will, therefore, lead us to predict that there would be no situation where the agreement between C and a *wh*-element occurs, which turns out to be false as follows.

Takahashi and Gračanin (henceforth T&G) (2008) observe that the declarative and the *wh*-interrogative complementizers in Haitian Creole surface in a different way, namely, the former surfaces as ‘*ke*,’ and the latter, ‘*ki*.’ The declarative example in (7), for instance, has the complementizer ‘*ke*,’ while the *wh*-interrogative examples in (8) to (10), exhibit ‘*ki*’ in the first landing site of a *wh*-element in each case.

- (7) Bouki konnen (**ke**) Boukinèt renmen l anpil.
Bouki know(**that**) Boukinèt love 3.Sg much
‘Bouki knows (that) Boukinèt loves her a lot.’
<Haitian Creole> (DeGraff (2007: 109))
- (8) Kilès ***(ki)** te wè Mari?
who **KI** anterior see Mari
‘Who saw Mari?’
<Haitian Creole> (T&G (2008: 223))
- (9) Jan ap mande kilès ***(ki)** renmen Mari.
Jan aspect wonder who **KI** like Mari
‘Jan is wondering who likes Mari.’
<Haitian Creole> (T&G (2008: 225))
- (10) Kilès ***(ki)** Michel panes ***(ki)** Mari kwè **ki** rich?
who KI Micel think KI Mari believe **KI** rich
‘Who does Michel think Mari believes is rich?’
<Haitian Creole> (T&G (2008: 227))

T&G noted with these empirical evidence that the *wh*-interrogative form of C is a phonological reflex of the agreement with its opponent.

A question now confronts us. Admitting that

the complementizer agreements displayed in the example (8) to (10), what on earth is the source? Is Edge-Feature actually responsible for these, or is there another responsible feature on C? Whichever is true, the rationale for Feature Inheritance would not fare because it prohibits uninterpretable features from remaining on C. In contrast, everything is going to be fine with the early model of Phase Theory.

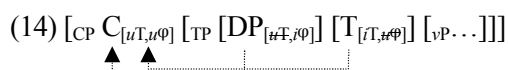
A very similar observation has been made in Irish by McCloskey (1979).

- (11)a. Deir sé **go** dtuigeann sé an scéal.
says he **that** understands he the story
‘He says that he understands the story.’
b. Dúirt sé **gur** bhuaill tú é.
said he **C** struck you him
‘He said you struck him.’
<Irish> (McCloskey (1979: 112))
- (12) Cé **a^L** mheas tú **a^L** chonaic tú?
who **C** thought you **C** say you
‘Who did you think that you saw?’
<Irish> (McCloskey (1979: 118))
- (13) Cén t-úrscéal **a^L** mheas mé **a^L** dúirt sé **a^L** thuig sé?
which novel **C** thought I **C** said he **C** understand he
‘Which novel did I think he said he understood?’
<Irish> (McCloskey (1979: 148))

As can be seen from the example in (11a) and (11b), the declarative complementizer in this language surfaces as ‘*go*’ or ‘*gur*,’ depending on Tense. On the other hand, in (12) and (13), the form of C in the *wh*-interrogatives is quite another, which suggests that C has its own uninterpretable feature and thereby establishes an agreement relation with a *wh*-element, or at least the definition of Edge-Feature should be inappropriate. Considering the above, I conclude that the early model of Phase Theory is adequate enough, but the late one with Feature Inheritance is not sufficient.

3. Consequences

Lastly, we will here explore the consequence of the present discussion. Chomsky (2001) suggests that the agreement operation is established based on Matching, and that Matching is feature identity. Pursuing this idea, P&T (2001, 2004) indicate that DP and C should bear an uninterpretable Tense feature, [*u*T]. The reason is that they are in the close relationship, given the T-to-C movement and the agree-relation between T and the subject DP. In this framework, what is generally called “structural Case” is regarded as the realization of [*u*T]. They also present in line with Chomsky (2001) that uninterpretable features behave in the same way as interpretable ones within the relevant phase, after they have got checked. The figure in (14) illustrates the derivation at the stage of finite C being merged with the completed TP. There are two possible strategies to check the [*u*T] on C in this configuration; namely, either the movement of T, which bears interpretable Tense feature, [*i*T], or the movement of DP, which has already had its [*u*T] checked by T in spec-TP.



Shimokariya (2013) argues in conformity with P&T’s approach that the idiosyncratic behaviors of the English accusative gerund are straightforwardly explained. In the analysis, the structure of this construction is viewed as analogous to that of the finite clause, and the sole difference lies in Tense. Let us here overview the point.

The accusative gerund has been reported to resemble clauses in that it can be modified by VP or sentential adverbs but not by adjectives as in (15), and it can also exploit an expletive subject as in (16). These situations appear really

like other clauses, however, as the contrast in (17) shows, the accusative gerund is not allowed in Case-less positions unlike the others. The question then arises as to what causes this strange property.

- (15)a. [John quickly/*quick] leaving] surprised everybody.
 b. [Mary probably being responsible for the accident] was considered by the DA.
 (Pires (2006: 17, 18))
 (16) I wouldn’t count on [it raining tomorrow].
 (Reuland (1983: 109))
 (17)a. Mary talked about [him moving out].
 b. *It was expected [Frank reading this novel].
 (Pires (2006: 21))

Although some studies argue that the difference is attributed to the maximal projection of them, examples below reveal that this is not true. As demonstrated in (18a) and (18b), CP can be focalized in the pseudo-cleft sentence, whereas TP cannot. Notice here that (18c) is also grammatical as well in (18a), hence the accusative gerund is identified to be a kind of CP. This view is further supported in tandem with the contrast shown in (19). More concretely, the accusative gerund can be coordinated with CP as in (19b), while TP cannot, as in (19a).

- (18)a. What I’ll try and arrange is [_{CP} for you to see a specialist]. (Radford (2004: 107))
 b. *What we hadn’t intended was [_{TP} you to get hurt]. (Radford (2004: 107))
 c. What she prefers is [_{Ger} him swimming in this perilous river].
 (19)a. *We didn’t intend [_{TP} you to get hurt] or [_{CP} for him to hurt you]. (Radford (2004: 107))
 b. (?)What I really expect is [_{CP} for John to sing Let It Be] and [_{Ger} Paul composing new songs].

Shimokariya (2013) then focuses on Tense. As is well known, tense suffix does not attach to the verbs in the accusative gerund, nor do modal auxiliaries occur. These properties, interestingly,

are shared with what is called ‘mad magazine sentences’ illustrated in (20).

(20)a. What! Her call me up?! Never.

b. *Him gets a job?!

c. *Her **might**(/will) call me up?!

(Akmajian (1984: 3))

Here in (20a), the subject of the sentence apparently surfaces bearing accusative Case. (20b) and (20c) respectively illustrate that verbs may not be inflected and that modal auxiliaries are not allowed in this circumstance. According to Akmajian (1984), these properties are due to the absence of Tense within a given sentence, and he maintains that the “accusative” subject here is, in fact, not the accusative one. In other words, the subject carries the “default Case,” which is widely adopted in studies of languages. This Case comes up in non-Case positions and its form in English is assumed to coincide with the structural accusative Case.

The present analysis proposes along the line of Minimalism that nominals occurring with the default Case have no uninterpretable Case feature to be checked; they only have an interpretable ϕ feature, and thus are allowed only where there is no element capable of assigning Case.

Returning now to the accusative gerund, one can safely state that the subject of this construction is the default element, considering its similarity to the mad magazine sentences. However, it must be noted that the construction definitely has the Tense head based on the example in (15b) involving the sentential adverb, and as well, the following (21) carrying an independent temporal adverb.

(21) Mary worried yesterday about Paul coming to dinner tonight. (Pires (2006: 25))

The accusative gerund is thus considered to project up to CP, whose Tense head is incapable

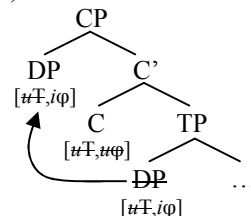
of checking the uninterpretable Case feature of the subject. In this light, the relevant Tense feature is supposed to be defective, so that the features of each category, in question, can be described as below.

(22) Features of the relevant categories

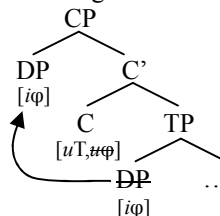
$C_{[uT, u\phi]}, T_{(Fin)[iT, u\phi]}, T_{(Ger)[def-iT, u\phi]}, DP_{[uT, i\phi]/[i\phi]}$

As we have already seen in the figure (14), repeated here in (23a), the finite clause is ‘self-sufficient’ with regard to $[uT]$ s. By contrast, as in (23b), the $[uT]$ on C remains unchecked within the accusative gerund because of the defectiveness of T, and this is why that clause is restricted to be in the Case positions (for more detail, see also Shimokariya (2013a)).

(23) a. Finite CP



b. Acc-gerund CP



It is therefore concluded that all idiosyncratic behaviors of the accusative gerund are attributed to the defectiveness of T, if we adopt the early model of Phase Theory and P&T’s approach.

4. Conclusion

This paper has investigated the two models of Phase Theory, distinguished by whether or not they employ the Feature Inheritance system. Although both of these have some problems, the early model without Feature Inheritance is far more suggestive from a cross-linguistic perspective. This captures ample evidence of complementizer agreements straightforwardly, and is offering a prospect for shedding light upon the English gerunds. The approach is thus promising, but there still remains a possibility that the checked uninterpretable features could cause derivations to crash in the Semantics. This is a subject for future analysis.

The above phenomena, on the other hand, pose many difficult challenges on the late model of Phase Theory. Since Feature Inheritance and its rationale never allow uninterpretable features to stay at the phase-edge, it has to elaborate some other factitious assumptions in order to explain the facts, which will in turn flaw the system itself.

* My deepest appreciation goes to Professor Nobuaki Nishioka (Kyushu University) whose comments and suggestions were of inestimable value for my study. The responsibility of any errors is of course mine.

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Ellipsis Licensing under E-feature Movement*

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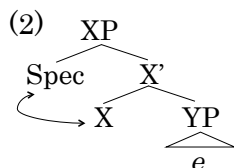
Keywords: ellipsis licensing, E-feature movement, Agree, focus feature

1. INTRODUCTION

This paper presents a unified analysis of a variety of elliptical constructions such as shown in (1) based on the remnant movement and PF deletion (Merchant 2001, 2008) and E-feature movement.

- (1) a. John likes movies, and Bill __
concerts. (gapping)
b. John gave chocolate to Mary, and
Fred __too. (stripping)
c. Ted questioned our motives, and
Robin did, too. (VP-ellipsis)
d. John will select Mary, and Bill
will __Tom. (pseudogapping)

Lobeck (1995) and Saito and Murasugi (1990) develop the mechanism of ellipsis constructions. Roughly, their analysis is shown in (2).



Specifically, Lobeck (1995) assumes that the ellipsis site is a null category *e* and

when a head *X* agrees with its specifier, the null complement is licensed.

Abe (1996) points out that this analysis cannot be applied to gapping and stripping because they assume the remnants adjoin to IP and there seems to be no head, which has its specifier and takes *e* as its complement, as shown in (3).

- (3) a. John introduced a teacher to
Mary, and Bill to Susan.

b. ...and [IP Bill, to Susan [IP *e*]]

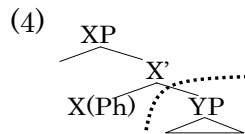
Therefore, Lobeck (1995) and Abe (1996) claims that gapping and stripping should be treated differently from other elliptical constructions, such as VPE and pseudogapping.

However, in this research, proposing E-feature movement, I show that gapping and stripping are both treated in the same mechanism as the other elliptical constructions mentioned above.

2. PREVIOUS ANALYSES

2.1 Phase-based Approach

Takahashi (2002) and Gengel (2007, 2009), among others argue that the ellipsis site must be the complement of the phase head, namely, *C*, *v** and *D*.



However, one question arises concerning the deletion domain.

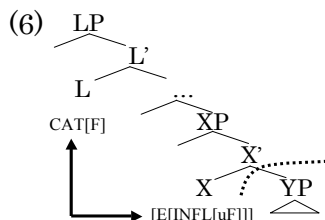
- (5) a. Many of them have turned in
their assignment already,
but they haven't yet (*all) (VPE)

- b. Many of them have turned in
 their assignment already, but
 they haven't yet(*all) their papers
 (*all) (Pseudogap)
 (Tanaka (2011: 473))

According to Tanaka (2011), since a floating quantifier cannot be stranded in Spec, vP as shown in (5), what is elided should not be the complement of v*P, but v*P itself. Hence I assume what is deleted is not always a complement of a phase.

2.1 Agree-based Approach

As an alternative to the phase-based approach, Aelbrecht (2010) proposes that ellipsis is licensed by Agree relation between a licenser and a head with an E-feature and as a result of Agree, the complement of the head is deleted. The structure is roughly illustrated in (6).



In (6), a licenser $L_{[CAT[F]]}$ agrees with a head $X_{[E[INFL[uF]]]}$. Consequently, the complement of X is deleted. However, this approach also has a certain theoretical problem.

The problem involves the calculation of the derivation: a portion, which has already been transferred and marked as being pronounced, must be again overwritten as being unpronounced, which is thought to be redundant and uneconomical.

In the next section, I will propose a new unified mechanism accounting for the

ellipsis constructions, which does not suffer from this problem noted in this section.

3. PROPOSAL

3.1 Transfer Domain

Hoshi (2011) gives an intriguing proposal in relation to the transfer domain, which he dubs E-feature driven Spell-Out (ESO).

- (7) ESO (E-feature-driven Spell-Out)
 preempts CSO (cyclic Spell-Out) iff

$$\text{ESO domain} \supseteq \text{CSO domain.}$$

The condition in (7) means cyclic Spell-Out is canceled if the ESO domain subsumes the Spell-Out domain. The derivation of VP-ellipsis is shown in the following.

- (8) $[_{CP} \dots C \langle [_{TP} \dots T_{[E]} \{ [_{VP} \dots V \langle [_{VP} V \dots] \}] \}]]$

It is assumed that once the phase vP is completed, its complement is spelled out/transferred (cf. Chomsky 2001, 2008). However, the CSO of VP is cancelled since the head T carries an E-feature and it drives the ESO in (8). Therefore, it follows that the problem concerning the redundancy of the calculation of the derivation is solved by the condition in (7).

However, this approach also faces a theoretical problem: if a structure is built in a bottom-up fashion, it is unclear whether VP has to be transferred or not until a higher head with an E-feature is merged. Therefore it can lead to a look-ahead problem.

Taking the above problem into consideration, I propose the following E-feature movement.

(9) E-feature Movement Assumption

- a. When the head *v* has an E-feature, the transfer of its complement will be canceled.
- b. An E-feature which originates in a phase head *v* can move to a higher phase head.

By assuming (9), the problems as for the overwriting and redundancy of the calculation of the derivation are solved.

Moreover, I adopt the proposal by Obata and Epstein (2009) and Obata (2010) that in matrix clauses since CP, TP and the edge of *v*P are transferred simultaneously, an interpretable feature can remain in C head. Further, in relation to the phasehood, I argue, following Chomsky (2013) and Maeda (2013), that each category that projects constitutes a phase in the CP domain.

In the next subsection, I consider the property of the E-feature.

3.2 The Property of the E-feature

As initially assumed by Merchant (2001), the E-feature is an uninterpretable feature. Further, I assume that the specification of the E-feature is an uninterpretable focus feature, [uFoc], for the constructions mentioned in this paper. Therefore, it needs to agree with a relevant head, which has an uninterpretable focus feature.¹ As for the VP-deletion, I assume that the auxiliary has an interpretable

focus feature when it has focus but the subject does not.²

Additionally, I follow the assumption by Richards (2007) in (10).

- (10) Value and Transfer of uFs must happen together.

