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Thematic Resultative Expressions in English and Japanese:

A View from the Syntax of Event Aspect

A Dissertation Presented

by

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Abstract of the Dissertation

Thematic Resultative Expressions in English and Japanese:

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This dissertation examines the cross-linguistic behavior of Thematic Resultative Expressions in English and Japanese from the viewpoint of syntax-semantics mappings of event aspects, and discusses the source of some of their well-recognized syntactico-semantic properties.

Thematic Resultative Expressions (e.g. John smashed the cake flat) are known to be subject to the so-called Direct Object Restriction (Levin and Rappaport Hovav 1995), which is

not observed among mono-clausal sentences involving other types of secondary predicates. Furthermore, Thematic Resultative Expressions characteristically describe an event with an endpoint, where the state denoted by the secondary predicate (e.g. flat) is understood to be true of the entity referred to by the nominal element only as a consequence of an event denoted by an entire predicate. Interestingly, while Thematic Resultative Expressions in English and Japanese both show the above-mentioned properties, suggesting parallel syntactico-semantic mechanisms are involved in both, they also exhibit different degrees of verbal dependency in regard to aspectual properties; Thematic Resultative Expressions in Japanese are derived exclusively with verbs forming predicates with an intrinsic endpoint, whereas Thematic Resultative Expressions in English may be derived with verbs forming predicates that do not have this aspectual property.

I provide a formal syntactic analysis of Thematic Resultative Expressions that incorporates syntax-semantics mappings of event aspects, and explain the different degrees of verbal dependency found in Thematic Resultative Expressions in English and Japanese. I also show how the proposed account of Thematic Resultative Expressions explains the core properties of Thematic Resultative Expressions.

To my parents, Masami Asano and Yumiko Asano

And in memory of :

Fujiko Kato (1924~2010)

Sadako Kato (1926~2011)

Chamu Asano (1988~2007)