(Richards (2007: 566))

Adopting Merchant (2001) and Richards (2007), I assume the following licensing conditions on E-feature.

(11) Licensing Condition on E-feature

- a. An E-feature agrees with and moves to the Foc head, which has uninterpretable focus feature, and the Foc head with the E-feature agrees with element(s) in its c-commanding domain and it situates the element(s) in its specifier in gapping, stripping and pseudogapping.
- b. An E-feature agrees with an auxiliary, such as T, Asp, Voice, which has an interpretable focus feature and move to the head in VP-ellipsis.
- c. An E-feature must be in a transfer domain after it agrees with a head.

These assumptions explain why gapping and stripping can appear in matrix clauses but not in subordinate clauses while VPE and pseudogapping are allowed in both of matrix and subordinate clauses. I will demonstrate in detail in the next section.

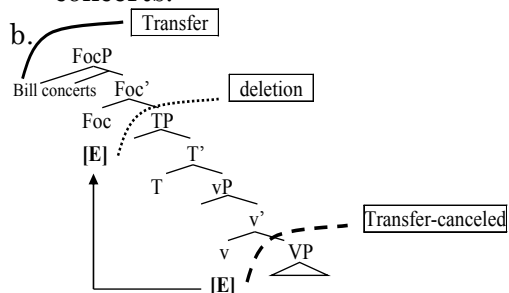
I also adopt the following phonological property of the E-feature proposed by Merchant (2001), cited from Hoshi (2011).

The complement of the head containing an E-feature is subject to non-parsing for pronunciation in the phonological component.

In section 4, I will consider the derivations of each construction in both matrix and subordinate clauses.

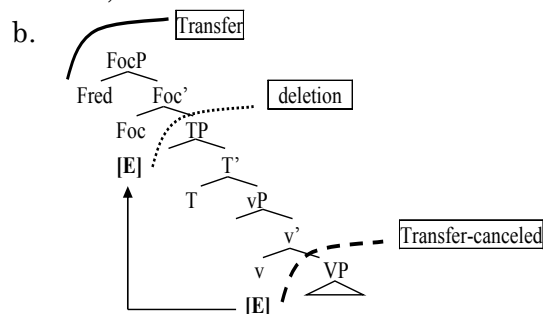
4.1 Gapping and Stripping in Matrix Clauses

(13) a. John likes movies, and Bill ____
concerts.



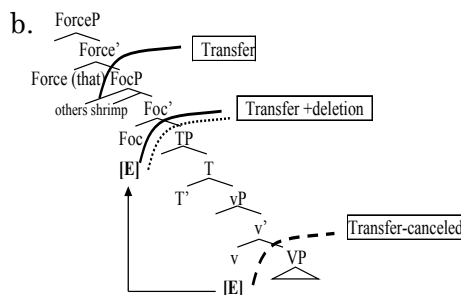
the E-feature is inside the transfer domain, the derivation is completed.

(14) a. John gave chocolate to Mary, and
Fred, too.



4.2 Gapping and Stripping in Subordinate Clauses

(15) a. * Some had eaten mussels, and
she claims that others shrimp.
(cf. Some had eaten mussels,
and she claims that others had
eaten shrimp.)



(16) a. *The critics praised your book,
and someone told me that the
poem too.

b. Force (that) Force' Transfer

Force FocP

the poem Foc' Transfer + deletion

Foc TP

[E] T' vP

T' v'

v VP

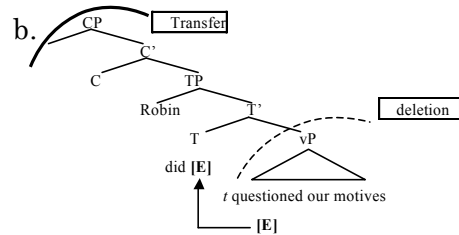
Transfer-canceled

[E]

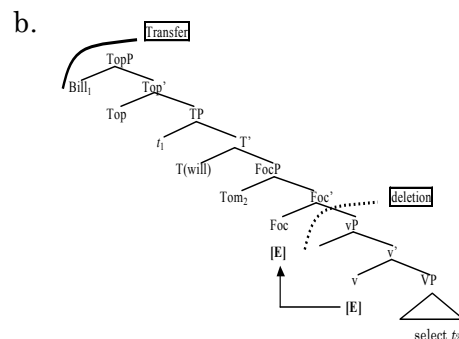
The diagram illustrates the derivation of the sentence "The poem is a poem". It shows the movement of the Force head from ForceP to FocP, the deletion of the Force head, and the subsequent movement of the v' head to the VP position, which is then canceled.

4.3 VP-Ellipsis and Pseudogapping in Matrix Clauses

Robin did, too.

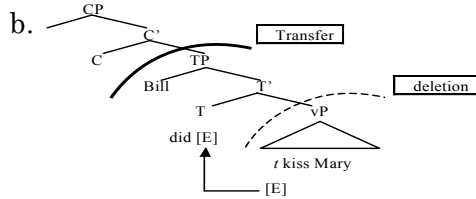


(18) a. John will select Mary, and Bill
will Tom.



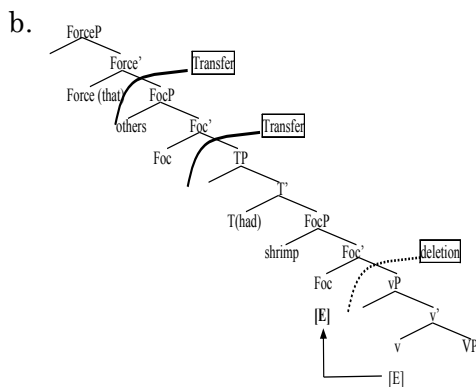
As mentioned in section 1, the VP-ellipsis is allowed in a subordinate clause. The specific derivation is illustrated in (19b).

- (19) a. John kissed Mary, and I'm pretty sure (that) Bill did, too.



The lowest phase v^* has an E-feature and it agrees with the T head and moves there. Since I assume when the auxiliary has a focus in VP-ellipsis the head T has an interpretable focus feature, no further Agree and movement take place. Then, cyclic transfer is applied for TP after CP is completed. The E-feature is included in the transfer domain, thus the derivation converges. Next, let us consider pseudogapping in a subordinate clause.

- (20) a. Some had eaten mussels, and she claims that others had shrimp.



The E-features agrees with the Foc head above vP and moves there. Further, the remnant *shrimp* agrees with the Foc head and moves to Spec, FocP. Since the E-features is in a transfer domain, this derivation is also completed.

5. CONCLUSION

In this research, I have demonstrated that gapping and stripping, which have not previously been treated as ellipsis, can also be accounted for in the same way as other elliptical constructions, such as VP-ellipsis and pseudogapping, by the unified mechanism in terms of E-feature movement. Further, the approach proposed here clarified why some elliptical constructions can occur in subordinate clauses while others cannot.

* This article is based on my poster presentation at English Linguistics Society of Japan 7th International Spring Forum held at Doshisha University on April 20th, 2014. I would like to thank the audience for their comments. I am especially grateful to Nobuaki Nishioka for his valuable comments and suggestions. Remaining inadequacies are of course my own.

Notes

1. One might wonder if Agree between uninterpretable features is possible. Concerning this mechanism, see Haegeman and Lohndal (2010). They propose binary Agree as for negative concord and argue it occurs between uninterpretable features.
2. I assume when the auxiliaries have focus, those heads have an interpretable focus feature. On the other hand, when subjects have focus as illustrated in (i), the heads have an uninterpretable focus feature.

- (i) ABBY took GREEK, but I don't know what language BEN did.

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Stress and Restrictiveness in Phrase and Compound

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Keywords: adjectives, modifier, non-head,
NSR, CSR

1. INTRODUCTION

In this paper, I argue that the main stress location in phrases and compounds is determined by the restrictiveness of modifier or complement: restrictive modifier/complement receives the main stress while non-restrictive modifier/complement does not. In section 2, I briefly outline two ideas of generalizing stress rules for phrases and compounds, Non-Head Stress (Nespor and Vogel 1986, Duanmu 1990) and Bottom Stress (Cinque 1993). I point out a problem of these analyses in the case of noun phrases. In section 3, I propose an analysis in terms of restrictiveness of modifiers. Section 4 concludes the discussion.

2. GENERALIZING STRESS RULES

Chomsky and Halle (1968) propose Nuclear Stress Rule (NSR) and Compound Stress Rule (CSR) for phrases and compounds. Roughly speaking, NSR assigns stress to the second constituent in a two-membered constituent, and CSR assigns

stress to the first constituent. NSR and CSR correctly describe the main stress location in phrases and compounds such as (1a) and (1b), where the stressed constituent is underscored.

- (1) a. [_{NP} black bird]
b. [_N blackbird]

The main stress is assigned to the second constituent *bird* in a phrase (1a) and to the first constituent *black* in a compound noun (1b). Although NSR and CSR are descriptively adequate, they do not give us any principled explanation of why phrases and compounds have different stress locations.

Some attempts to generalize stress assignment rules for phrases and compounds have been made in literature. A generalized rule, which I call Non-Head Stress, is that main stress falls on the non-head rather than on the head in a constituent (Nespor and Vogel 1986, Duanmu 1990), as shown in (2).

- (2) a. [_N towel rack]
b. [_{PP} in Boston]
c. [_{VP} eat cake]

In compounds such as (2a), the second noun *rack* is the head of the compound noun while the first noun *towel* is the non-head (modifier or specifier). In phrases such as (2b) and (2c), preposition *in* and verb *eat* are heads while their complements *Boston* and *cake* are non-heads. Thus, the idea that stress falls on the non-head explains stress location in both phrases and compounds.

Another rule is proposed by Cinque (1993). He claims that stress is assigned to the most deeply embedded element in a

structure, which is in complement, i.e. non-head. I will call this rule Bottom Stress. Note that Cinque's theory is based on the X-bar theory of phrase structure, which allows non-branching structure. Cinque assumes that the non-head word (*towel*, *Boston*, *cake* in (2)) is projecting to make a phrase, as shown in (3).

- (3) a. [N [NP [N towel]]] [N rack]]
 b. [PP [P in] [NP [N Boston]]]
 c. [VP [V eat] [NP [N cake]]]

However, this kind of non-branching projection is not admitted in the minimalist framework (Chomsky 1995). It is necessary to solve this problem, known as First Merge problem, in some way. I will not discuss this problem in detail here. See Guimarães (2000), Kayne (2009), Fortuny (2008), Zwart (2004, 2011) and Tokizaki (2014, 2015).

Non-Head Stress and Bottom Stress can generalize phrasal stress and compound stress. However, these rules have an empirical problem in the case of a noun phrase consisting of a noun and its modifier, where the main stress falls on the head noun rather than on the non-head, as shown in (4).

- (4) [NP big cat]

Here, the main stress falls on the head noun *cat* and not on the non-head *big*. This is the contrary to the prediction of Non-Head Stress.¹ In order to solve this problem, Cinque (1993: 255) assumes that a noun phrase consisting of a modifier and a noun is in fact a projection of a functional head F, which takes NP as its complement, as shown in (5).

- (5) [FP big [F' F [NP cat]]]

In the structure (5), the modifier *big* is not the complement of the noun *cat* but the specifier of the functional head F. The most deeply embedded constituent in the whole FP is the head noun *cat*, which receives the main stress in the FP as Bottom Stress predicts.

Cinque's (1993) FP analysis of noun phrases successfully explains the stress location in phrases such as (4), which is different from that in compounds such as (1b) and (2a). However, Cinque (1993) does not discuss the nature of F in phrases. It is not clear when F appears in what kind of constructions. In the next section, I will argue that F is in fact a Nominal head taking non-restrictive modifier as its specifier to make a Nominal Phrase, which corresponds to FP in (5).

3. RESTRICTIVENESS OF MODIFIERS

I try to solve the problems of Bottom Stress in terms of the restrictiveness of modifier and complement. Prenominal adjectives can be divided into two types, non-restrictive adjectives and restrictive adjectives, which have different stress patterns, as shown in (6) (Givón 1993: 268, cf. Jespersen 1924: Ch. 8, Chomsky 1965: 217, Bolinger 1967, Larson and Marušič 2004, Cinque 2010: 7).²

- (6) a. The industrious Chinese came to California in the late 1800s.
 b. The industrious Chinese made it, the other Chinese didn't.

The adjective *industrious* in (6a) is non-restrictive and that in (6b) is restrictive: the former modifies the whole set of

Chinese people while the latter restricts the set to a specific subcategory of Chinese people. Then, these sentences can be paraphrased as (7a) and (7b) with a non-restrictive and restrictive relative clause.

- (7) a. The Chinese, who are industrious,
came to California in the late
1800s.
b. The Chinese who are industrious
made it, the other Chinese didn't.

I assume that the subject and the relative clause in (7) have the structure shown in (8).³

- (8) a. The [_{NP} Chinese], [_{CP} who are
industrious], came to California in
the late 1800s.
b. The [_{NP} Chinese [_{CP} who are
industrious]] made it, the other
Chinese didn't.

In (8a) non-restrictive relative clause is not dominated by the NP containing *Chinese*. In (8b) restrictive relative clause is complement (or adjunct) of *Chinese*, which is N (or N' in X-bar theoretic structure). Assuming the parallelism between relative clauses and prenominal modifiers, I argue that the category of *industrious Chinese* with non-restrictive meaning (6a) is a nominal phrase (NomP) containing a modifier and an NP, while that with restrictive meaning (6b) is an NP. I assume that Nom is a functional head taking modifier as its specifier and NP as its complement. Then, the structures of non-restrictive (6a) and restrictive (6b) are (9a) and (9b).

- (9) a. The [_{NomP} *industrious* Nom [_{NP}
Chinese]] came to California in
the late 1800s.

- b. The [_{NP} *industrious* Chinese] made
it, the other Chinese didn't.

The modifier *industrious* is in NP with *Chinese* in restrictive (9b) but not in non-restrictive (9a). The stress on *Chinese* in non-restrictive (9a) corresponds to the unmarked stress location in noun phrases such as *big cat* in (4). Then, Bottom Stress correctly assigns stress to the most deeply embedded element *Chinese* in (9a). The stress on *industrious* in restrictive (9b) corresponds to the stress in compounds such as *towel rack* in (2a). In other words, a modifier in a compound is restrictive by nature.⁴ For example, the modifier *towel* restricts the set of *rack* into a specific type of racks in (2a). Similarly, *black* restricts the set of *birds* into a species of birds in (1b).⁵

The question to be answered is why stress is assigned to restrictive modifier rather than head noun, because restrictive modifier and head noun seem to be at the same depth in structures such as (1b), (2a) and (6b), repeated here as (10a), (10b) and (10c).

- (10)a. [_N *blackbird*]
b. [_N *towel* rack]
c. The [_{NP} *industrious* Chinese] made
it, the other Chinese didn't.

Here I argue that restrictive modifier invokes alternative modifiers in hearers' mind. For example, in (10c) *industrious* invokes alternative modifiers, which is expressed as *other* in the second clause. Rooth (1985) proposes a theory of focus in which focus invokes alternatives. I assume that a restrictive modifier has alternative

modifiers as its complement.

- (11)a. [_N [black-(not humming, ...)]-bird]
- b. [_N [towel (not magazine, ...)] rack]
- c. The [_{NP} [industrious (not lazy, ...)] Chinese] made it, the other Chinese didn't.

In these structures, a restrictive modifier, which makes a constituent with alternative modifiers, is more deeply embedded than the head noun. Thus, we can keep the generalized stress assignment rule, which assigns stress to the most deeply embedded element in a structure.

So far, I have argued that main stress falls on restrictive modifier rather than head in noun phrases and compounds. This idea can be called Restrictive Stress. Finally, I would like to consider the possibility of extending Restrictive Stress to the stress placement in other constituents than NP and compounds. For example, in a PP *in Boston* (2b), the complement *Boston* restricts the meaning of the preposition *in*: the intended location is restricted to the city. Similarly, in a VP *eat cake* in (2c), the complement *cake* restricts the action *eat* into a specific type of eating. If this extension of Restrictive Stress is on the right track, we can derive Non-Head Stress and Bottom Stress from Restrictive Stress. In the cases of non-restrictive modifier modifying head noun, stress falls on head noun rather than non-restrictive modifier because the head noun itself restricts the set (e.g. *my dear little Ann* (Jespersen 1924, Ch. 4)). Thus, Restrictive Stress shows interesting correlation between syntax, phonology and semantics.

4. CONCLUSION

We have seen that NSR and CSR can be generalized into Non-Head Stress or Bottom Stress. I pointed out that Non-Head Stress and Bottom Stress have problems of head stress in adjective-noun pairs. I have argued that we can solve the problems of generalized stress rules in terms of restrictiveness of modifiers. Stress falls on the restrictive modifier, which is in the same NP with the head and is branching because of implicit alternative modifiers. Stress does not fall on non-restrictive modifiers, which are the specifier of Nominal Phrase (NomP) dominating the NP containing the head noun at the bottom of the whole structure. Then, we can keep generalized stress rules that apply to all types of phrases and compounds. Finally, I suggest the possibility of deriving the generalized stress rules from Restrictive Stress.

Restrictiveness may allow us to explain problematic cases of stress location in some compounds (cf. Giegerich 2004). I hope that this study sheds light on the study of interface between syntax, phonology and semantics of grammar.

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NOTES

¹ The stress on the head noun in noun phrases consisting of a modifier and a noun is a problem for Non-Head Stress. If we assume the structure in (5), one could argue that *cat* is a non-head (i.e. complement of F). However, *cat* is a head in NP. The problem still remains as to why the head in NP can receive stress.

² Postnominal modifiers are unambiguously interpreted as restrictive in English (Cinque 2010: 7).

(i) Every word unsuitable was deleted.

Postnominal modifiers can be paraphrased as restrictive relative clause.

(ii) Every word that was unsuitable was deleted.

The fact that postnominal modifiers receive stress shows the restrictiveness of stressed modifiers. Citing Giorgi and Longobardi (1991: 123), Cinque (2010: 7) points out that Romance languages such as Italian have the contrary interpretations to English: prenominal adjectives in Italian are unambiguously nonrestrictive while postnominal ones are ambiguous between a restrictive and non-restrictive interpretation.

(iii) *Le noiose lezioni di Ferri se le*

the boring classes of Ferri
ricordano tutti. (unambiguous)
remember all

‘Everybody remembers Ferri’s classes,
all of which were boring.’
(non-restrictive)

(iv) *Le lezioni noiose di Ferri se le*

the classes boring of Ferri
ricordano tutti. (ambiguous)
remember all

‘Everybody remembers Ferri’s classes,
all of which were boring.’

(non-restrictive)

or

‘Everybody remembers just those
classes by Ferri that were boring.’

(restrictive)

This typological contrast also shows the connection between stress location and restrictiveness: Romance languages have righthand stress while Germanic languages have lefthand stress in words and compounds. However, I will not go into detail here. See Tokizaki (2013) for the typology of stress location.

³ The structure of noun and relative clause has been controversial. Here, I will not discuss whether the head noun makes a constituent with a non-restrictive relative clause or not. See Emonds (1979), Ushie (1980), McCawley (1988) and Kono (2012).

⁴ Givón (1993: 268) claims that “[n]on-restrictive modifiers in a sense enter into a compound relation with their head noun. That is, they create a unitary concept, thus potentially a new lexical item.” I think that the word “non-restrictive” is misused for “restrictive” here.

⁵ Here I simply argue that modifiers can restrict the set into a specific subset. For example, a *blackboard* may refer to a large board with a dark green surface, but the modifier *black* still restricts the set of boards into the boards for specific purpose. I will

not discuss the matter of idiomatic meaning or the semantic non-compositionality of compounds. See Partee (1995) for compounds and compositionality.

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**Effects of Perception on Loanword
Adaptation from English to Japanese: The
Case of Schwa Vowels**

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Keywords: loanword adaptation, schwa, English,
Japanese

1. INTRODUCTION

It is common for languages to import, or borrow, words from each other. For example, Japanese has borrowed numerous English words. When word borrowing occurs, the language that imports the words, i.e., Japanese in this case, is called *the adapting language*, while the language the words are imported from, i.e., English in this case, is called *the source language*. The borrowed words used in the adapting language are called *loanwords*. The process of borrowing words from the source language is called *loanword adaptation*.

In loanword adaptation, the sound structure of a source word conforms to the phonological requirements of the adapting language. For instance, Japanese does not allow closed syllables except for final nasals, e.g. /san/ “three,” and double consonants, e.g. /sakki/ “just then,” of which, are both moraic (see Vance (1987) and Tsujimura (2013) for Japanese sound structure).

Therefore, Japanese employs epenthetic vowels to avoid consonant clusters and final consonants as shown below. Epenthetic vowels are underlined.

- (1) a. “strike” /straɪk/ → ストライク /sutoraiku/
b. “press” /pres/ → プレス /puresu/

In addition, the quality of consonants and vowels in a source word are changed to fit the phonemic system of the adapting language. In the case of English words being adapted to Japanese, the following sound changes are observed. For vowels, diphthong quality is often lost (2-a), and consonants are realized as Japanese consonants whose perceptual impression is not necessarily similar to the original English. For example, two distinctive English liquids, i.e. /r/ and /l/, are both realized with Japanese flap, i.e. /r/ (2-b). In other cases, a Japanese voiceless alveolar sibilant, i.e. /s/, is assigned to an English voiceless interdental consonant, i.e. /θ/ (2-c).

- (2) a. “label” /leɪbəl/ → ラベル /raberu/
b. “real” /riəl/ → リアル /riaru/
c. “thanks” /θæŋks/ → サンクス /sankusu/

Furthermore, schwa vowels, which are phonologically nonexistent in Japanese, are realized as different Japanese vowels depending on the case, as shown below (3).

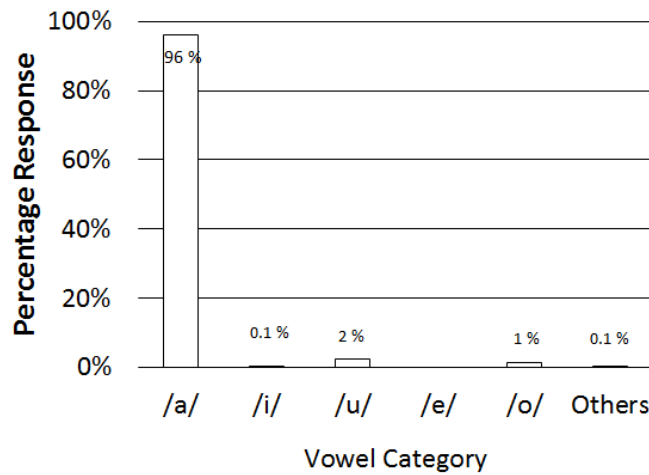


Figure 1. Response percentages for each Japanese vowel averaged over all conditions.

- (3) a. “Christmas” /krɪsməs/
→ “クリスマス” /kʁɪsɪsmasɯ/
b. “minimum” /mɪnəməm/
→ “ミニマム” /mɪnɪmamu/
c. “sensation” /sənsaɪʃən/
→ “センセーション” /sense:ʃon/
d. “atom” /ætəm/ → “アトム” /atomu/

Previous investigations suggested that phonological changes in consonants and vowels during loanword adaptation are unable to be explained by a single factor. Conversely, they are influenced by multiple factors, including perception and orthography (e.g. Kenstowicz (2005); Peperkamp et al. (2008); Kaneko and Iverson (2009)). These investigations cover a wide range of loanword adaptation in terms of languages and sound class, i.e. consonants or vowels. However, less research has been done to clarify adaptation of the English schwa vowel, especially into Japanese. The present study investigates the effects of perception on schwa

vowels exclusively when adapting English words to Japanese.

2. EXPERIMENT

2.1. Background

Schwa vowels are centralized reduced vowels that can occur in any unstressed positions in English (Ladefoged and Johnson (2011)). The quality of a schwa vowel is affected by the position in which it occurs (Flemming and Johnson (2007); Flemming (2009)). As reviewed in the previous section, schwa vowels are realized as different Japanese vowels depending on the context. Therefore, if adaptation reflects perceived quality variation of schwa vowels, different vowels could be assigned to schwa vowels in any words, including nonsense words. It is preferable to use nonsense words to investigate the effects of perceived phonetic quality. When real English words are employed, those who are adapting the word (adapters) may have prior knowledge of the affiliated loanword, which can influence their perception and lead to inaccurate results. For example, when a real word

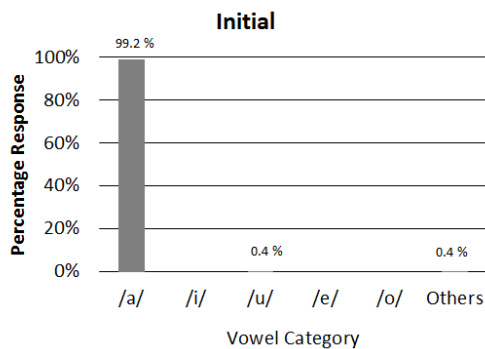


Figure 2. Response percentages for initial schwa positions

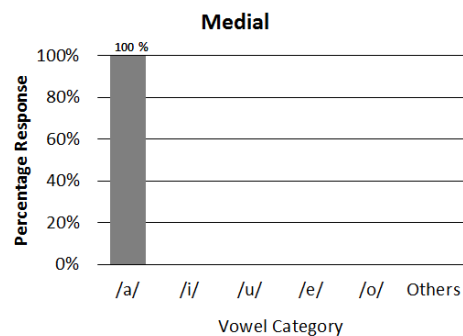


Figure 3. Response percentages for medial schwa positions

such as “Christmas” is used for the experiment, adapters realize that the adapted form of the word is “クリスマス” /kʁisumasu/ and may assign /a/ for the schwa following the form of the known loanword. In this case, whether schwa is adapted based solely on perception remains unclear. Therefore, the current experiment used hypothetical English words to test the effects of perception on schwa adaptation.

2.2. Recording

One native speaker of American English was recruited for recording. The source words to be recorded were nonsense words that contained schwa vowels in initial, medial, or final open or closed positions, e.g. [əˈbaɪv], [ˈtæbəˌbaɪt], and [ˈkɪbə] (Appendix). The syllable structures of the nonsense words conformed to English phonotactics. The speaker was informed that the words for recording were nonsense words that were supposed to sound like regular English words. However, because the speaker was unfamiliar with the recording words, the author gave instructions for pronunciation by demonstrating the stress patterns of the words, and then supervised the recording.

Recording took place in a quiet room. The nonsense words were recorded on a SONY DAT Walkman (Sony Corporation, Tokyo, Japan) at 48 kHz. The recorded speech was re-digitized using Adobe Audition 1.5 (Adobe Systems Incorporated, CA, USA) with a sampling rate of 44.1 kHz and 16-bit resolution.

2.3. Participants

Twenty native speakers of Japanese were recruited for the experiment (3 males, 17 females). Participants ranged in age from 20 to 24 years. They were undergraduate or graduate students majoring in fields related to English-speaking countries, e.g. English Literature or American Culture, at the time of the experiment.

2.4. Procedure

Each participant listened to the recorded nonsense words through headphones. Participants were instructed to transcribe the word they heard in katakana, as if they were introducing English words to Japanese as new loanwords. Participants were also told that only accurate transcriptions were acceptable. For example, it is technically possible to write “cat” as キャットウ, or キャット to mean キャット /kʁatto/, which is the accurate Japanese transcription.

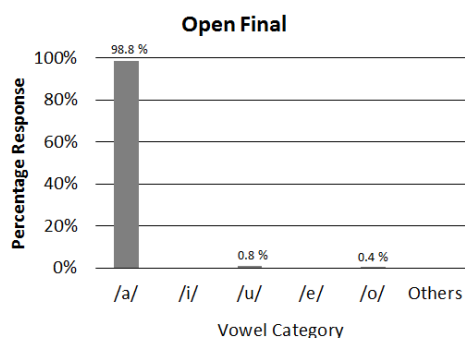


Figure 4. Response percentages for open final schwa positions

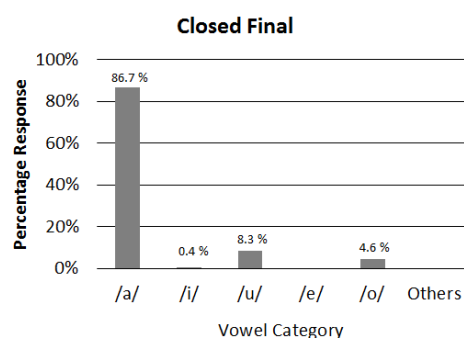


Figure 5. Response percentages for final closed final schwa positions

However, in order to examine the process of adequately adapting the words so that they could be used in a real linguistic community, inaccurate transcriptions were excluded from analysis.

2.5. Results

Figure 1 indicates the dispersion percentage of vowel adaptation responses averaged over all conditions. A schwa vowel was typically adopted as the Japanese /a/ vowel. When a schwa was presented in the initial, medial, open final and closed final positions, it was transcribed as the Japanese /a/ 99.2%, 100%, 98.8% and 86.7% of the time, respectively (Fig. 2 to Fig. 5). Although the schwa vowel in the open and closed final positions received a few responses as /u/ and /o/, and the percentage of /a/ responses in the closed final position somewhat decreased, the Japanese /a/ response was still predominant.

2.6. Acoustic analysis

These results indicate that the schwa vowel is predominantly adapted to the Japanese /a/ vowel. This may suggest that the schwa vowels used for the experiment are acoustically similar to the Japanese /a/ vowel. In real words, a previous study showed that the quality of a schwa vowel is affected by its position (Flemming and Johnson

(2007); Flemming (2009)). However, because the stimuli used for this experiment were nonsense words, it is possible that all recorded schwa vowels were invariant and similar to the quality of the Japanese /a/.

Figure 6 shows a scatter plot of tokens of schwa vowels recorded for this experiment and all five Japanese vowels as spoken by a male native speaker of Japanese. To approximate human hearing, the first (F1) and second (F2) formant frequencies, which are responsible for acoustic variation of vowels, were plotted on the equivalent rectangular bandwidth (ERB) scale (Moore and Glasberg, 1983). As shown, the acoustic properties of schwa vary widely, and while some tokens overlap the Japanese /a/, most are in the center of the Japanese vowels. Because the range of recorded schwa vowels did not thoroughly overlap that of Japanese /a/ vowels, acoustic characteristics cannot be considered solely responsible for schwa adaptation.

3. DISCUSSION

Results of the experiment suggest that the English schwa is perceptually closest to the Japanese /a/; however, acoustic analysis suggests

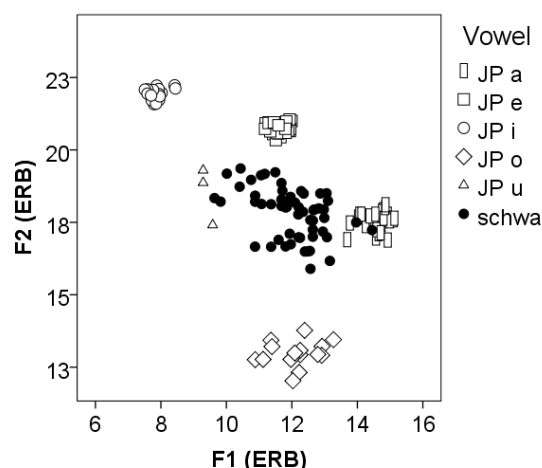


Figure 6. Scatter plot of the schwa and all five Japanese vowels on the equivalent rectangular bandwidth (ERB) scale.

that the acoustic properties of schwa are not. Thereby, it raises the following two questions: (1) Why do Japanese participants assign a Japanese /a/ for schwa vowels despite the acoustic dissimilarity between the English schwa and the Japanese /a/?; and (2) On what basis does Japanese grammar adapt schwa vowels during loanword adaptation.