Table of Contents

TABLE OF CONTENTS ..... **VI**

ACKNOWLEDGMENTS ..... **IX**

CHAPTER 1 ..... **1**

1.1 AN INTRODUCTION TO THE DATA: DEFINING THEMATIC RESULTATIVE EXPRESSIONS **2**

1.1.1 THEMATIC RESULTATIVE EXPRESSIONS IN ENGLISH AND JAPANESE 2

1.1.2 ASPECTUAL PROPERTIES OF TREs: RESULTATIVE XP VS. DEPICTIVE XP 4

1.1.3 THE DIRECT OBJECT RESTRICTION: CHANGE-OF-STATE VS. CHANGE-OF-LOCATION 6

1.1.4 ARGUMENT SHARING 8

1.1.4.1 A Verbal-Result and a Non-Verbal Result *8*

1.1.4.2 Non-Thematic Resultative Expressions in English *10*

1.1.5 SOME NOTES ON A VERB-PARTICLE CONSTRUCTION IN ENGLISH 12

1.2 AN OVERVIEW OF THE PRESENT ACCOUNT OF THE TRES **13**

1.3 AN OVERVIEW OF THE CROSS-LINGUISTIC BEHAVIOR OF TRES IN ENGLISH AND JAPANESE **18**

1.4 THE STRUCTURE OF THE DISSERTATION **22**

CHAPTER 2 THEMATIC RESULTATIVE EXPRESSIONS IN ENGLISH AND JAPANESE **24**

2.1 CONFIGURATIONAL PROPERTIES OF THE TRES IN ENGLISH AND JAPANESE **27**

2.1.1 BASE-GENERATED POSITION OF A RESP 27

2.1.1.1 English *27*

2.1.1.2 Japanese *37*

2.1.1.3 Interim Summary *41*

2.1.2 A STRUCTURAL RELATIONSHIP BETWEEN A RESP AND AN NP 43

2.1.2.1 English *44*

2.1.2.1.1 The Subject-Object Asymmetry: A Structural Condition on a ResP and an NP 44

2.1.2.1.2 The Unergative-Unaccusative Asymmetry: The Relevance of the Merge-Structure Relation 46

2.1.2.1.3 The Direct Object-Indirect Object Asymmetry: Bi-Directionality of the Structural Condition 49

2.1.2.1.4 The Structural Condition in English: Summary 51

2.1.2.2 Japanese *52*

2.1.2.2.1 An NP Within vs. Outside of the Local Domain of a ResP 52

2.1.2.2.2 A ResP Within vs. Outside of the Local domain of an NP 53

2.1.2.2.3 Relevance of the Merge-Structure Relation 55

2.1.2.2.4 The Structural Condition in Japanese: Summary 58

2.1.3 IMPLICATIONS OF CROSS-LINGUISTIC SIMILARITIES 58

2.2 PRODUCTIVITY OF THE RC IN ENGLISH AND JAPANESE: AN INTRODUCTION TO THE PUZZLE **61**

2.2.1 THE CROSS-LINGUISTIC PATTERNS FROM THE PERSPECTIVE OF INTRA-LINGUISTIC BEHAVIOR 64

2.2.1.1 Structural Properties of TREs in English *64*

2.2.1.2 Dependency on Lexical Semantics of the Verb in Japanese *67*
2.2.2 THE PUZZLE: NON-DEPENDENCY ON LEXICAL SEMANTICS OF THE VERB IN ENGLISH 70
2.3 CHAPTER SUMMARY **71**
CHAPTER 3 THE VERBAL DEPENDENCY IN JAPANESE TRES REVISITED: A VIEW FROM EVENT ASPECT **72**
3.1 THE CROSS-LINGUISTIC VARIATIONS IN ENGLISH AND JAPANESE: PREVIOUS ACCOUNTS **76**
3.1.1 THEMATIC ACCOUNT: WASHIO (1997) 76
3.1.2 SEMANTIC ACCOUNT: BEAVERS (2011) 77
3.1.3 SEMANTIC / FUNCTIONAL APPROACH: TAKAMI (1998) 79
3.1.4 STRUCTURAL ACCOUNT: TOMIOKA (2009) 81
3.2 INTRODUCTION TO ASPECTUAL TERMS: VIEWPOINT ASPECTS AND SITUATION ASPECTS **84**
3.3 TRE-S VERBS AND TRE-D VERBS IN JAPANESE **99**
3.3.1 THE TIME-SPAN ADVERBIAL TEST 102
3.3.2 INTERPRETATION OF TUI-NI 'FINALLY' 113
3.3.3 INTERIM SUMMARY AND DISCUSSION 124
3.4 ASPECTUAL PROPERTIES OF VERBS IN ENGLISH TRES **132**
3.4.1 A TIME-SPAN ADVERBIAL TEST 134
3.4.2 THE DURATIVE PHRASE TEST 136
3.4.3 INTERIM SUMMARY 138
3.5 SUMMARY AND CONCLUSION **139**
CHAPTER 4 ASPECTUAL PROPERTIES OF THE RC **141**
4.1 INTRODUCTION: **141**
4.2 AN ASPECTUAL REQUIREMENT OF THE RC: A PRELIMINARY HYPOTHESIS **143**
4.3 ASPECTUAL CONTRIBUTION OF RESP IN ENGLISH AND JAPANESE **146**
4.3.1 DISTRIBUTION OF AN ADJECTIVE-BASED RESP IN ENGLISH: WECHSLER (2005) 147
4.3.2 DISTRIBUTION OF TO-PP RESULT PHRASES IN ENGLISH: BEAVERS (2002) 152
4.3.3 DISTRIBUTION OF A RESP IN JAPANESE: TANAKA (2008) AND UEGAKI (2009) 156
4.3.4 INTERIM SUMMARY AND DISCUSSION 160
4.4 CHAPTER SUMMARY **161**
CHAPTER 5 ASPECTUAL EXPLANATION TO A PRODUCTIVITY OF THE RC **163**
5.1 INTRODUCTION: **163**
5.2 OVERVIEW OF PROPOSAL: **165**
5.3 SYNTACTIC EXPRESSIONS OF EVENT ASPECTS **172**
5.3.1 SYNTACTIC REALIZATION OF EVENT ASPECTS 173
5.3.1.1 Stative-Eventive Dichotomy: Motivating a v^0 as the Locus of an Aspectual Calculation in Syntax *174*
5.3.1.2 Aspectual Influence / Non-Influence of a Nominal Reference: Two Flavors of a v^0_{eve} *188*
5.3.1.2.1 Aspectual Influence of a Nominal Reference: Introduction to the Data 189
5.3.1.2.2 The Emergence/Non-Emergence of the Aspectual Effect of a Nominal Reference 191

5.3.1.2.3 Deriving the Telicity of Predicates 198
5.3.1.2.3.1 A Syntactic Explanation of the Aspectual Effect of a Nominal Reference: MacDonald (2006) 199
5.3.1.2.3.2 Contribution of a Nominal Element to the Aspectual Interpretation of a Predicate: Motivating Two Types of a v^0_{eve} 207
5.3.1.2.4 Interaction between Viewpoint Aspects and Situation Aspects: Supporting Evidence 214
5.3.2 Interim Summary and Discussion 224

5.4 CROSS-LINGUISTIC VARIATION IN THE PRODUCTIVITY OF RC REVISITED 227

5.4.1 Proposal 227
5.4.2 Explaining the Aspectual Requirement of the RC: a $V^0_{EVE[VAL^A, U^B]}$ as a Formal Licensor of ResP 229
5.4.2.1 Aspectual Behavior of TREs 230
5.4.2.2 Direct Object Restriction Revisited 232
5.4.2.3 The Aspectual Requirement of the RC 234
5.4.3 Explaining the Verbal Restriction of the RC in Japanese 235
5.4.3.1 The Contribution of ResP to the Selection of v^0 in English 235
5.4.3.2 Non-Contribution of ResP to the Selection of v^0 in Japanese 238

5.5 IMPLICATIONS AND REMAINING ISSUES FOR FUTURE STUDY 244

5.5.1 The Source of the Parametric Variations 244
5.5.2 The Nature of the < Γ >-Feature and Degree Achievements 249

5.6 CHAPTER SUMMARY 250

REFERENCES 251

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Chapter 1

The purpose of this dissertation is to arrive at a deeper understanding of so-called Resultative Expressions, as are exemplified in (1) below:

(1) a. I painted the car yellow
b. I cooked the meat to a cinder Simpson (1983: (1), (3))

The Resultative Expressions under consideration are mono-clausal sentences that involve an XP which denotes a state that is understood to be true of an entity referred to by a certain nominal element only as a consequence of a certain action/process described by the verb. For instance, (1a) describes a situation in which the car is understood to be yellow as a consequence of its being painted. Ever since Halliday (1967), Resultative Expressions haven't ceased to attract linguists due to their complexity in syntax/semantics and/or a syntactico-semantic character. Despite the long history of investigations from various perspectives of linguistics, however, there is not much consensus among researchers not only with respect to syntax of the Resultative Expression, but also with respect to what counts as Resultative Expressions. Because many controversies in the syntactic analysis of Resultative Expressions found in literature can be traced back to this lack of general consensus about what is/is not considered as the Resultative Expression, our first task is to discuss some syntactic/syntactico-semantic differences observed among sentences that have been analyzed under the cover term Resultative Expressions in the literature, and define what I call Thematic Resultative Expressions (TREs), which will be investigated in this study.

In this dissertation, I examine the source of some syntactic/syntactico-semantic properties that are characteristic to TREs through the discussion of the cross-linguistic behavior of TREs in English and Japanese. By restricting our attention to the syntactic/syntactico-semantic properties that are characteristic of the TREs that are a core member of a family of Resultative Expressions, I hope to uncover the source of some fundamental properties of the Resultative Expression. The main goal of this dissertation is therefore two-fold; to provide an explicit account of some of the

syntactic/syntactico-semantic properties that are characteristic of TREs, and to provide a formal syntactic account of the cross-linguistic difference observed between TREs in English and Japanese. Due in part to the duality of the goals of the study, and due also to the complexity of the syntax-semantic mappings that take place in the derivation of TREs, I cannot help discussing some issues without skipping over other issues that are discussed in later sections/chapters of this dissertation. Thus, the remainder of this chapter is devoted to providing a preliminary sketch of the syntactic/syntactico-semantic properties that characterize TREs, and providing an overall picture of the analysis of TREs presented in this dissertation. In what follows, I first discuss some of the syntactic/syntactico-semantic properties that distinguish TREs from other superficially similar sentences, and identify what makes a sentence an instance of a TRE. In so doing, I provide some motivations behind analyzing TREs separately from other sentences that have been treated identically to TREs by some researchers under the cover term of Resultative Expressions. Section 1.2 introduces an overview of the analysis of TREs offered in this study. I provide a brief sketch of how the present analysis of the TREs attempts to capture some syntactic and syntactico-semantic properties that characterize TREs. Section 1.3 provides a basic picture of the English-Japanese contrasts found among TREs discussed in the literature, and briefly goes over how the present analysis accounts for the cross-linguistic behavior of TREs in English and Japanese. Finally, section 1.4 provides the overall structure of this dissertation.

1.1 An Introduction to the Data: Defining Thematic Resultative Expressions

In this section, I introduce the different sub-types of Resultative Expressions found in the literature, and discuss some differences in the syntactic and/or syntactico-semantic properties that distinguish TREs from other subtypes of Resultative Expressions.

1.1.1 Thematic Resultative Expressions in English and Japanese

Resultative Expressions in English and Japanese that will be referred to as Thematic Resultative Expressions (TREs) canonically surface as the following linear configurations:

(2) English:

a. SUBJ	V0	OBJ	XP
b. SUBJ	V0	XP	

(3) Japanese

a. SUBJ	OBJ	XP	V0
b. SUBJ	XP	V0	

As Simpson (1983) observes, the syntactic/morpho-syntactic category of the XP that denotes the resultant state of the entity referred to by one of the nominal elements can surface as any of an AP, NP, or PP in English.[1] This is exemplified in (4), taken from Simpson (1983:(1)-(3)):

(4) a.	I painted the car yellow	AP
b.	I painted the car a pale shade of yellow	NP
c.	I cooked the meat to a cinder	PP

In Japanese, the relevant XP can be headed by either a morpho-syntactic adjective (5a) or by a morpho-syntactic noun (5b,c), the former appearing in its –ku form and the latter surfacing with –ni marking:[2]

[1] Following Bolinger (1971), Simpson (1983) includes verb particles (e.g. intransitive PPs) such as out as in the boxer knocked John out as a member of what she calls 'resultative attributes' (the term due to Halliday 1967). However, prepositional elements generally have only a directional/locational semantics, and so PPs cannot be understood as denoting a property/state of an NP in their strictly intransitive use, unlike other types of resultative attributes can; what appears to be verb particles that denote the state of an NP such as out in the boxer knocked John out may actually be a transitive PP with an implicit complement (e.g. out of his consciousness), or, it may have undergone a semantic drift. This implies that Resultative Expressions that involve a verb particle (i.e. a strictly intransitive use of a PP) may describe a change in the location of the entity in question, though not a change in the state/property of the entity, unlike TREs, and since the current study does not consider Resultative Expressions that describe a change in the location of an entity as having identical syntactic/syntactico-semantic properties as those that describe a change in the state of an entity, for reasons discussed in section 1.1.3 below, I will not include Resultative Expressions that involve a verb particle as a member of TREs. See also footnote 6 below.

[2] In Japanese, a grammatical Subject can appear either with the nominative case-marker –ga or a topic marker –wa, though the former is somewhat more unnatural than the latter in an out-of-blue context. In order to avoid possible confusions that the unnaturalness of a –ga marked Subject may cause in the well-formedness judgment of a sentence, most, if not all, examples in Japanese in this study are constructed with koto 'fact' (a variant of a complementizer) in sentence-final position, the presence of which is known to make a sentence with a –ga marked Subject to sound natural even in the out-of-blue context.

(5) a. John-gakuruma-o kiiro-kunutta (koto)
-nom car-acc yellow-ku painted fact
'(the fact that) John painted the car yellow'

b. John-gakuruma-o makkiiro-ninutta (koto)
-nom car-accbright.yellow-ni painted fact
'(the fact that) John painted the car a brilliant yellow'

c. John-gamusume-o daizyoyuu-nisodateta (koto)
-nom daughter-accbig.actress-ni raised fact
'(the fact that) John raised his daughter into a big actress'

d. John-gatume-o subesube-nimigaita (koto)
-nom nails-acc smooth-ni polished fact
'(the fact that) John polished his nails smooth'

As may be suggested by the description of the X^0 that appears as the head of a state-describing XP in (5), adjectival elements in Japanese may be either a morpho-syntactic adjective (5a) or a morpho-syntactic noun (5b), and it is a lexical property of the adjectival element in question that determines its morpho-syntactic realization; some adjectival elements are realized only as a morpho-syntactic adjective or morpho-syntactic noun, whereas others can be realized as either. Because adjectival elements in English do not show the same split in their morpho-syntactic realization as adjectival elements in Japanese do, the morpho-syntactic properties of adjectival elements in Japanese are not reflected in the gloss and translation. Note that onomatopoeic expressions in Japanese are very productive, and they may describe the physical state of an entity (e.g. subesube 'smooth' in (5d)), and so they constitute a large member of the lexical items that appear as the head of the state-describing XP in TREs. Because onomatopoeic expressions pattern with adjectival elements that are morpho-syntactic nouns in the relevant context (e.g.makkiiro 'brilliant yellow' in (5b) cf. subesube 'smooth' in (5d)), more adjectival elements that are morpho-syntactic nouns (i.e.–ni marked XP) are found as the head of a state-describing XP in TREs than adjectival elements that are morpho-syntactic adjectives (i.e.–ku form) in the relevant context.

1.1.2 Aspectual Properties of TREs: Resultative XP vs. Depictive XP

One of the most peculiar properties of TREs is that they denote a change of state (i.e. McNulty 1988, Levin and Rappaport Hovav 1995 et seq., among others). As such, an event denoted by

TREs can generally be understood as telic in the absence of influence from syntactic/morpho-syntactic contexts that constrain the aspectual interpretation of the predicate independently of the fact that the sentence in question is/is not an instance of a Resultative Expression. In this vein, the state describing XP in TREs is always understood as denoting the resultant state of an entity referred to by a certain nominal element. Compare the interpretation of the (a)-sentences and (b)-sentences in (6) and (7) below:

(6) a. John boiled the lobster [XP red]
b. John boiled the lobster [XP alive]

(7) a. John-garobusutaa-o [XPmakka]-niyudeta (koto)
-nom lobster-acc red-ni boiled fact
'(the fact that) John boiled the lobster red'
b. John-garobusutaa-o [XPikita.mama](-de) yudeta (koto)
-nom lobster-accliving.stay-de boiled fact
'(the fact that) John boiled the lobster alive