In response to the first question, the spelling of the nonsense words used in the present study may be responsible for the constant assignment of the Japanese /a/ to the English schwa vowel by native Japanese speakers. In this experiment, the recorded nonsense words used the letter ‘a’ for schwa (see Appendix). Based on the acoustic analysis, it is unlikely that the native English speaker’s pronunciation was affected by the spelling. However, the spelling of the test words may have influenced the perception of Japanese listeners. As noted in Section 2, the Japanese listeners in this experiment were all familiar with English language, and some of them are quite fluent. Therefore, the participants with advanced English ability may have been able to recall the

spelling of the test words, even though the spelling information was covered during the experiment. The effects of recall on spelling should be investigated with perceptual experiments in future research.

The effect of spelling may help to answer the second question. The following is a replica of words containing English schwa that were adapted to Japanese as loanwords shown in (3).

- (4) a. “Christmas” /krɪsməs/ → “クリスマス” /kʁɪsɪmasu/
 b. “minimum” /mɪnəmə/ → “ミニマム” /mɪnɪmamu/
 c. “sensation” /sənsaɪʃən/ → “センセーション” /sense:ʃon/
 d. “atom” /ætəm/ → “アトム” /atomu/

As seen in (4), schwa vowels are adapted according to the English spelling of the English source words. For example, in the word “Christmas”, the schwa vowel is realized as the

Japanese /a/. This adaptation reflects the spelling of the original word, i.e. “Christmas.”

Some cases also suggest discrepancy between the spelling and adapted vowel. For instance, in the case of (4)-b, although the schwa vowel is spelled with a letter ‘u’ in the source word, it is adapted as the Japanese /a/. Adaptation against the spelling should generally be the result of general phonological constraints such as the Obligatory Contour Principle (OCP). In Japanese, a sequence of similar segments, or even pitch patterns, is avoided. In the case of (4)-b, it is logically possible to assign the Japanese /u/ for the English schwa spelled with the letter ‘u’. However, if the Japanese /u/ had been assigned to the schwa, the loanword would have been ミニムム /minimumu/, which includes recursion of the same syllables: /mumu/; this recursion violates the OCP. The relationship between general phonological constraints and loanword phonology, as well as effects of spelling warrants future investigation.

In conclusion, the English schwa vowels are perceptually adapted to the Japanese /a/ in most cases by university students with relatively advanced English knowledge. The effects of source word spellings and phonological restrictions on English schwa adaptation of loanwords should be clarified in future research.

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APPENDIX

The nonsense words used for the experiment are as follows. Spelling presented to the speaker are in quotations (“ ”), and pronunciations are in brackets ([]).

1. Initial schwa position

“abive,” [ə'baiv]; “adize,” [ə'daiz]; “aguy,” [ə'gai]; “azide,” [ə'zaid]; “abeep,” [ə'bip]; “adeat,” [ə'dit]; “ageek,” [ə'gik]; “azea,” [ə'zi]; “aboof,” [ə'buf]; “adoose,” [ə'dus]; “agooke,” [ə'guk]; “azuit,” [ə'zut].

2. Medial schwa position

“tababite,” [tæbəbaɪt]; “tadadite,” [tædədaɪt]; “tagagite,” [tægəgaɪt]; “tazazite,” [tæzəzaɪt]; “teababeat,” [tɪbəbeɪt]; “teadadeat,” [tɪdədaɪt]; “teagageat,” [tɪgəgaɪt]; “teazazeat,” [tɪzəzaɪt]; “cubabuke,” [kubəbuk]; “cudaduke,” [kudəduk]; “cugaguke,” [kugəguk]; “cuzazuke,” [kuzəzuk].

3. Open final schwa position

“sabba,” [sæbə]; “sadda,” [sædə]; “saga,” [sægə]; “sazza,” [sæzə]; “keyba,” [kɪbə]; “keyda,” [kɪdə]; “keyga,” [kɪgə]; “keyza,” [kɪzə]; “pooba,” [pʊbə]; “pooda,” [pʊdə]; “pooga,” [pʊgə]; “pooza,” [pʊzə].

4. Closed final schwa position

“cabub,” [kæbəb]; “cadud,” [kædəd]; “cagug,” [kægəg]; “cazuz,” [kæzəz]; “pebub,” [pɪbəb]; “pedud,” [pɪdəd]; “pegug,” [pɪgəg]; “pezuz,” [pɪzəz]; “boobub,” [bʊbəb]; “boodud,” [bʊdəd]; “boogug,” [bʊgəg]; “boozuz,” [bʊzəz].

Comparison of English and Japanese Conditional Clauses

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Keywords: cartography, syntax of conditional clauses, uncertainty feature, Truncation Approach, Operator Movement (Intervention) Approach

Abstract

This paper discusses the constraint on the occurrence of interrogative elements within the event conditional clauses.

First, Japanese allows interrogative element appear in the event conditional clause. Second, English, on the other hand, does not. Third, even in Japanese, if the event conditional clause includes conditional-related adverb *mosi*, one cannot put interrogative element in the event conditional clause. Finally, not only *mosi*, but also such adverbs with the same meaning, as *kari-ni*, *man-ga-iti*, and *man-iti*, conflict with the existence of interrogative phrases.

Assuming the difference in distribution of [+Q], this paper suggests that the *Operator Movement Approach* can properly account for the Main Clause Phenomena in English and Japanese conditionals.

1 Introduction

Haegeman (2003, 2006, 2009, 2010a,

2010b, 2013) proposed two different syntactic analyses on the event conditional clause: *Truncation Approach* and *Operator Movement Approach*. Briefly summarizing these two approaches (for more detail, see Yamada 2014), this paper supports her recent view, comparing English conditionals with Japanese counterparts.

1.1 Event Conditionals and Epistemic Conditionals

Previous researchers on the syntax of conditionals have been aware of the need to distinguish two different types of conditionals: *event conditionals*, as in (1), and *epistemic conditionals*, as in (2):

- (1) If his paper is accepted, John will go the conference and so will Mary. (*ibid.*: 325)
- (2) If his children aren't in the garden, John will already have left home and so will Mary. (*ibid.*: 325)

Rejecting the view that the differences of the two conditionals “pertain, not to syntactic, but to semantic integration (Declerck and Reed 2001: 37-38),” Haegeman (2003) claimed that they are indeed syntactically different. She, for example, points out that they behave differently in terms of the VP Anaphora: while the event conditionals are ambiguous with two different interpretations available as described in (3)a/b, the epistemic conditionals are not, lacking the sloppy reading shown in (4)b.

- (3) a. Mary will go to the conference if *John's* paper is accepted.
- b. Mary will go to the conference if *her* paper is accepted.

- (4) a. If *John's* children aren't in the garden, Mary will already have left home.
- b. * If *her* children aren't in the garden, Mary will already have left home.

In addition to this VP Anaphora test, she gives a set of criteria to tell them apart (Haegeman 2003). From these observations, she concluded that “event conditionals are adjoined to a projection of the matrix V” and are “part of the complex matrix predicate” while epistemic conditionals have “no local relation with V or with I,” and are speculated to be “adjoined to the associated CP (*ibid.*: 326).”

1.2 Main Clause Phenomena

The theme of this paper is about the inner structure of the event conditional clause: compared to the epistemic conditional, some elements are not allowed to appear in the event conditional clause. For instance, the event conditional clause cannot accommodate *epistemic modalities*, *speech act adverbs*, or *evidential adverbs*, as in the examples below:

- (5) *Fronting (argument)*
- * If ***these exams*** you don't pass, you won't get the degree.
- (6) *Epistemic modality*
- * John will do it if he ***may/must*** have time.
- (7) *Speech act adverb*
- *If ***frankly*** he is unable to cope, we'll have to replace him.
- (8) *Evidential adverb*
- *If they ***luckily*** arrived on time, we will be saved.

(Haegeman 2010a: 629-630)

2 Previous studies conducted by Haegeman

In order to account for these constraints, Haegeman proposed two different types of approaches: *Truncation Approach* and *Operator Movement (Intervention) Approach*. (In either approach, she bases herself on the cartographic view of syntax. For more detail of this theoretical framework, see Rizzi 1997; Cinque 1999; Cinque and Rizzi 2008).

2.1 Truncation Approach

2.1.1 Explanation

Taking the split-CP/IP analysis for granted, Haegeman (2003, 2006) proposed *Truncation Approach*: she proposed that the lack of some functional projections in the event conditional clause leads to the unavailability of higher hosting places, which could otherwise accommodate such elements as *topic phrases* and *speaker-oriented modal phrases*, as in matrix clauses. In this view, truncation is the trigger of the Main Clause Phenomena.

2.1.2 Problems

There are, at least, however, two phenomena which this framework cannot explain without problem. First, in contrast to the argument fronting, one can put *topicalized adjuncts* in the event conditional clause (Haegeman 2003: 333; 2006: 1657). If there is no place for topicalized/focalized element in event conditionals, it is predicted that such a fronting element also triggers unacceptability.

(9) *Fronting (adjunct)*

If *with all these precautions* you don't succeed, you will have to try again next week. (Haegeman 2003: 333)

Second, in some languages, unlike the case shown in (5), one can place the fronted argument, as in (10), under the condition that there is a clitic left behind (Clitic Left Dislocation). If there is no place for the argument fronting, such an observation would never be observed.

- (10) *Si ce livre-là tu le trouves à*
 if this book-there you it find at
a Fnac, achète-le.
 the FNAC buy-it
 ‘If you find this book at the Fnac, buy it!’
 (Haegeman 2010a: 632)

Of course, Truncation Approach may give a certain explanation with some additional assumptions. Indeed, Haegeman (2003) tries to make her theory coherent by assuming that Adjunct Fronting and Clitic Left Dislocation are not the movement targeted to TopP or FocP, but to other functional categories (e.g., FinP). However, since there is no other independent evidence showing these fronting elements do land in such a functional category, this is nothing but an ad-hoc stipulation.

2.2 Operator Movement Approach

2.2.1 Explanation

Haegeman herself abandoned this Truncation Approach and proposed another theoretical possibility: *Operator Movement Approach* (*Intervention Approach*). This explains Main Clause Phenomena in the following way.

First, as Bhatt and Puncheva (2002, 2006) suggests, conditional clauses are made by operator movement --- a movement of an operator with a [+Q] feature. Haegeman (2008, 2009, 2010a) assumes that the operator

originally exists in FinP and then moves upward as shown in (11). Second, fronted phrases and speaker-oriented subjective phrases, but not the topicalized adjuncts, also have the same feature as well as the discourse related feature [+δ]. The operator, therefore, cannot move over any topic/speaker-oriented expressions, because of the intervention effect (the violation of Relativized Minimality, Rizzi 2004). Hence, Main Clause Phenomena (Haegeman 2009, 2010a, 2010b, 2013).

- (11) * $[_{CP} OP_i \text{ if } [_{TopP} \text{ this book}_j \text{ } [_{FinP} \cancel{OP_i} \text{ } [_{IP} \text{ you } \dots [_{VP} \text{ find this book}_j]]]]]$
 (Haegeman 2010a)

2.2.2 Problems

Although Haegeman herself shifted her theoretical framework from *Truncation Approach* to *Operator Movement Approach*, the latest framework, as well as the previous one, is not without problems (see Yamada (2014: 42) for more detail). First, there is no coherency in the movement mechanism as to from where to where the operator moves. In contrast to the representation shown in (11), Haegeman (2010b) assumes that the operator is moved from MoodP_{irrealis} to MoodP_{SpeechAct} as shown in (12).

- (12) * MoodP_{speech act} > MoodP_{evaluative} >
 MoodP_{evidential} > MoodP_{epistemic} > TP_{past} >
 TP_{Future} > MoodP_{irrealis}
 (Haegeman 2010b)

Second, there is no independent evidence on the assumption that, unlike the fronted adjuncts, fronted argument and speaker-oriented subjective elements are equipped with the feature [+Q].

3 Proposal

Consequently, it is fair to say that, with the data collected and discussed so far in the previous studies, neither of these approaches have no fatal disadvantage nor any crucial advantage. It is therefore required to find another data, with which one can clinch the argument.

3.1 *Mosi* and Interrogatives: Yamada (2014)

3.1.1 Interrogative Element in Event Conditional

Yamada (2014) points out that investigation on Japanese conditionals gives us a great insight into the issue. In this language, interrogative elements (e.g., *dare-ni* in (13)) can appear in the event conditional clauses.

(13) *Interrogative in the event conditional*

Dare-ni *(*kik-e-ba*), *kotae-ga*
who-Dat ask-Sub-if answer-Nom
wakar-u-no?
understand-Prs-Q

‘Please tell me the person x_i , and x_i is the person from whom I can get the answer if I ask him_{*i*}.’

Note, first, that this *dare-ni* appears within an event conditional clause (*ba* clause), because one cannot omit *ik-e-ba*, which suggests that *dare-ni* is not associated with its root clause (i.e., *nyuusyudekir -u -no*), but with the verb *kik* ‘ask.’ Second, this is an event conditional, that is, an adjunction to the VP, not the epistemic conditional, because it falls within the scope of the tense in the associated root clause. For example, if one replaces *-u* with *-ta* as shown in (14), the conditional clause, as well as the associated root clause, is interpreted as asking

the place to which the speaker would have asked (= (15)b), not the person which the speaker will ask (= (15)a). This suggests that this conditional is under the influence of the past tense of the associated root clause, namely *-ta*. Since this morpheme should be in the head of TP, the conditional clause is thus below the TP. It is therefore reasonable to conclude that this conditional clause is an adjunct to VP.

(14) *Dare-ni* *kik-e-ba*, *kotae-ga*
who-Dat ask-Sub-if answer-Nom
wakat-ta-no?
understand-PST-Q

- (15) a. ‘Please tell me the person x_i , and x_i is the person from whom I could have got the answer if I ask him_{*i*}.’
b. ‘Please tell me the person x_i , and x_i is the person from whom I could have got the answer if I had asked him_{*i*}.’

3.1.2 English Counterpart and an Adverb *mosi*

We’ve seen that Japanese has an event conditional which hosts interrogative elements inside. This peculiarity will become apparent, especially when compared to the following two related sentences:

(16) English counterpart

* *If* I ask *whom*, can I get the answer?

(17) *Mosi-added conditional*

**Mosi* *dare-ni* *kik-e-ba*,
adv. who-Dat ask-Sub-if
kotae-ga *wakar-u-no?*
answer-Nom see-Prs-Q

‘Please tell me the person x_i , and x_i is the person from whom I can get the answer if I ask him_{*i*}.’ (intended)

First, in English interrogative elements are not

allowed to exist within the (event) conditionals (= (16)). That is, there is a clear difference between Japanese conditional and English counterpart. Second, even in Japanese, one cannot put an interrogative element within the conditional if the conditional has an adverb, *mosi* (= (16)). This is an adverb used mostly in the conditional clauses (cf. section 4) but, as is in the case of (13) and (14), it is not a mandatory element for making the conditional: that is, one can make conditionals with and without using *mosi*, and this is why it is counted as an adverb. Although adverbs tend to be dealt with as optional ornaments decorating the projections, however, the example in (17) suggests that the existence of this adverb does clearly affect the acceptability of the sentence.

3.1.3 *Truncation vs. Operator Movement*

This observation allows us to make an advanced discussion on the syntax of the event conditional clauses. First, the *Truncation Approach* seems difficult to handle these contrasts properly. Whatever adjunction site (TopP, or FocP) one may prepare for this adverb, it would be difficult to account for the reason why (17) is bad despite the acceptability of (13).