The (a)-sentences in (6) and (7) above are instances of TREs in English and Japanese, respectively. In these sentences, the state denoted by an XP is understood as a resultant state of the entity referred to by an internal argument of a V^0. Thus, (6a) and (7a) can be paraphrased roughly as John boiled the lobster and the lobster is red as its consequence. In contrast, the state denoted by the XP in the (b)-sentences is understood as an ongoing state of an entity referred to by an internal argument of a V^0, in a sense that the state is true of an entity in question throughout the course of the event denoted by the predicate. Thus, (6b) and (7b) are roughly paraphrased as John boiled the lobster while the lobster was alive. Based on this interpretational difference, the XP in the (b)-sentences is generally called an(object-oriented) Depictive Phrase, a term due originally to Halliday (1967), and it is distinguished from the XP that appears in the (a)-sentences. AlthoughTREs and Depictive sentences share certain syntactic properties, and they often surface as superficially similar to each other, the two types of sentences are nevertheless distinguished from each other by this difference in their aspectual behavior.[3]

[3] See Chapter 2 for more discussion of some differences between TREs and Depictive sentences.

1.1.3 The Direct Object Restriction: Change-of-State vs. Change-of-Location

TREs are generally subject to the so-called Direct Object Restriction (DOR; Levin and Rappaport Hovav 1995). As is demonstrated in (8)-(10) below, the state described by the XP can be understood as a resultant state of an entity referred to by a nominal element when the nominal element in question is base-generated as an internal argument of the V^0 (8), though not when it is base-generated as an external argument (9) or as a part of a thematic PP (10):

(8) a. The ice cream froze solid — Unaccusative Intransitive
b. John baked the cookiesblack — Transitive

(9) a. *Johnshouted hoarse — Unergative Intransitive
b. #John baked cookies sweaty — Transitive

(10) a. John shot a bear {dead / to death}
b. *John shot at a bear {dead / to death}

As is indicated by '#', although (9b) can be grammatical, it is grammatical only under the irrelevant depictive reading, that John was sweaty while he was baking cookies, and it is ungrammatical as an instance of a TRE, that John baked cookies, and John is sweaty as its consequence. Unlike TREs that are understood as describing a change in the state/property of an entity referred to by the nominal element, sentences that describe a change in a location of an entity referred to by the nominal element do not necessarily show the effect of the DOR, as is demonstrated by the grammaticality of sentences in (11) and (12) below. (11a,b) are taken from Levin and Rappaport Hovav (1995:P.186 (15)), and (11c) and (12) are taken from Wechsler (2005:(33c), (34a-c)), with emphasis added:

(11) a. She danced / swam free of her captors
b. However, if fire is an immediate danger, you must jump clear of the vehicle
c. The driver and the fireman had jumped clear before the crash

(12) a. The wise men followed the star out of Bethlehem
b. The sailors managed to catch a breeze and ride it clear of the rocks
c. He followed Lassie free of his captors

The absence of the effect of the DOR observed in (11) and (12) is most naturally attributed to the fact that these sentences describe a change in a location, rather than a change in the state/property of the entity referred to by the nominal element as in the case of TREs. As is argued in Bruening (2010), convincingly in my opinion, the underlined phrase in (12a) is most naturally understood as a directional PP, and as such, it can be replaced with any directional phrase such as through the pass/under the archway. Furthermore, Bruening (2010) claims that free and clear are the only adjectival elements that appear in this environment as is exemplified in (11)-(12), and he points out that free and clearare understood asdirectional modifiers in such an environment. This is evidenced by the conjunction possibilities of clear/free with a directional PP, and the general prohibition against conjoining an XP in TREs with a directional PP, shown in (13) and (14), respectively, taken from Bruening (2010: (10)-(12), (13)-(15)), with emphasis added:

(13) a. They jumped clear of the vehicle and through the hoop
b. She danced free of her captors and into the next room
c. They rode the waves clear of the rocks and onto the beach

(14) a. She pounded the metal through the hoop
b. She pounded the metal flat
c. *She pounded the metal flat and through the hoop

The facts observed above indicate that Resultative Expressions that describe a change in the location of the entity referred to by the nominal element, or more generally, sentences that describe a motion event, differ from TREs in an important respect: while TREs are strictly subject to the Direct Object Restriction, Resultative Expressions that describe a change in the location of an entity are not, despite the fact they may be realized superficially alike. Given this difference, sentences that describe a motion event are considered as constituting a distinct

subtype of Resultative Expressions from those that describe a change in the state of an entity, such as TREs.[4]

1.1.4 Argument Sharing

Another characteristic property of TREs is that the nominal element which is understood to be an argument of the V^0 is simultaneously understood to be an argument of the XP. Given that TREs are subject to the DOR, this means that the nominal element that appears as an internal argument of the V^0 is simultaneously understood to be an argument of a state-denoting XP. This property, however, is not shared by every subtype of Resultative Expression that describes a change in the state/property of the entity referred to by the nominal element, as I will discuss below.

1.1.4.1 A Verbal-Result and a Non-Verbal Result

Japanese has an alternative syntactic/morpho-syntactic means to derive a mono-clausal Resultative Expression aside from TREs. This is exemplified in (15) below:

(15) a. John-ga Mary-o sasi-korosita (koto)
-NOM -ACC stab-killed fact
'(the fact that) John stabbed Mary to death'

b. John-gatubo-o tataki-kowasita (koto)
-NOM vase-ACC pound-broke$_{Tr}$ fact
'#(the fact that) John pounded the vase broken ([Int.] John broke the vase by pounding it)'

In the expressions shown in (15), the resultant state of the entity referred to by the nominal element is entailed from the lexical semantics of the V^0 that appears as the second member of the sequential V^0-V^0, and it is not expressed overtly as in the case of TREs, in which the resultant state of the entity referred to by the nominal element is expressed by an XP which is headed by a non-verbal X^0 (i.e. morpho-syntactic nouns and morpho-syntactic adjectives).Furthermore, unlike in TREs in which the result-state denoting X^0 projects a maximal phrase independently of the V^0, the result-state denoting V^0 forms a morpho-syntactic word with the V^0 that linearly precedes it.

[4]See Rappaport Hovav and Levin (2001) for an event structure explanation of the contrast between Resultative Expressions that describe a motion event which obey/do not obey the DOR.