Second, *Operator Movement Approach*, on the other hand, has the potential to explain these (un)acceptabilities. Developing Haegeman's proposal, Yamada (2014) suggests that the assumption on the distribution of [+Q] as in (18) makes it possible to predict the contrasts shown from (13) to (17):

(18) Conditional operators

a. <i>mosi</i>	b. \emptyset _{Japanese}	c. \emptyset _{English}
[+Q]	no [+Q]	[+Q]

The idea that the null operator \emptyset in English has [+Q] gives the same explanation offered by Haegeman's previous studies. Because of this feature, Main Clause Phenomena are observed. Recognition of two different types of operators for Japanese conditionals allows us to account for the contrast between (13) and (17): [+Q] in the interrogative phrase prevents the operator *mosi* from moving upward but allows the null operator \emptyset _{Japanese} to move because there is no [+Q] in it.

3.2 *Mosi*

We've seen that Operator Movement Approach, not Truncation Approach, has the potential to explain the contrast in Japanese. But the assumption (= (18)a/b) introduced there should be independently verified.

First, the assumption that *mosi* is associated with interrogative-related feature is supported by the fact that the expressions derived from *mosi* (i.e., the expressions in (19)) all show the *uncertainty* flavor: the speaker using these phrases is not sure about the proposition s/he utters.

- (19) a. *mosi-mo* ... intensified form of *mosi*
 b. *mosi-wa, mosi-ku-wa* ... 'or'
 c. *mosi-ya, mosi-ka* }
 mosi-ka-s-ite, mosi-ka-sur-u-to }
 mosi-ka-s-itara, mosi-ka-sur-e-ba }
 ... 'Perhaps'

Second, adverbs with similar meanings show the same unacceptability. It is, therefore, preferable to conclude that the trigger of the unacceptability is the feature, or meaning, shared by these adverbial expressions: *uncertainty*.

- (20) Adverb with the same meaning of *mosi*
 *{*Kari-ni/man-ga-iti/man-iti*} *dare-ni*
 Adv who-Dat
kik-e-ba, kotae-ga wakar-u-no?
 ask-Sub-if answer-Nom see-Prs-Q
 ‘Please tell me the person x_i , and x_i is the
 person from whom I can get the answer if
 I ask(ed) him _{i} .’

4 Issues for future study

There is, at least, one theoretical issue to be considered and two descriptive facts worth mentioning before closing the discussion.

4.1 Theoretical sophistication

With the reasonable assumption shown in (18), Operator Movement Approach can give an explanation to the Japanese data. Since Truncation Approach seems to have difficulty in handling the data, if comparing these two Haegeman’s ideas, the recent framework should be the more desirable. The main problems of this approach have not been solved yet, however: (i) as to the mechanism of the movement (from where to where) and (ii) the assumption on the [+Q] in the fronted elements. Further elaboration should be required.

4.2 Synchronic difference: graded acceptability

Some informants find the degree of the unacceptability differs (i) among the adverbs (*mosi*, *kari-ni*, *man-ga-iti*, and *man-iti*) and (ii) according to the order between the interrogative element and the adverbs (i.e., *mosi dare-ni* vs. *dare-ni mosi*). Future studies are expected to examine the gradience of these (un)acceptabilities.

4.3 Diachronic change: subjunctive mood

While the principal contribution of this paper is aimed at the syntactic research especially in the cartography framework, the study of *mosi* also brings us an interesting implication on linguistics: language change.

As mentioned earlier, in contemporary Japanese *mosi* can only be used inside the conditional clauses. The texts written in the ancient times, however, show that this adverb used to appear within the root clause, as is shown in (21).

- (21) ... *mosi naki ma-ni*
 Adv absent time-during
kotogokoro-mo-ya ar-u-to
 seven-year itch-Prt-Prt be-Prs-Comp
utagah-ite, ...
 doubt-and
 ‘... he doubted “perhaps she may have the
 seven-year itch while I am absent” and ...’
 (*Kokinwakasyu* Vol.18, 994)

This *mosi* has a different status from the contemporary one: it is an adverb of epistemic modality, translated as ‘perhaps,’ and used when doubting something. This obsolete meaning is nowadays expressed by such words as *mosi-ya*, *mosi-ka-sur-u-to*, *mosi-ka-s-itara*, *mosi-ka-sur-e-ba*, and *mosi-ka-s-ite*, which are the compound adverbs derived from *mosi* (cf. (19)c). As the time goes, *mosi* abandoned its original status as an epistemic modal adverb and has come to dedicate itself to a marker of *uncertainty* in conditional clauses.

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**Eliminating the EPP toward a Principled
Explanation: Labeling in the ECM
Construction**

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Keywords: Extended Projection Principle,
Exceptional Case-Marking construction,
labeling, English

1. INTRODUCTION¹

The goal of this paper is to investigate whether the Extended Projection Principle (EPP) can be eliminated as a consequence of the Labeling Algorithm (LA) (Chomsky (2013)). I examine the Exceptional Case-Marking (ECM) construction and propose that the “mysterious property” EPP (Chomsky (2008)) be abandoned toward a principled explanation for human language in terms of the interface conditions and the “third” factor.²

Before setting the stage for my proposal, let me review a brief history of the EPP. The EPP was first formulated by Chomsky (1982) as purely grammatical requirement: “clauses have subjects” (p.10).³ This structural descriptive generalization caused within- and between-linguistic exceptions, resulting in the highly productive inquiry into expletives, raising and control constructions, Control Theory, Null Subject Parameter, VSO languages, among many others.⁴ Responding to the theoretical shift from GB (Government and Binding Theory, also known as P&P (Principles-and-Parameters)

Approach to UG (Universal Grammar)) to MP (Minimalist Program), the EPP was reformulated as a NP-/D-feature (Chomsky (1995: 199, 232)⁵) or a selectional feature (Chomsky (2000: 102)⁶). A NP-/D-feature or selectional feature was assumed to be *checked* by Merge, a recursive operation combining two already constructed syntactic objects to create a new one, either External Merge (e.g., “*there*-insertion”) or Internal Merge (e.g., Move from Spec-*v** to Spec-T).⁷ The EPP is now treated as a formal feature, referring to the Extended Projection Principle in the sense that it determines the syntactic positions not required by the Projection Principle (see note 3).⁸ Since the first formulation, supporting empirical evidence for the EPP has been discussed (e.g., Lasnik & Saito (1991); Lasnik (2001); Miyagawa (2001)). However, the existence of the EPP has often been put into question (e.g., McCloskey (1996); Grohmann, Drury, & Castillo (2000)).⁹

In what follows, Section 2 sets the background of the current paper: Chomsky (2008) for the EPP in the ECM construction and Chomsky (2013) for the LA. In Section 3, I propose that the EPP be eliminable in that the EPP effect can be analyzed as a reflection of the third-factor principle of Minimal Computation imposed on the LA. Section 4 discusses the validity of the proposal, and Section 5 concludes the paper.

2. BACKGROUND

To examine labeling in the ECM construction and propose the elimination of the EPP as a consequence of the LA, this section reviews Chomsky (2008, 2013) as the background of the current paper.

2.1. ECM Construction

Chomsky (2008) presents the following interesting observation on the so-called Subject Condition:¹⁰

- (1) a. *Of which car did the driver cause a scandal?
 b. Of which car did they believe the driver to have caused a scandal?
 (cf. Chomsky (2008: 153))

The Subject Condition bans the extraction from the subject position as in (1a) (*of which car* is extracted from the subject, *the driver*). However, it is apparently not in effect in the ECM construction in (1b) despite the fact that *of which car* is extracted from the embedded subject, *the driver*.¹¹ Assuming *derivation by phase* (CP and v^*P) (Chomsky (2001)), Chomsky (2008) accounts for the asymmetry of subject-island effect in (1a-b) as in (2a-b) (*t* stands for the lower copies of *the driver of which car*).¹²

- (2) a. *_{[CP} Of which car did the driver [_{v^*P} *t* cause a scandal]]?
 b. [_{CP} Of which car did they [_{v^*P_1} believe the driver to [_{v^*P_2} *t* have caused a scandal]]]?
 (cf. Chomsky (2008: 153))

Within the CP phase in (2a), it is possible to raise *the driver of which car* in Spec- v^* to Spec-T by C-T feature inheritance, whereas it is impossible to raise *of which car* in Spec- v^* to Spec-C by the Edge Feature (EF) of C because the latter needs too deep search, violating Minimal Computation (MC) as a third factor principle (Chomsky (2005)).^{13,14} On the other hand, in (2b), after the raising of *the driver of which car* in the embedded Spec- v^*2 to the embedded Spec-T within the v^*P_1 phase, it is possible to raise *the driver* to the matrix Spec-V by v^*1 -V feature inheritance and raise *of which car* to the matrix Spec- v^*1 by the EF of v^*1 simultaneously because the two operations of

raising are carried out within the same phase, v^*P_1 (notice that T is not the phase head, and there is no CP phase in the embedded clause). Subsequently, within the CP phase, the EF of C raises *of which car* in Spec- v^*1 to its Spec. In the ECM construction as in (2b), the raising of the embedded subject in Spec- v^*2 to the embedded Spec-T is considered a residual of the “mysterious” property EPP (Chomsky (2008)). The question remains of why this raising exists.

2.2. The Labeling Algorithm

Chomsky (2013) discusses the Labeling Algorithm (LA) by two cases. The LA is assumed to be constrained by MC and search for the closest head as label of the Syntactic Object (SO) in question. One case is the SO like {H, XP} (H is a head and XP not a head). In this case, the LA reaches H as the closest head and determines it as label. The other is the SO like {XP, YP}. In this case, the LA reaches equally close heads X and Y, resulting in {XP, YP} unlabeled. One way to solve this computational crash is to raise either of XP and YP because the lower copy of the raised SO becomes invisible to the LA.¹⁵ Consider the following basic transitive configuration (EA stands for External Argument and IA for Internal Argument):

- (3) T [_{α} EA [_{v^*P} v^* [_{VP} V IA]]]

In (3), the LA cannot determine the label of {EA, v^*P }, thus α . Chomsky (2013: 44) argues that what we have called the EPP is forced as a consequence of the LA. That is, if EA is raised to Spec-T, α is labeled v^*P because the lower copy of EA becomes invisible to the LA. The question remains of whether this raising strategy of the LA can be applied to the subject of embedded, in particular infinitival, clauses.

3. PROPOSAL

In this paper, I propose that the raising strategy of the LA holds not only in the basic transitive configuration as in (3) but also in the ECM configuration as in (2b). It follows that the EPP can be eliminated as a consequence of the LA (cf. Moro (2009/2013)).

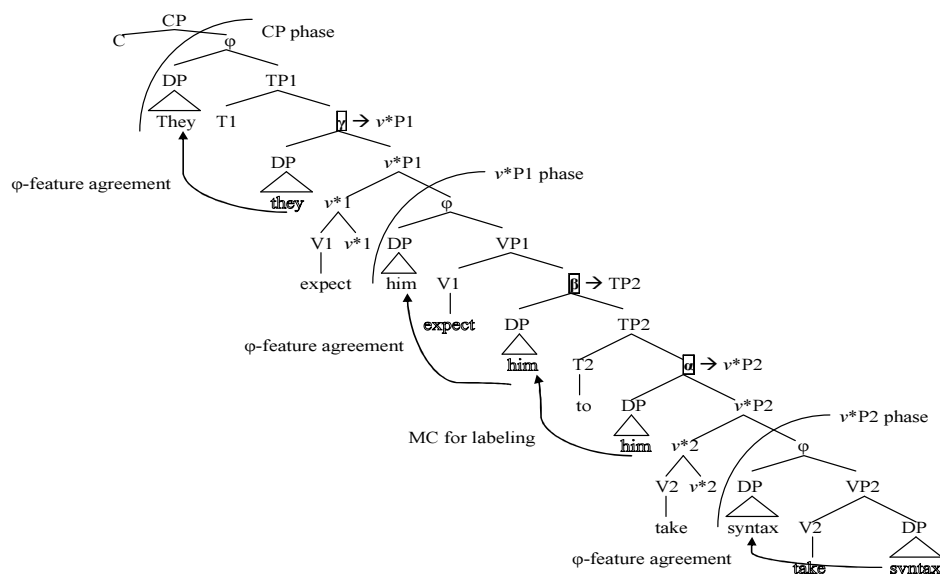
Let us examine how the proposal works out. Consider the ECM construction in (4a) and its syntactic derivation in (4b) (ϕ stands for the label of shared prominent ϕ -features (Chomsky (2013))).¹⁶ We focus on α , β , and γ , which are encircled in (4b). First, consider the computation within the matrix v^*P1 phase. If *him* remains at the embedded Spec- v^*2 , α is unlabeled, leading to crash. Instead of appeal to the EPP or any kind of feature spread (Chomsky (2008: 157)), the proposed analysis solves this problem as a consequence of the LA. That is, to avoid the computational crash, *him* is raised to the closest “specifier” (i.e., the embedded Spec-T2). This means that α ’s label becomes v^*P2 as a result of MC, which is not explicitly discussed by Chomsky (2013). Notice that the outcome can resolve the subsequent computational problem of unlabeled β by MC in that *him* is raised to the

closest “specifier” (i.e., the matrix Spec-V1) by v^*1 -V1 feature inheritance, resulting in β labeled TP2 (this raising is discussed by Chomsky (2013: 47)).¹⁷ Because simultaneous operations are possible within a single phase, an alternative is to raise *him* from the embedded Spec- v^*2 directly to the matrix Spec-V1 by v^*1 -V1 feature inheritance. However, the proposed analysis assumes that this option is avoided by MC.¹⁸ Second, look at the computation within the CP phase. As for γ , the LA raises *they* to the closest “specifier” (i.e., the matrix Spec-T1) by C-T1 feature inheritance, satisfying MC. This means that γ is labeled v^*P1 without appeal to the EPP.

The proposed analysis applies to (2b) as well. *The driver of which car* in the embedded Spec- v^*2 is raised to the embedded Spec-T, leading the LA to determine the label by MC as seen for α in (4b). Then, *the driver* is raised to the matrix Spec-V by v^*1 -V feature inheritance, and *of which car* to the matrix Spec- v^*1 by the EF of v^*1 simultaneously. This yields the convergent derivation of (1b). Note that in the proposed analysis of the ECM construction, the embedded subject, originally base-generated at

(4) a. They expect him to take syntax.

b.



the embedded Spec- v^* , is raised to the embedded Spec-T first, and then the subsequent operations are driven simultaneously. The examination of ordering is deferred in future research.

4. DISCUSSION

To make a supporting argument for the proposed analysis, this section deals with the phenomenon called Preference of Merge over Move. Consider the following pair of sentences:

- (5) a. I expected there to be a proof discovered.
 b. I expected a proof to be discovered.
 (cf. Chomsky (2000: 104))

In derivation of either sentence, the following stage occurs (α stands for TP with the defective head T, for example, for infinitival-*to*):

- (6) [T_α [be a proof discovered]]
 (Chomsky (2000: 104))

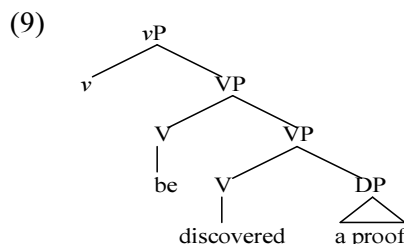
Chomsky (2000) argues as follows: “The EPP requires that something occupy [Spec, T_α]. Two options are available: merge *there* or move *a proof*. Preference of Merge over Move selects the former” (p. 104).¹⁹ This means that in the case of (5a), merger of *there* is preferred over movement of *a proof* to satisfy the EPP.²⁰ Consider the derivation of (5b) as in (7) and also the pair of sentences in (8a-b).