Aside from any difference that comes from the morpho-syntactic status of the X^0 that is understood as denoting the resultant state of an entity referred to by a nominal element, Resultative Expressions of the type illustrated in (15) differ from TREs in not requiring

one argument of the two predicative elements (= two V^0s) to be understood as identical. This is demonstrated in (16)-(18), taken from Tomioka (2004:(16)-(18)) with slight modifications, the observation due originally to Tomioka (2004), though examples are due originally to Nishiyama (1998):

(16) a. Jiro-gaIchiro-no kubi-osimeta
-NOM -GEN neck-ACC strangled
'Jiro strangled Ichiro's neck'
b. #Jiro-gaIchiro-osimeta
-NOM -ACC strangled
'Jiro strangled Ichiro'

(17) a. Jiro-gaIchiro-okorosita
-NOM -ACC killed
'Jiro killed Ichiro'
b. #Jiro-gaIchiro-no kubi-okorosita
-NOM -GEN neck-ACC killed

(18) a. Jiro-gaIchiro-osime-korosita
-NOM -ACC strangle-killed
'Jiro killed Ichiro by strangling (him)'
b. #Jiro-gaIchiro-no kubi-osime-korosita
-NOM -GEN neck-ACC strangle-killed

Examples (16) and (17) show that the V^0simer(u)'strangle' and the V^0koros(u)'kill' impose different selectional restrictions on the NP that appears as its internal argument. Given that the V^0simer(u)'strangle' cannot take Ichiroas its argument (16b), the fact that (18a) is grammatical indicates that the nominal element which is understood to be an argument of the V^0koros(u)'kill' is not required to beunderstood as completely identical with the argument of the V^0simer(u)'strangle' in the relevant environment, minimally speaking.[5] For this reason,

[5]While Tomioka (2004) takes the grammaticality contrast between (16a) and (16b) as evidence in support of her claim that Resultative Expressions that are derived with a V^0-V^0 compound in Japanese do not necessarily involve argument-sharing between the V^0s that constitute a single morpho-syntactic word, I am not so sure about this conclusion, since the argument of the V^0simer(u)'strangled' is nevertheless an entity which is inalienably possessed

Resultative Expressions that are derived with a V^0-V^0 compound in Japanese are also distinguished from TREs in this study.

1.1.4.2 Non-Thematic Resultative Expressions in English

English has Resultative Expressions that are superficially like TREs and describe a change in a state of an entity just like TREs, yet they involve a post-verbal NP which is not understood as an argument of the V^0. Observe examples (19) and (20) below, example (19) is taken from Levin and Rappaport Hovav (1999:(3)):

(19) a. Sam coughed himself into a hemorrhage
b. They yelled themselves hoarse
c.He'd rock and chant himself into a trance

(20) a. *Sam coughed himself
b. *They yelled themselves
c. *He'd rock and chant himself

The sentences in (19) involve a linear configuration SUBJ-V-OBJ-XP, and they are understood as describing a change in the state of an entity referred to by a post-verbal NP just like TREs do. However, these sentences crucially differ from TREs in that the post-verbal NP is not understood as an argument of the V^0, at least not in a canonical sense, as is indicated by ungrammaticality of the sentences in (20). While the sentences in (19) all involve a reflexive pronoun as a post-verbal NP, it is not required to be a reflexive pronoun, as is illustrated in (21) below, taken from Levin and Rappaport Hovav (1999:(4)):

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by an argument of the V^0koros(u)'kill' in this case (e.g. Ichiro's neck). That is, it may simply be a question of what counts as identical;that is, entities that are in a part-whole relationship such as those that are in an inalienable possession relationship may be identified as identical in the relevant construction. If this is in effect the case, Resultative Expressions with a verbal result may in effect involve argument-sharing in a way similar to TREs. Nevertheless, because Resultative Expressions with a verbal result clearly differ from TREs in the morpho-syntactic status of predicative X^0s, that they involve predicative X^0s that obligatorily undergo morpho-syntactic word formation, they are still distinguished from TREs in this study. I will leave open for future study to investigate if Resultative Expressions with a verbal result and TREs are derived alike syntactically.

(21) a. The joggers ran the pavement flat
b. He sang us all to sleep
c. The dog barked the neighbor awake

(22) a. *The jogger ran the pavement
b. *He sang us all
c. *The dog barked the neighbor

Furthermore, as is demonstrated by the entailment pattern observed in (23) in comparison to (24) below, the ungrammaticality of (20) and (22) cannot be reduced to a Case theoretic reason per se:

(23) a. Mary cooked her boyfriend sick	=≠≠⇒	Mary cooked her boyfriend
b. Tom ate himself sick	=≠≠⇒	Tom ate himself
(24) a. Mary cooked the pasta soggy	====>	Mary cooked the pasta
b. John hammered the metal flat	====>	John hammered the metal

Unlike in the case of the TREs in (24), an entailment from a Resultative Expression to its non-resultative counterpart does not hold in (23), providing another piece of evidence that a post-verbal NP in Resultative Expressions of the type under consideration is not understood as an argument of a V^0. Given that the sentences in (23) involve a verb which has a transitive use, shown by a grammaticality of the non-resultative sentences on the right-hand-side, the fact that the post-verbal NP of the Resultative Expressions in (23) is not understood as an argument of a V^0 indicates that what leads the post-verbal NP in such type of Resultative Expressions to be understood as not an argument of the V^0 cannot be reduced to the Case property of the V^0 with which it co-occurs (e.g. if a V^0 projects a VP that can merge with a v^0 with a Case licensing ability or not). In other words, the sentences in (20) and (22) are ungrammatical not necessarily because the post-verbal NP cannot be Case-licensed, but rather, they are ungrammatical because the post-verbal NP is not understood as an argument of a V^0, and there is no predicative element that the post-verbal NP is understood to be an argument of. The claim that Resultative Expressions of the type under consideration do not involve argument sharing between the V^0 and the (result-)state describing XP is further confirmed by an observation, due originally to Simpson (1983), that Resultative Expressions that do not entail their non-resultative counterpart (e.g. (21)) can usually be derived only with a transitive verb that has an (unergative) intransitive use outside

of the relevant context (Hoekstra 1988, Williams2008). That is, transitive verbs that are found in the relevant type of Resultative Expressions are generally only those that can undergo deletion of an unspecified object, as is demonstrated in (25):

(25) a. Mary cooked dinner → Mary cooked Ø
b. John ate lunch → John ate Ø

Given that Resultative Expressions of the type under consideration do not involve argument sharing between the V^0 and the (result-)state describing XP, these Resultative Expressions are distinguished from TREs despite their surface resemblance and interpretational similarities with TREs.