- (7) $I_i T [t_i \text{ expect } [[a \text{ proof}]_j \text{ to be discovered } t_j]]$
 (Chomsky (2000: 115))

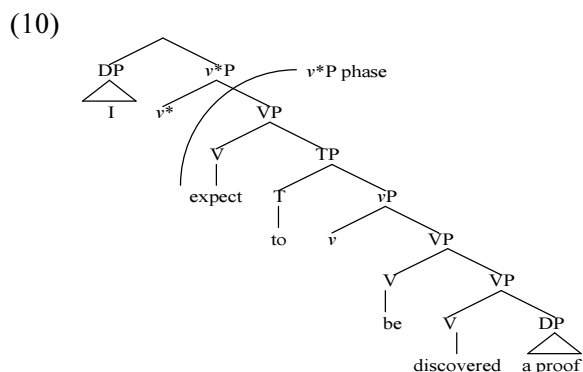
- (8) a. We expect there to be awarded severe prizes.
 b. We expect several prizes to be awarded.
 (Chomsky (2001: 7))

If an expletive is not available in the Numeration (or lexical subarray) from the Lexicon as in (7) and (8b) compared to (8a), the object DP in the embedded clause has to move for Case valuation/realization. Look at the following

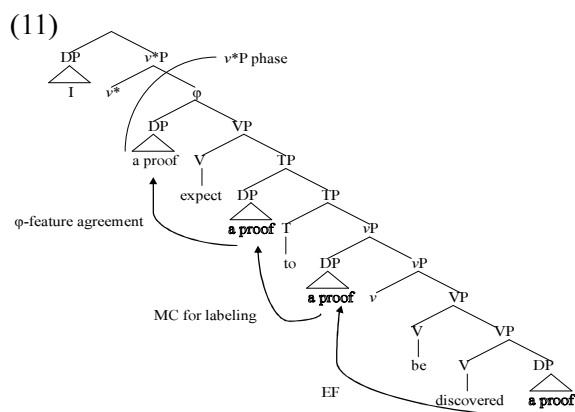
stage of the derivation of (7) (v is the weak phase head (for unaccusative or passive V) not forcing the external argument position (Chomsky (2001)))²¹



Since v in (9) is not a strong phase, syntactic operations are not applied at this point. Consider the following stage of derivation:

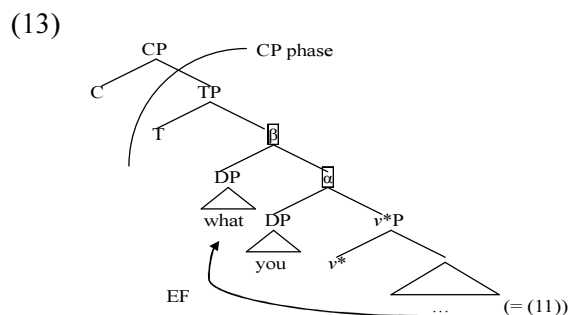


In (10), the strong phase head v^* is merged, and thus syntactic operations are applied here as in (11) (we focus on the object DP, putting aside V-to- v head movement).

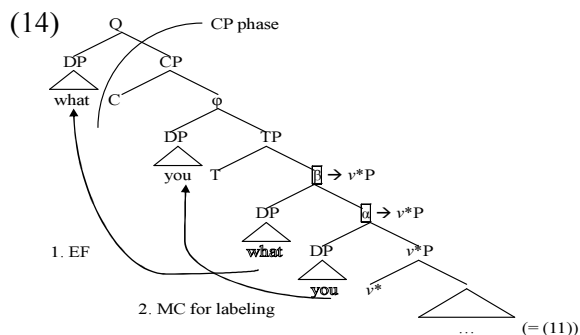


First, on the assumption that the weak phase head v has the EF (see note 14), the object DP, *a proof*, is raised to the embedded Spec- v , causing the familiar problem, $\{DP, vP\}$ unlabeled. The

In (12), before the phase head C is merged, the EF of the matrix v^* raises the object DP, *what*, from the embedded Spec-T to the outer Spec- v^* in parallel with the raising of *what* to the matrix Spec-V for ϕ -feature agreement (as seen for *a proof* in (11)) because simultaneous operations are possible within the same phase, the matrix v^* P. After the phase head C is merged as in (13), the subsequent syntactic operations are applied (in (13), we focus on the subject and object DP's, putting aside T-to-C head movement).



We face with two unlabeled SO's, α and β , which are encircled in (13). First, the EF of C raises the object DP, *what*, to its Spec, resulting in β to be labeled by the head of α (namely, DP or v^*P). Second, the LA raises the subject DP, *you*, to the closest “specifier” (i.e., Spec-T), satisfying MC. The consequent derivation is as follows (like ϕ , Q stands for the shared prominent Q-feature (Chomsky 2013)):



By the raising of the subject and object DP's, α and β are both labeled v^*P as in (14). Notice that the opposite order of the two syntactic operations in (14) is not allowed; otherwise, *probe* T for ϕ -feature agreement reaches the more local *goal*, i.e., the object DP, *what*, raising it to its Spec, contrary to the fact. This suggests that there may be proper ordering of syntactic operations within a single phase for derivation (see Chomsky (2014b) for discussions on the ordering).

Compare the operation arrows for *MC for labeling* in (11) and (14). Since the finite T has the complete set of ϕ -features, the raising of the matrix subject DP, *you*, in (14) is considered a reflection of ϕ -feature agreement by C-T feature inheritance as well, resulting in ϕ for the label of {DP, TP}. On the other hand, the embedded T in (11) is non-finite, i.e., defective, and thus does not have the complete set of ϕ -features. Hence, the raising of the embedded object DP, *a proof*, to the embedded Spec-T cannot be considered a reflection of ϕ -feature agreement. The proposed analysis makes this raising possible as a consequence of the LA constrained by MC, without appeal to the “mysterious” EPP.

In this section, I have examined the ECM construction in the context of Preference of Merge over Move and discussed a possibility that the EPP and the EF are distinguishable, reducing the former to a consequence of the LA constrained by the general principle of MC. (Cf.

Castillo, Drury, and Grohmann (2009) for suggestive discussions on the relation between Preference of Merge over Move and the EPP.) The questions of why the EF exists in human language and of whether it can be derived from other factors than UG should be investigated further toward a principled explanation.²²

5. CONCLUDING REMARKS

I have argued that the EPP can be eliminated as a (natural) consequence of the LA.²³ If the EPP is motivated only by purely grammatical requirement, and if the LA is motivated by MC as a third-factor principle and by “the general principle that all SOs that reach the interfaces must be labeled” (Chomsky 2013: 45) as an interface condition, the elimination of the mysterious EPP as a consequence of the LA leads us to a principled explanation. Without appeal to the EPP, could what we have called so be reduced to the consequences of the underlying computational mechanism of human language. Also, I have discussed a possibility that the EPP and the EF are distinguishable, leading to a further question of why the EF exists in human language.

A principal future issue is what ramifications for the study of human language are possible by the grammar without the EPP. That is, we have to examine whether or not the linguistic phenomena that used to be analyzed exploiting the EPP can be dealt with as consequences of the LA, third-factor principle MC, interface conditions, or their interaction.²⁴ If this direction is on the right track, the proposed analysis should be evaluated by more empirical data.²⁵

NOTES

1. The abbreviations and notations that I use are: For abbreviations, CP: Complementizer Phrase; DP: Determiner Phrase; ECM: Exceptional

Case-Marking; EF: Edge Feature; EPP: Extended Projection Principle; IP: Inflectional Phrase; LA: Labeling Algorithm; LF: Logical Form; MC: Minimal Computation; NP: Noun Phrase; ϕ : ϕ -features; PIC: Phase-Impenetrability Condition; Q: Q-feature; SO: Syntactic Object; Spec: Specifier; TP: Tense Phrase; VP: Verb Phrase; vP : (little) verb Phrase; for notations, \bar{X} : the lower copy of X ; v^*/v : strong/weak v phase head.

2. We assume the following three/four interacting factors in language design:

- (i) I. Genetic endowment: (a) domain-specific (= UG); (b) domain-general
- II. External data
- III. Laws of Nature

(cf. Chomsky (2005: 6); Berwick, Chomsky, & Piattelli-Palmarini (2013: 19-20))

3. This is the extension of the Projection Principle defined as follows:

- (i) Projection Principle
Representations at each syntactic level (i.e., LF, and D- and S-structure) are projected from the lexicon, in that they observe the subcategorization properties of lexical items.
(Chomsky (1981: 29))

4. See Chomsky (1981); Jaeggli and Safir (1989); Biberauer, Holmberg, Roberts, and Sheehan (2010); McCloskey (1996); Alexiadou and Anagnostopoulou (1998), among many others.

5. “The Extended Projection Principle, which requires that [Spec, IP] be realized ..., reduces to a morphological property of T: strong or weak NP-features” (Chomsky (1995: Chapter 3, 199)); “the Extended Projection Principle (EPP) plausibly reduces to a strong D-feature of I ...” (Chomsky (1995: Chapter 4, 232)).

6. “For T, the property of allowing an extra Spec is the Extended Projection Principle (EPP). By analogy, we can call the corresponding of C and v EPP-features, determining positions not forced by the Projection Principle” (Chomsky (2000: 102)).

7. In this paper, *specifier* or *Spec* is used just for the expository purpose of indicating the *second merge*.

8. Cf. Rizzi’s (2006) reinterpretation of the EPP by what he calls the “Subject Criterion.”

9. See Svenonius (2002); Lasnik (2003) for more detailed discussions on the EPP.

10. Cf. Chomsky (1973), where Chomsky himself reflects the speaker-variability of acceptability as seen in (ia-b) (I am indebted for this point to Hideki Maki).

- (i) a. Who do you expect to hear stories about
- b. *Who do you expect stories about to terrify John

(Chomsky (1973: 249, (93b)-(94b)))

Notice, however, that in unacceptable (ib), the extraction is from the complement of the prepositional phrase, whereas in acceptable (1b), it is the whole prepositional phrase that is extracted.

11. Note that the Subject Condition applies to the embedded subject of finite clauses as seen in (i).

- (i) *Who do you think pictures of would please John?

(Huang (1982: 497))

See Chaves (2013); Haegeman, Jiménez-Fernández, and Radford (2013) for recent re-evaluation of the Subject Condition.

12. In this paper, we assume two kinds of the functional category, v : the strong phase head v^* and the weak phase head v . We further assume that the Phase-Impenetrability Condition (PIC), which is defined as follows, works only in the former.

- (i) Phase-Impenetrability Condition
In phase α with head H, the domain of H is not accessible to operations outside α , only H and its edge are accessible to such operations.

(Chomsky (2000: 108))

In (i), *domain* means the complement of H, and *edge* “a hierarchy of one or more Specs” (Chomsky (2000: 108)).

13. In this paper, the verb, *raise*, is used not for the raising construction but for what we call Move or Internal Merge.

14. In this paper, we distinguish the EPP and the EF (cf. Sigurðsson (2010) for the distinction between them). The former is a mysterious property of T, whereas the latter is given as an inherent property of C and v^* (cf. note 6). Following Rothstein (2004) and Saito (2011) in that phases are inherently propositional (Chomsky (2000: 107)), we assume that the weak phase head v (for unaccusative or passive V) can possess the EF (note that Saito (2011) calls what we treat as the EF in this paper the EPP feature (cf. note 6)). We will discuss the distinction between the EPP and the EF in Section 4 below.

15. Another way to solve the computational crash due to unlabeled {XP, YP} is to assume the mechanism of sharing the prominent features as suggested by Chomsky (2013) (see (4b) below, for example).

16. Recall that we assume that the PIC works in derivation by phase (for the PIC, see note 12).

17. As a result of this raising, *him* is realized as the accusative form (Case realization is assumed as a reflex of ϕ -feature agreement (namely, Agree)).

18. We assume here that within a phase, longer raising is less preferred over shorter one for the sake of MC. For example, within the matrix v^*P_1 phase, the raising of *him* from the embedded Spec- v^*P_2 directly to the matrix Spec- V_1 is disallowed instead of the gradual raising of *him* from the embedded Spec- v^*P_2 to the embedded Spec- T_2 and then to the matrix Spec- V_1 . The question of what role the notion of distance plays in the framework of *derivation by phase* is put aside as a future issue.

19. Notice that Move is a complex operation decomposable into three parts: Agree, pied-piping, and Merge (Watanabe (2006)). Since Move includes Merge (i.e., Internal Merge), it is more complex than Merge. Hence, for computational complexity, Merge is preferred over Move where both available (cf. Chomsky (2014a: 13)).

20. Chomsky (2000) notes as follows: “Either an expletive is merged, yielding (10b) [= (5a), TY], or Move applies, yielding (12c) [= (5b), TY]. The choice depends on whether or not an expletive is available in the initial lexical array ...” (p. 104).

21. For simplicity, *be* is the V head here, which may not be accurate in order to capture the position of *a proof* in (5a) or (6). We put aside the assumption of some functional projections above vP like AspP (Aspectual Phrase) and VoiceP (Voice Phrase).

22. For three/four interacting factors in language design, see note 2.

23. See Chomsky (2014b); Epstein, Kitahara, and Seely (2014) for further implications of the LA for other linguistic phenomena (e.g., the unification of the EPP and the Empty Category Principle (ECP), the successive cyclicity of the so-called A-movement). (I thank Shoichi Takahashi for his mention to the latter reference.)

24. For reviews and discussions on major syntactic phenomena, see Baltin and Collins (2001); Bošković and Lasnik (2007); Den Dikken (2013); Kayne, Leu, and Zanuttini (2014); Carnie, Siddiqi, and Sato (2014).

25. To obtain empirical coverage, see the data in Postal (1974).

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**On the Availability of the Causative
Alternation: Evidence for Externally Caused
Eventuality***

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Keywords: causative alternation, agentivity,
external cause, Voice-Bundling parameter

1. Introduction

The transitive / intransitive verb alternation in (1) and (2) are called the causative alternation.

- (1) a. John broke the vase.
 b. The vase broke.
- (2) a. John opened the door.
 b. The door opened.

Sentences (1a) and (2a) involve a transitive verb, and sentences (1b) and (2b) include an intransitive verb. In the causative alternation, the object argument in the transitive variant appears in the subject argument position in the intransitive variant. In the pair in (1), for example, the object *the vase* of the transitive verb *break* occurs in the subject position of the intransitive alternant. Likewise, in (2), the object *the door* of the transitive verb *open* appears as the subject in the intransitive variant. We will hereafter call a transitive and an intransitive verb a causative and an anti-causative verb, respectively.

It has been long observed that the causative alternation is possible with verbs that denote change of state that can be brought about without the direct intervention of an agent (e.g.

Haspelmath (1993), Hale and Keyser (1993), Levin and Rappaport (1995)). I will call this long-standing constraint the agentivity constraint hereafter.

- (3) The agentivity constraint:

The availability of the causative alternation is sensitive to the presence or absence of an agentivity.

This is exemplified in (4).

- (4) a. The terrorist { assassinated / murdered } the senator.
- b.* The senator { assassinated / murdered }.

The events of the verbs *assassinate* and *murder* (hereafter, agentive verbs) require the intention of killing, which indicates agentivity. Levin and Rappaport Hovav attribute the unacceptability of the anti-causatives in (4b) to the agentivity.

One of the diagnostics for determining whether agentivity is involved in the meaning of a verb is the selectional restriction on the subject argument of a causative variant. It is predicted that a verb whose eventuality can be brought about without the direct intervention of an agent should allow any type of subject argument. Observe examples (5) and (6).

- (5) { The vandals / The rocks / The storm } broke the windows.

(Levin and Rappaport Hovav (1995:103))

- (6) { John / #The knife / #The earthquake } murdered Sandy.

(Beavers and Koontz-Garboden (2012))

The causative alternation verb *break* permits the natural force subject *the storm*, the instrument subject *the rocks* and the agent subject *the vandals*. This fact indicates that the eventuality of breaking can be caused without the direct intervention of an agent. The non-causative-alternation verb *murder*, on the other hand, neither allows a natural force nor an

instrument subject. This fact suggests that the eventuality of murdering cannot be brought about without the direct intervention of an agent.

In this way, the agentivity constraint account appears to be on the right track. This account, however, faces a serious empirical problem with regard to verbs such as *destroy* and *demolish* (hereafter, destruction verbs). These verbs do not allow the causative alternation, as shown in (7) and (8).

- (7) a. John destroyed the vase.
b.* The vase destroyed.
- (8) a. John demolished the statue.
b.* The shed demolished.

((8b) is cited from Talmy (1985:84))

According to the agentivity constraint account, these verbs should permit neither a natural force nor an instrument subject. However, this is not the case.

- (9) { The fire / The bomb } destroyed the manuscript. (Alexiadou, Anagnostopoulou and Schäfer (2006))
- (10) a. The fire demolished our storage area. (BNC)
b. A bomb demolished the dwelling of a municipal judge in Boston.

(Robert K. Murray, *Red Scare*)

These sentences show that the verbs *destroy* and *demolish* allow a natural force and an instrument subject. This fact indicates that the eventualities denoted by these verbs can be brought about without the intervention of an agent. Thus, destruction verbs raise an empirical problem to the agentivity constraint account.

In order to account for the unavailability of the causative alternation of destruction verbs, Alexiadou, Anagnostopoulou and Schäfer (2006) propose that the causative alternation is impossible not only with verbs whose

eventuality requires the intervention of an agent but also ones whose eventuality must be brought about by an external cause. I will call the latter constraint the external cause constraint hereafter.

(11) The external cause constraint:

The availability of the causative alternation is sensitive to the presence or absence of an external cause.

In this way, two distinct constraints have been assumed to account for the availability of the causative alternation. Two questions, however, remain. It is unknown (i) where such two distinct constraints come from and (ii) why the availability of the causative alternation is sensitive to the notions of agentivity and external cause.

The purpose of this paper is to provide a unified account of the causative alternation by solving these two questions. I propose that the causative alternation is possible with verbs whose eventuality does not require an external cause, supporting the hypothesis in (11). An external cause is necessary when the referent of an internal argument cannot cause an eventuality denoted by a verb. The notion of an external cause subsumes agentivity because an agent also exerts force that is external to the referent of an internal argument. The point is that the availability of the causative alternation is determined by the presence or absence of an external cause, regardless of whether it is animate or inanimate, the former of which is so-called an agent. Thus, there is no need to posit the agentivity constraint independently. This is the answer to question (i).

I assume that an external cause involved in verbs such as destruction verbs is “external” to the referent of an internal argument in the sense that the referent of an internal argument cannot bring about an eventuality denoted by the verb

independently. Such an external cause is also syntactically external to VP. Following Pylkkänen (2008), this paper assumes that the head introducing an external argument works in tandem with the one that is the locus of a causal meaning in English. Thus, the presence of an external cause requires the presence of an external argument in English. This is the answer to question (ii).

The organization of this paper is as follows. Section 2 will provide a theoretical account of the causative alternation. I will show that the external cause constraint naturally follows from a syntactic characteristic of English. Section 3 will present empirical evidence for the external cause constraint. Section 4 will provide further evidence from the point of view of root nominalizations. Section 5 will suggest an implication for a linguistic typology. Section 6 will give concluding remarks.

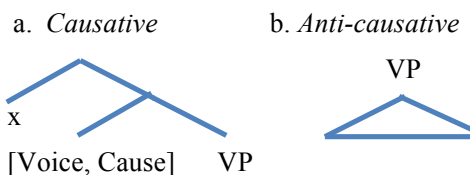
2. A Theoretical Account of the Causative Alternation

In this section, I will provide a theoretical account of the causative alternation. We will first observe where the external cause constraint comes from. I will then show that the (un-)availability of the causative alternation naturally follows from a syntactic characteristic of English.

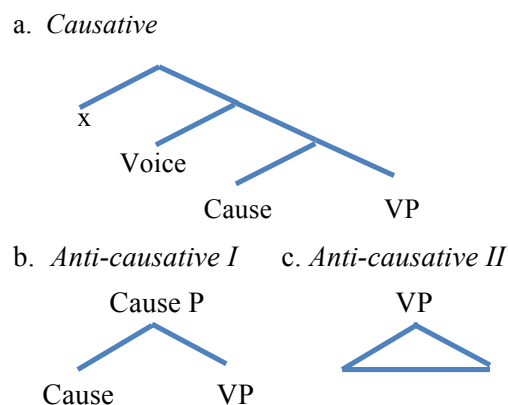
Pylkkänen (2008) argues that languages can be divided into two types in terms of the bundling of functional heads in the verbal domain. She assumes that Voice is the head that introduces an external argument and Cause is the head that provides a causing event. The two heads are grouped together in Voice-Bundling languages, as in (12), whereas they are split in non-Voice-Bundling languages, as in (13). The former and latter include English and Japanese,

respectively. This cross-linguistic variation is called the Voice-Bundling parameter.

(12) Voice-Bundling languages



(13) Non-Voice-Bundling languages



In Voice-Bundling languages, Cause is combined with Voice, so the presence of Cause requires the occurrence of an external argument. In non-Voice-Bundling languages, on the other hand, Cause is independent of Voice, so the presence of Cause does not require the occurrence of an external argument.

Since English belongs to Voice-Bundling languages, English causatives and anti-causatives such as (1), repeated here as (14), take the structures in (12a) and (12b), respectively.

- (14) a. John broke the vase.
b. The vase broke.

Note that causative alternation verbs such as *break* are assumed not to specify cause (Alexiadou, Anagnostopoulou and Schäfer (2006)). This means that the occurrence of Cause is optional for such verbs. When they are combined with Cause, the causative structure in (12a) results. When they are not associated with Cause, the anti-causative structure in (12b) emerges.

Looking at the structure in (12a), we notice that Cause is external to VP. This syntactic structure reflects the interpretation of causative verbs. We assume that destruction verbs include an external cause in their meaning. Such a meaning is external to VP, so it must be saturated by Cause, which is the locus of causal meaning. In English, the presence of Cause requires the occurrence of Voice, so destruction verbs must take an external argument explicitly or implicitly, as in (15). The anti-causative structure is impossible with destruction verbs because it cannot be combined with Cause in English, as in (16).

(15) a. The bomb destroyed the city.

b. The city was destroyed.

(16) a.* The vase destroyed. (= (7b))

b.* The shed demolished. (= (8b))

In this way, the external cause constraint follows from the syntactic characteristic of English as a Voice-Bundling language.

As mentioned in the previous section, the same explanation holds of agentive verbs. Since the notion of agentivity is subsumed in that of external cause, it naturally follows that such verbs do not allow the causative alternation, as in (4), repeated here as (17).

(17) a. The terrorist { assassinated / murdered } the senator.

b.* The senator { assassinated / murdered }.

The eventualities of assassinating and murdering cannot occur by itself, so they require a cause that is external to the referent of the internal argument. English anti-causative structures do not allow the occurrence of Cause, so such an external cause cannot be saturated by the anti-causative structure.

This section has shown that the notion of agentivity plays no role in our syntactic analysis

of the causative alternation. Therefore, it is theoretically natural to abolish the agentivity constraint. In fact, neither destruction nor agentive verbs allow the causative alternation despite the fact that they differ in agentivity. This suggests that the notion of agentivity in itself is not relevant to the (un-)availability of the causative alternation. Rather, the notion of external cause plays a crucial role in the (un-)availability of the causative alternation. It is systematically associated with the syntactic head Cause, which is the locus of causal meaning. English is a Voice-Bundling language, in which Cause is combined with Voice. Therefore, verbs whose eventuality requires an external cause obligatorily takes an external argument. In this way, the external cause constraint in English naturally follows from its Voice-Bundling property.

So far, we have assumed that destruction verbs include an external cause in their meaning. At first glance, however, destruction verbs appear to have a similar meaning and characteristic to the causative alternation verb *break*, because both denote a change of state and allow any type of subject, including an agent, an instrument and natural force. In the next section, I will show that they are different in the presence or absence of an external cause by presenting two pieces of evidence, supporting the external cause constraint account of the causative alternation.

3. Evidence of an External Cause Meaning

This section will provide evidence for the external cause meaning of destruction verbs through their comparison with causative alternation verbs. These two types of verbs exhibit distinct behavior with respect to two diagnostics that are both sensitive to the

Firstly, *break* allows its subject and object to be co-referential, whereas destruction verbs do not.

- Since the eventuality of *break* does not require the existence of an external cause, the referent of *the vase* in itself can be the cause of its change of state. The destruction verbs, on the other hand, require their eventuality to be externally caused, so the entity denoted by *the car* cannot be the cause of its change of state.

(19) (In the meaning that John shattered the vase/statue by dropping it onto the floor/ground.)

- The PP *onto the floor/ground* evokes a situation in which an entity dropped onto the floor/ground. The vase/statue shattered because they dropped onto the floor/ground. In this case, the vase/statue in themselves can be considered the cause of their changes of state because they were not directly damaged by John. The vase/statue hit the floor/ground, and this impact reflexively damaged them. In this way, these sentences do not include an external cause. Sentence (19a) is fine because the eventuality of *break* does not require an external cause. Sentence (19b) and (19c), on the other hand, is anomalous because the destruction verbs require an external cause, which is absent in these sentences.

suggest that the verb *break* and destruction verbs are different in the presence or absence of an external cause meaning. Only the former allows the causative alternation. This fact empirically supports the external cause constraint account of the causative alternation.

So far, I have provided evidence for the external cause constraint account from the point of view of verbal meanings. In this section, I will show that this account can be supported by root nominalizations as well.

(20) a. The curtain dropped.
b. The boy dropped the curtain.
c. the drop of the curtain
d.* the boy's drop of the curtain

- As shown by the unacceptable examples in (20d) and (21d), the possessor NPs cannot be interpreted as an agent in the nominal expressions that are related to causative alternation verbs. Nominal expressions associated with destruction and agentive verbs, on the other hand, allow the occurrence of such an NP.

- (23) a. John assassinated Bill.

- 378

- c. the assassination of Bill
- d. John's assassination of Bill

In the examples in (22d) and (23d), the possessor NPs can be interpreted as an agent. Marantz (1997) observes that possessor NPs in root nominalizations can be construed as an agent when the root implies an external cause or an agent.

In this way, the availability of the causative alternation is consistent with that of an agentive interpretation of the possessor NP in root nominalizations. The root nominalization facts provide evidence for the existence of an external cause meaning in destruction and agentive verbs from the point of view of root meanings.

5. Implications for Linguistic Typology

The Voice-Bundling parameter groups languages into two types, Voice-Bundling languages and non-Voice-Bundling languages. The latter, Yasuhara (2014a) argues, include Greek and Japanese.

In non-Voice-Bundling languages, Voice is separate from Cause. So we can predict that verbs whose eventuality requires an external cause permit the causative alternation in such languages. Yasuhara (2014a) argues that this is the case by providing evidence from Greek and Japanese. Let us first compare English and Greek.

- (24) a.* The manuscript destroyed.
 b. To hirografo katastrafike { apo / me } tin pirkagia.
 the manuscript destroyed-Nact { by / with } the fire
 'The manuscript got destroyed by the fire' (Greek)

(Schäfer (2008))

As shown in (24), English does not allow the anti-causative variant of *destroy*, whereas Greek

allows the anti-causative variant of *katastrefo* 'destroy'. Notice that the morphology indicated by NACT in (24b) is ambiguous between an anti-causative and a passive marker. They can, however, be distinguished by the occurrence of causer PPs, which are only compatible with anti-causatives (Schäfer (2008)).

Yasuhara (2014a) argues that the morphology indicated by *are* in (25) is also ambiguous between an anti-causative and a passive marker. He shows that Japanese also allows the anti-causative form of the causative verb *hakaisuru* 'destroy', as evidenced by the following sentence in which the causer PP *zisinde* 'from an earthquake' co-occurs.

- (25) Tatemono-ga zisinde hakais-are-ta.
 building-NOM from-earthquake
 destroy-*are*-PAST
 'The building was destroyed by an earthquake'

In this way, the availability of the causative alternation of destruction verbs in Greek and Japanese is in accordance with their non-Voice-Bundling property.

It has been observed that anti-causative formations are freer in some languages than in others. Such a cross-linguistic difference might be attributed to the different settings of the Voice-Bundling parameter. In fact, Yasuhara (2014b) argues that several Germanic languages such as English and German are Voice-Bundling languages whereas several East Asian languages such as Chinese, Korean and Japanese belong to non-Voice-Bundling languages by showing that the former put a more severe restriction on the causative alternation than the latter.

6. Conclusion

It is assumed that languages can be divided into Voice-Bundling and non-Voice-Bundling

languages. I showed that the Voice-Bundling parameter provides a straightforward account of causative alternations. The (un-)availability of the causative alternation in English has been explained in the literature by positing two distinct constraints, the agentivity constraint and the external cause constraint. I argued that the former is subsumed in the latter, which follows from the Voice-Bundling property. I suggested a linguistic typology of causative alternations from the point of view of the Voice-Bundling parameter.

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Graduality and Type Four Verbs^{*}

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Japanese

1. INTRODUCTION

In this paper, we will explore the gradability of the verb and present a new look for the Japanese verb classification. The existing classification have been putting more emphasis on the telicity of the verbs. However, we claim that the graduability of the verbs is equally important to the telicity of the verb to yield the precise version of verb classification.

The organization of this paper is as follows. In section 2, we provide general introduction for the verbal classification based on Vendler (1967), then in section 3, we will review the original verbal classification put forth by Kindaichi (1950). In section 4, we will introduce the problematic type of verb called DUAL FACE VERBS and GRADUAL VERBS. Following that, we will introduce the assumption in section 5. Moreover, in section 6 we will provide a new look for the verbal classification, and in section 7 we further argue the relation between graduality and so-called type four verbs. In the last section, section 8, the final remarks will be given.

2. VERB CLASSIFICATION

In this section, we will review the verb classification

based on the LEXICAL ASPECT of verbs. The history of verbal classification goes back to Vendler (1967). According to Vendler, verbs fall onto four classes; namely states, activities, accomplishments, and achievements. Their classification is illustrated as in (1).

(1) Vendler's classification

States	Activities	Accomplishment	Achievement
know	run	paint a picture	recognize
believe	walk	make a chair	spot

The classification above is based on the following observation. First, all the classes except states appear in the progressive form.

- (2) a. * John is loving Mary. (St.)
b. John is running. (Ac.)
c. John is painting a picture. (Acc.)
d. John is reaching the summit. (Ach.)

Second, adverbials expressing the duration of time (cf. *for an hour*) can co-occur with activities but not with accomplishments, while adverbials referring to a point in time can co-occur with accomplishments but not with activities (cf. Tsujimura, 1996).

- (3) a. John swam {for/*in} an hour. (Ac.)
b. John made a chair {*for/in} an hour. (Acc.)

Moreover, accomplishments can follow the verb *finish*, whereas achievement cannot.

- (4) a. Bill finished making a chair. (Acc)
b. * Bill finished finding his wallet. (Achi)

3. LEXICAL ASPECT OF JAPANESE VERBS

A similar observation is made by Kindaichi (1950).

According to Kindaichi, Japanese verbs fall onto four classes as illustrated in (5).

(5) Kindaichi's classification

Stative	Continuative	Instantaneous	Type Four
<i>aru</i> “be”	<i>yomu</i> “read”	<i>sinu</i> “die”	<i>sobieru</i> “tower”
<i>dekiru</i> “can do”	<i>kaku</i> “write”	<i>sawaru</i> “touch”	<i>sugureru</i> “be outstanding”

The states, continuative and instantaneous are mostly equivalent to states, activities, and achievements, respectively (= (1)). Kindaichi's classification is motivated by the interpretation yielded from each verb within the *teiru*-construction¹. First, the stative verbs cannot be used in the *teiru*-construction as illustrated in (6).