1.1.5 Some Notes on a Verb-Particle Construction in English

Sentences derived with a verb-particle construction in English may superficially resemble TREs, and some of them may also be an instance of a Resultative Expression, yet they are nevertheless considered as constituting a distinct subtype of Resultative Expressions from TREs in this study (cf. Levin and Sells 2007). (26a) and (26b) below exemplify two types of sentences that are derived with a verb and its associated particle:

(26) a. John ate the fish up
b. John rinsed the dirt out

In (26a), the particle up is not predicational in the sense that it cannot be understood as describing the state of the entity referred to by the internal argument of the V^0, and so it must be distinguished from TREs. Out in (26b), in contrast, may be predicational, though it is understood as denoting the (resultant-)location of the entity referred to by the internal argument of the V^0 (e.g. the dirt is out of the cloth as a consequence of the cloth being rinsed). As I have discussed in section 1.1.3, since sentences that express a change in a location do not necessarily show identical behavior to sentences that describe a change in a state/property, and since Resultative

Expressions that are derived with the verb-particle construction usually express a change in a location, they are considered to be distinct from TREs.[6]

1.2 An Overview of the Present Account of the TREs

Before proceeding to discuss the cross-linguistic behavior of TREs in English and Japanese, I outline the analysis of TREs offered in this study, and briefly explain how it accounts for the syntactic/syntactico-semantic properties of the TREs introduced in previous subsection.

One of the main goals of this dissertation is to uncover the correlation between the aspectual properties of TREs and the Direct Object Restriction (DOR) that the TREs are generally subject to. It has been discussed for some time that the DOR observed among TREs is unlikely to be reduced solely to the syntax of predication (Carrier and Randall 1992, Levin and Rappaport Hovav 1995, cf. Williams 1980, Rothstein 1983, McNulty 1988, among others); unlike TREs, sentences that involve other types of a secondary predicates such as Depictive sentences do not show an effect of the DOR, as I briefly discussed in section 1.1.2.Following the

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[6] While this study distinguishes sentences that are derived with a verb-particle construction from TREs, these sentences show similar behavior with TREs in a number of important respects. As is discussed in Tenny (1987), for instance, sentences derived with the verb-particle construction may co-occur with a Depictive Phrase, though the verb-particle must appear linearly preceding the Depictive Phrase, similar to the word-order restriction observed between the Result Phrase and a Depictive Phrase in TREs, which will be discussed in Chapter 2. The word-order restriction between the verb-particle and the Depictive Phrase is illustrated in (i) below, taken from Tenny (1987:(15)):

(i) a. We ate up the muffins hot.
b. We ate the muffin up hot.
c. *We ate hot up the muffins.
d. *We ate the muffins hot up.
e. *We ate hot the muffins up.
f. *We ate up hot the muffins.

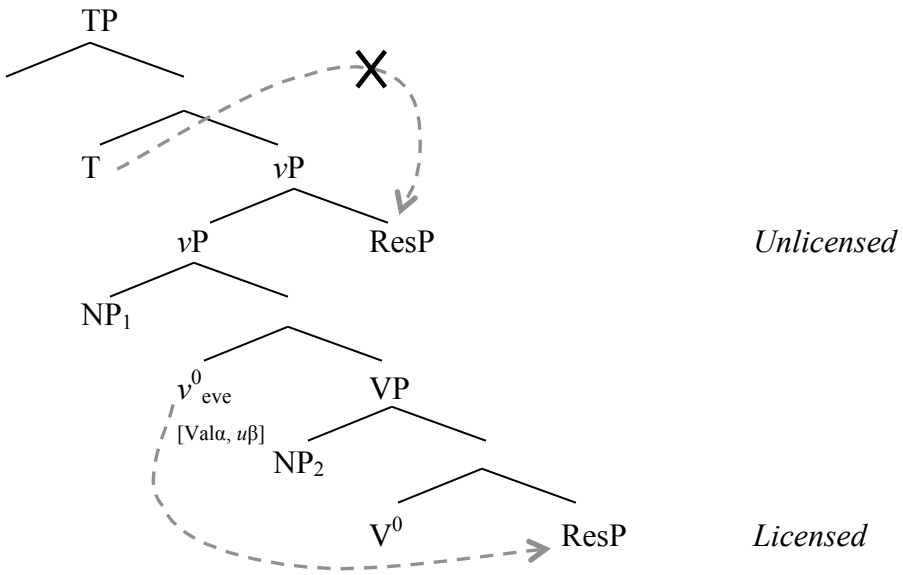
Furthermore, similar to the presence of a Result Phrase, the presence of a verb-particle may affect the telicity of a predicate:

(ii) #John beat Tom in 10 minutes
a. John beat Tom black and blue in 10 minutes
b. John beat Tom up in 10 minutes

These facts suggest that the verb-particle construction may share some syntactic/syntactico-semantic properties with the Resultative Construction with which TREs are derived. However, since it is beyond the scope of this study to discuss how the verb-particle construction may be related to the Resultative Construction, I leave it open for future research.

basic insights of Levin and Rappaport Hovav (1995), I assume that the DOR follows from the syntax-semantics mappings of event aspects that constrain a derivation of TREs. Differing from Levin and Rappaport Hovav (1995), in which the DOR is viewed as a consequence of the syntax-semantics mappings of event aspects that constrain the base-generated position of the NP that plays a particular role in the aspectual interpretation of a predicate (i.e. the change-of-state linking rule, Levin and Rappaport Hovav 1995:51, cf. Tenny 1994), I propose that the DOR arises as a consequence of the formal licensing of a state-describing XP that takes place in the derivation of TREs. Specifically, I argue that the state-describing XP which is understood as denoting the resultant-state of the entity referred to by a certain nominal element (henceforth Result Phrase/ResP) must be formally licensed by a particular type of v^0, and this restricts a ResP to be base-generated only internally to a VP, unlike other type of predicative XPs (e.g. Depictive Phrases) that may be licensed not only by different types of a v^0 but also by certain functional elements other than v^0 such as an I^0/T^0. The distribution of ResPs is schematically shown in (27) below:

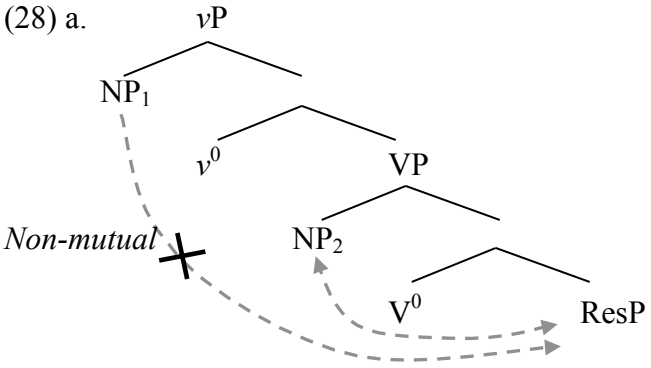
(27)



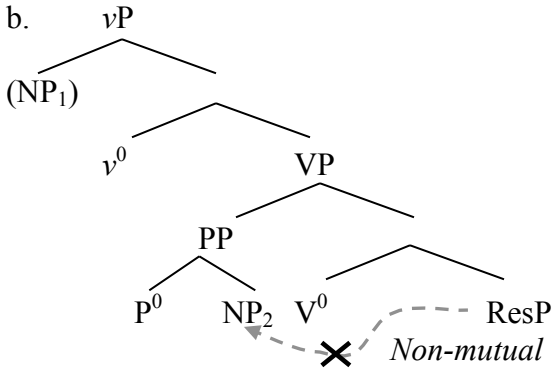
Consequently, TREs exhibit the effect of the DOR because a ResP can establish a predicate-subject relationship only with an NP with which it can satisfy a general locality constraint on the syntax of predication from its base-generated position (e.g. mutual m-command relation;

Williams 1980, Koizumi 1994a); it is in a mutual m-commanding relation with an NP that appears in an internal argument position of the V^0 (e.g. a specifier/complement position of the V^0), though not with an NP that appears in an external argument position (e.g. a specifier position of a v^0) or the one that appears as a part of an Oblique/Indirect Object. This is illustrated in (28) below, irrelevant details omitted:

(28) a.



b.



Under the current proposal, the DOR is correlated with the aspectual properties of TREs in a sense that the syntactic procedures that introduce the particular type of v^0 which is needed for the formal licensing of a ResP have influence on the aspectual interpretation of the predicate, which I turn to discuss next.

As I briefly introduced in section 1.1.2, one of the peculiar properties of TREs is that they are generally understood as denoting a change in state/property, and so an event described in a TRE can, in principle, be understood as telic. This aspectual character of TREs is most naturally attributed to the nature of the syntactic construction with which the TREs are derived, since it is not always reducible to the lexical semantics of a compositional part(s) of TREs, as is demonstrated in (29) below:

(29) a. John hammered the metal flat in 5 minutes
b. #John hammered the metal in 5 minutes

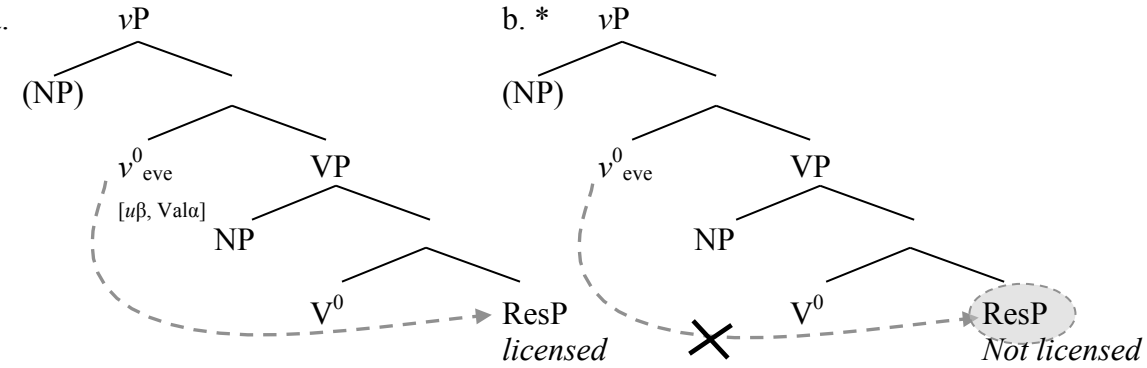
It is well-recognized in the literature that the time expressed by Time-Span Adverbials such as in 5 minutes can be understood as the time spent for an event denoted by the predicate to be completed/finished only when the predicate in question can be understood as telic (Dowty 1979,

Tenny 1987, 1994, MacDonald 2006, among many others). Thus, the availability/unavailability of the relevant reading of the Time-Span Adverbial in (29) indicates that not every verb that can derive a well-formed TRE is intrinsically capable of deriving a telic predicate. This suggests the aspectual properti(es) of TREs under consideration are most naturally understood as being associated with the particular syntactic configuration that TREs involve. That is, TREs are understood as describing an event with a particular internal temporal structure because they are all derived with a particular syntactic construction. This calls for an explicit account of the syntax-semantics mappings of event aspects that provides an explanation for the aspectual property of TREs.

To explain the aspectual property of the TREs, I propose that certain differences in the aspectual properties of a predicate find their expression in the syntax in the form of some differences in the feature makeups of the v^0 that merges with a VP[7], and the aspectual property of the TREs under consideration arises as a consequence of the syntactic licensing of the ResP requiring a particular type of v^0. Specifically, I propose that there are two syntactically different types of v^0 that can merge with a VP to yield an eventive predicate, a v^0 that has a cluster of an uninterpretable feature [*u*β] and an unvalued feature [Valα] and another without it, and the two types of v^0 differ from each other in their ability to serve as a formal licensor of a ResP; a ResP can be properly licensed by the former type of v^0, though not by the latter type of a v^0.Consequently, TREs necessarily involve a $v^0_{[u\beta,\ Val\alpha]}$, because a ResP will be left unlicensed otherwise, which would cause the derivation of a TRE to crash at the syntactic level of computations whenever a VP merges with a v^0 other than a $v^0_{[u\beta,\ Val\alpha]}$:

[7] In this study, the relevant functional element is referred to as a v^0 without any theoretical implication. The difference in the feature makeup of the v^0 discussed in this study can be translated as different combinations of functional elements that the spine of the functional projection of the VP involves (e.g. the presence/absence of an Asp^0, etc.).