- (6) Taro-wa sugaku-ga deki {-ru/*teiru}.
 -T math-N can-do {-pres/teiru}
 “Taro is good at math.”

Second, the continuative verbs denote progressive just like English *be-ing*, within the *teiru*-construction as illustrated in (7).

- (7) Taro-wa mizu-o non-deiru.
 -T water-A drink-teiru.
 “Taro is drinking water”

Third, the instantaneous verbs denote the result state; i.e. the state which occurs after the event denoted by the verb as illustrated in (8).

- (8) Kaeru-ga sin-deiru.
 Frog-N die-teiru.
 “A frog is dead.”

Finally, there is a group of verbs, which cannot be classified onto all the above. This group of verbs is called TYPE FOUR VERBS, and must be used within the *teiru*-construction. In other words, this group of verbs does not appear in the simple present or past form as illustrated in (9).

- (9) Kono syoohin-wa arifure-{*ru/teiru}.
 This products-T be.common-{-pres/teiru}
 “This type of product is common.”

According to Kindaichi (1950), “the type four verbs express the state of something, but they do not express an event itself”. Moreover, he further claims that that these verbs obligatory used in the *teiru*-construction indicates that the type four verbs express no aspectual property.

4. ISSUES ON ASPECTUAL CLASSIFICATION

In this section, we will compare existing analyses for the lexical aspect of the verbs, which are departing from Kindaichi's (1950) analysis. The issue discussed among Okuda (1978), Kudo (1995) and their followers is how to deduce the two distinct meanings from the single *teiru*-construction.

For instance, Okuda classifies the verbs used in the *teiru*-construction into two classes; ACTIVITY verbs and CHANGE verbs. Then, he claims that the activity verbs expresses progressive reading, whereas the change verbs express the result state in the *teiru*-construction. Following Okuda, Kudo (1995) further divides the activity verbs into two subclasses; “subject's activity verbs” and “subject's activity and change of object verbs”². Okuda and his followers' classification is based on the meaning of verbs expressed within the *teiru*-construction. Now, let us interpret this with the distinction of telic/atelic point of view. Basically, telic verbs inherently have

endpoints of the events denoted by the verbs. For instance, *build a house* inherently has an endpoint, and therefore, it is telic. On the other hand, atelic verbs do not inherently have endpoints of the events denoted by the verbs. For instance, *build houses* does not have inherent endpoint. Based on this distinction, Okuda's 'activity verb' and Kudo's 'subject activity verb' fall onto the class of atelic verb, whereas Okuda's 'change verbs' and Kudo's 'change of subject' and 'subject activity and change of object' fall onto the class of telic verb. Then, it is possible to make a generalization that the atelic verbs denote progressive, while the telic verbs denote result within the *teiru*-construction.

However, there are still problematic cases. That is, there are some group of verbs, such as *kiru* "wear" or "put on", which within the *teiru*-construction denotes both progressive and result interpretation depending the context (cf. Okuda, 1978, Kudo, 1995, Moriyama, 1988, Kinsui, 2000, *among others*.) For instance, in the case of (10a), the *ki-(ru)* "wear" within the *teiru*-construction expresses the result. That is the state that "Hanako is in a red dress." On contrary, in (10b), the formally equivalent verb denotes the progressive. That is, the sentence denotes the progressive event that is happening at the utterance point.

- (10) a. Hanako-ga akai doress-o ki-teiru.
 N red dress-A wear-teiru
 "Hanako is in a red dress."
 b. Hanako-ga kagami-no mae-de akai
 -N mirror -G before-at red
 doress-o ki-teiru.
 dress-A wear-teiru
 "Hanako is putting on a red dress
 in front of the mirror."

They pointed out the problem and call this type of verb 'DUAL FACES VERBS'³. In this article, we will explore the nature of this dual faces verb and type four verbs from the perspective of gradability of verbs.

The similar cases are observed among the following type of verbs called 'gradual verbs' (Moriyama, 1988, Nitta, 2002, *among others*.) An instance of the gradual verb is *agaru* "rise" or *fukuramu* "expand". Witness:

- (11) a. Kabuka -ga (100-yen) agat-teiru.
 stock.price-N 100-yen rise-teiru
 "Stock price is rising by 100 yen."
 b. Fusen-ga (dondon) fukuran-deiru.
 balloon-N gradually expand-teiru
 "A balloon is expanding gradually."

The interesting property of the gradual verbs is that they denote continuous events and the result of the events (situation) simultaneously. The difference between the dual faces verbs and the gradual verbs is that, on one hand, the dual faces verbs denotes the single event, but on the other hand, the gradual verbs denotes single gradual changing event.

5. ASSUMPTIONS

In this paper, we assume the following conventions. Following Kusumoto (2013), we assume (12a,b). The (12a) reads like there is an individual x at the event e . The (12b) reads like there are sentence P and Q, P is temporary precedes Q, and there is no time interval between P and Q. The (12c) shows an entailment in the 'transition' (Pustejovsky, 1995; Nakatani, 2007, *among others*.) That is, after a transition event e^T , a new state indicated by e_2^S occurs. The (12d) shows a presupposition that there is $\neg P$ state before the transition event P.

(12)

- a. $[[i]] = \lambda x, \lambda e^S. [\text{exist}(e^S, x)]$
- b. $[[[-te]]] = \lambda P, \lambda Q, \lambda e, \lambda e^2. [P(x)(e_1) \wedge Q(x)(e^2) \wedge e_1 <_\infty e_2]$
- c. $\exists e_1^T [P(e_1^T) \text{ at } t] \text{ ENTAILS } \exists e_2^S [P(e_2^S) \text{ at } t + 1]$
- d. $\exists e_1^T [P(e_1^T) \text{ at } t] \text{ PRESPOSE } \exists e_2^S [\neg P(e_2^S) \text{ at } t - 1]$

6. GRADUALITY AND DUAL FACES/GRADUABLE VERBS

In this section, we will focus on the change involved within the dual face verbs and gradual verbs, and investigate the origin of similarity between them. As the existing literatures point out, both involve change-of-state. It is evident by the following Kusumoto's (2013) test. According to Kusumoto, if a verb involves change-of-state, the relevant verb used in a relative clause expresses the 'non-past TA' interpretation. The gradual verbs pass the test as illustrated in (14b), while activity verbs (13) do not. Witness:

- (13) $*[\text{RC } t \text{ Hashit-ta}] \text{ michi}$
 "road which somebody run"
- (14) a. $[\text{RC } t \text{ sin-da}] \text{ sakana}$
 "Fishi which is dead"
- b. $[\text{RC } t \text{ fukuran-da}] \text{ fuusen}$
 "Balloon which is expanded."

In addition to the 'non-past TA' test, the gradual verbs in (15) form a natural class with other change-of-state verbs with respect to so-called 'imperfect paradox' (Comrie, 1976, Dowty, 1979, among others.)

- (15) a. Taro-ga hashi-teiru.
 "Taro is running"
 \rightarrow entails Taro run.
- b. Taro-ga isu-o tsuku-tteiru.

"Taro is making a chair."

\rightarrow NOT entails Taro made a chair.

c. Fuusen-ga fukuran-deiru. Entails

"Balloon is expanding"

\rightarrow entails Balloon expanded

Moreover, the aspectual property indicated by temporal adverbials (*Q(-kan)* "for Q"/ *Q-de* "in Q") shows the gradual verbs are, in fact, used as both telic and atelic. As the examples in (16) indicate, the atelic verb cannot co-occur with *Q-de* (=16a)), but the telic verb can co-occur with *Q(-kan)*, and the gradual verb can co-occur with both *Q-kan* "for Q" and *Q-de* "in Q" as shown in (16c).

- (16) a. Taro-ga {30-pun-kan/*30-pun-de} aruita.
 N 30 min-for/30 min-in walked
 "Taro walked {for/*in} 30 minutes.
- b. Taro-ga {30-pun-kan/30-pun-de} sono
 N 30 min-for /30 min-in
 mise-ni itta.
 store-to went.
 "Taro went to the store {for/in} 30 minutes."
- c. Kauka-ga {30-pun-kan/30-pun-de} agatta
 stock.price-N 30 min-for/30 min-in went.up
 "Stock price went up {for/in} 30 minutes."

The examples in (13)-(16) show that the gradual verbs are type of the change-of-state verb, and can be both telic and atelic.

Then, why this type of verb can be used in both way? The answer for this question can be derived by the fact that the gradual verb can have an arbitrary endpoint, which is set by the phrases like *sakki-yori* or *mata*, "more than just now" or "again", respectively. These phrases, which set the arbitrary endpoint, cannot co-occur with other verbs as illustrated (17).

- (17) a. *Hanako-ga sakki-yori gakko-ni itta.
 -N more than school-to went
 “Hanako went to the school more”
 b. #Hanako-ga mata isu-o tsukutta.
 -N again chair-A made
 “Hanako made a chair again⁴.”

Contrary to the cases above, the gradual verb allows the co-occurrence of phrases which set arbitrary endpoints as illustrated in (18).

- (18) a. Kabuka-ga sakkiyori agatta.
 stock.price-N more than rose
 “Stock price went up more”
 b. kabuka-ga mata agatta.
 stock.price-N again rose
 “Stock price went up again.”

This contrast indicates that relevant verbs involves a change-of-state point (= a transition point) and they denote following semantics.

- (19) “The degree of *P* in the state of e_{n+1} at *t* is larger than the *P* in the e_n at *t*-1 ($e_n < e_{n+1}$).”
 a. *Kaeru-ga (dandan) sinda.
 Frog-N gradually was.dead.
 “A frog is gradually dead.”
 <1 time of ($-A e^T A$) event>
 b. Fuusen-ga (dandan) fukuranda.
 Balloon-N gradually expanded
 “A balloon gradually expanded.”
 <*n* times of ($-A e^T A$) event>

7. GRADUALITY AND TYPE FOUR VERBS

Now, let us compare the change-of-state verbs and the type four verbs. Both yields ‘non-past TA’ interpretation within the relative clause as illustrated

in (20).

- (20) a. [_{RC} machi-no chuusin-ni sobieta] biru
 “A building towering center of city.”
 b. [_{RC} komyunkeesyon-ni sugureta] hito
 “A person who is good at communication.”

Both sentences above express ‘non-past TA’, and therefore, both fall onto the group of change-of-state verbs. Moreover, the following examples provide evidence that *niru* ‘resemble’, which is one of the type four verbs, can co-occur with the phrases expressing grade as illustrated in (21). Moreover, the interchangeability between *ni-teiru* and *ni-tekita* ‘came to resemble’ also exhibits the fact that *niteiru* involves the gradual change.

- (21) a. Taro-wa titi-ni niteita.
 T father-to resembled
 “Taro resembled his father.”
 b. Taro-wa titi-ni mae-yori
 T father-to more than before
 ni -{teita/tekita}.
 resemble-{teiru/came to}
 “Taro came to resemble to his father.”

However, on the other hand, *sobieru* ‘tower’, which falls on the same class as *niru*, cannot be used in the same environment.

- (22) a. Biru-ga sobie-teiru.
 building-N towring-teiru
 “A building is towering.”
 b. *Biru-ga mae-yori sobie-teiru.
 building-N more than towering-teiru.
 “A building is more towering than before.”

The asymmetry indicates that within the single type

four verb group, there are two distinct types of verbs. These two groups should be classified by the property of verb, namely, if the verb involves grade and does not involve grade.

This claim is also supported by the following fact that while the verb *niru* “resemble” can co-occur with the phrases expressing an arbitrary endpoint, the verb *sobieru* “tower” cannot occur with the phras that indicates an arbitrary endpoint such as *Q-yori* “more than Q”.

- (23) a. Taro-wa titi-ni {izenyori/
 T father-to more than before
 10-nen mae yori} ni-teiru.
 10 years before than resemble-teiru
 “Taro more resembles to his father than
 {before/ 10 years ago}.”
 b. *Sono biru-wa {izenyori/
 That building-T more than before
 10-nen-mae-yori} sobie-teiru.
 10 years before than tower-teiru
 “That building is more towring than
 {before/10 years ago}.”

The data above indicate that to obtain the fine graded classification of verb types, it is important to consider the inherent gradability of the verbs.

8. FINAL REMARKS

In this paper, we point out the importance of thinking about the gradability of verb to make a more fine graded verb classification. Moreover, we further pointed out that the type four verbs can fall onto two classes, namely the gradable verbs and the non-gradable ones, but both of them appear as change-of-state verb.

Notes

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¹ Note that the *teiru* is etymologically derived by the three distinct morphemes, *-te* “&”, *i* “be” and *ru* “present”. In this article, we will not discuss the detail of morphology of *teiru*.

² Translations by Authors.

³ Translations by Authors.

⁴ Note that, this sentence is grammatical under the multiple event reading, “Hanako made a chair before and she made a different chair now.” However, the intended reading here is different from the one and it is like this, “Hanako made a part of a chair, and after while, she started to continue to make the chair again.”

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Revisiting Talmy's Framing Typology

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Keywords: framing typology, manner, focus,
second language acquisition

Talmy's (1991, 1996) proposal that languages across the world can be divided into two major types: verb-framed and satellite-framed languages, is one of the most intriguing proposals in cognitive approaches to linguistic typology. This workshop aimed to discuss some of the important issues that arise from recent research trends concerning the cross-linguistic typology of event framing.

1. Manner and the Framing Typology

Kimi Akita

The majority of studies in the framing typology has been concerned with how each language encodes framing information, such as path of motion, in a clause. The typology of manner expressions appears to be correlated with the framing typology (Wienold 1995), but only to some extent (Matsumoto 2003; Beavers et al. 2010). The present study focuses on prototypicality of manner as another essential factor in manner typology (cf. Croft et al. 2010). The relevance of prototypicality will be discussed for three facets of the typology of manner-of-motion expressions: lexicalization patterns (whether a type of manner can be encoded in the verb),

event integration (whether a manner verb can cooccur with a path satellite), and manner saliency (what kind of morphosyntactic realization is preferred for a type of manner). Importantly, the proposed generalizations are expected to hold across framing types. The present discussion thus stresses the significance of fine-grained, encyclopedic semantics in a cognitive typology.

2. Semantic Focus in the Framing Typology

Tamayo Saito

The premise of this presentation is that semantic focus in sentence constructions affects where languages fall in Talmy's typology. I claim that satellite-framed expressions are result-focused and that verb-framed expressions are action-focused. This semantic focus is a by-product of the interaction of several factors such as: figure and ground, assertion and presupposition, deletion principle of discourse (Kuno 1982), profile determinant (Langacker 2008), and information structure (Fukuchi 1985). When the culmination of these principles is applied to Talmy's typology, we can see that the semantic focus tends to be placed on action in verb-framed sentences and on result in satellite-framed sentences. Speakers select framing patterns depending on whether they choose to emphasize action or result, which explains why a single language has both framing patterns available to it.

3. Talmy's Typology and Second Language Acquisition

Ryan Spring

Several studies on the acquisition of second language motion event framing have been conducted (Cadierno 2004, Inagaki 2002, amongst others). Some studies have focused on language production (Cadierno 2004, Spring and Horie

2013, etc.) while others have focused on language comprehension (Inagaki 2002). This talk will report on some of the major findings in the field of second language framing acquisition and compare and contrast the results to show the similarities and differences in the effects on second language production and second language comprehension. It will also examine some new research, conducted by the author, which indicates similar results in the second language acquisition of change-of-state events. In examining these studies, I conclude that Talmy's typology has an influence on the second language acquisition of both motion events and change-of-state events and that it affects both second language production and comprehension, although in slightly different ways.

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