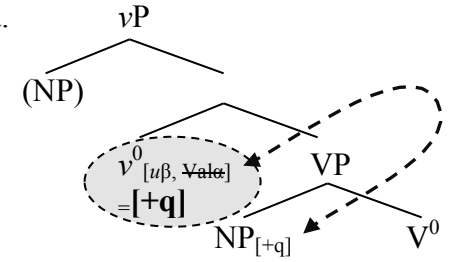
(30) a.



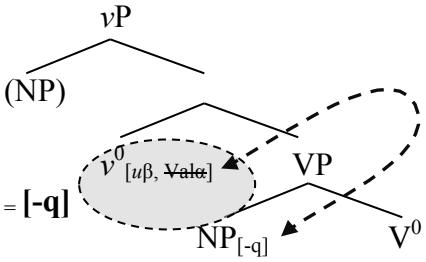
b. *

Adopting the basic insights of MacDonald (2006, et seq.), I assume that the aspectual interpretation of a predicate is calculated at the point of phase, taking the results of syntactic computations as its input. Diverging from MacDonald (2006, et seq.) for technical details, however, I argue that the aspectual interpretation of a predicate is calculated based on the properties that a v^0 has as a consequence of its interactions with the compositional parts of the VP with which it merges. Specifically, I argue that the telicity of a predicate is determined based on the value that the v^0 that is merged with the VP has at the point of phase, and that the predicate is understood to be telic when it is syntactically represented as a VP that is merged with a v^0 that is specified as plus for its value, while it is understood to be atelic when it is syntactically represented as a VP that is merged with a v^0 that is either specified as minus for its value or is underspecified for its value. The two types of v^0 introduced above that can merge with a VP to yield an eventive predicate differ from each other in that the value of a $v^0_{[u\beta,\ Val\alpha]}$ is specified as either plus or minus depending on a certain property of the nominal element with which it AGREEs in the course of the syntactic derivation, whereas the value of a v^0 without the relevant cluster of features is always unspecified due to the absence of the unvalued feature [Valα], causing the v^0 in question to have a negative value as a default. I adopt MacDonald's (2006, et seq.) position that syntactic nominal elements have an interpretable [q]-feature which is specified as either plus or minus for its value (e.g. quantized vs. non-quantized), and this [q]-feature specification of the nominal element determines the value of the v^0 under AGREE when the v^0 has the unvalued feature [Valα]. An aspectual calculation of a predicate under consideration is schematically shown in (31) below:

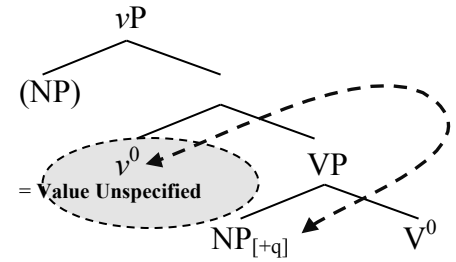
(31) a. *Telic*



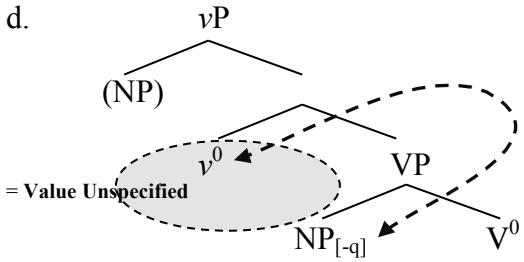
b. *Atelic*



c. *Atelic*



d. *Atelic*



Because the aspectual interpretation of a predicate is calculated based on the value of the v^0 that merges with the VP, the aspectual property characteristics of TREs, that they describe an event which can, in principle, be understood as telic, is explained as a necessary consequence of the formal licensing of a ResP in the present analysis of TREs. In other words, a VP must merge with a $v^0_{[u\beta,\ Val\alpha]}$ in order for a ResP to be properly licensed, and thus TREs always involve a syntactic configuration in which a VP merges with a $v^0_{[u\beta,\ Val\alpha]}$, and because a predicate can be understood as telic only when it is syntactically represented as a VP which is merged with a v^0 that can be specified as plus for its value, TREs that involve a $v^0_{[u\beta,\ Val\alpha]}$ which can have a positive value at the point of phase are generally understood as describing an event which can, in principle, be understood as telic.

1.3 An Overview of the Cross-Linguistic Behavior of TREs in English and Japanese

Another goal of this dissertation is to provide a formal syntactic explanation for the cross-linguistic behavior of English and Japanese. As is well-recognized in the literature, Japanese contrasts with English in that it entirely lacks Non-Thematic Resultative Expressions:

(33) a. John ran his sneakers ragged
b. John cooked his family into a premature death with his wild food

(34) a. *John-gasuniikaa-o boroboro-nihasitta (koto)
-NOM sneakers-ACC ragged-*ni* ran fact
'(the fact that) John ran his sneakers ragged'

b. *John-gakazoku-o byooki-niryoori.sita (koto)
-NOM family-ACC sick-*ni*cooked fact
'(the fact that) John cooked his family sick'

Given that Non-Thematic Resultative Expressions involve numbers of syntactic procedures that are not involved in the derivation of TREs (e.g. transitivization of an unergative intransitive verb, Case-licensing of an NP which is not a thematic argument of a V^0, etc.), the fact that Japanese lacks the Non-Thematic Resultative Expression despite the fact that it has TREs is not necessarily so surprising. However, a striking fact is that Japanese does not have the same range of TREs that English has. Although TREs in English and Japanese share a number of configurational properties with each other (i.e. Takezawa 1993, Koizumi 1994a, Kageyama 2001, among many others), suggesting that English and Japanese employ parallel syntactico-semantic means to derive a TRE, it has been pointed out that Japanese has only a subset of the TREs that English has (i.e. Washio 1997, Takami 1998, Kageyama 1996, et seq., Tomioka 2009). This is exemplified by the grammaticality of (35) and (36):

(35) a. John smashed the metal flat
b. John pounded the metal flat

(36) a. John-gasonokinzoku-o petyanko-nitubusita (koto)
-NOM that metal-ACC flat-*ni* smashed fact
'(the fact that) John smashed the metal flat'

b. *John-gasonokinzoku-o petyanko-nitataita (koto)
-NOM that metal-ACC flat-*ni* pounded fact
'(the fact that) John pounded the metal flat'

As I will show in Chapter 3, the cross-linguistic contrast under consideration can be properly characterized in terms of a certain aspectual property which is intrinsic to the verb; while TREs in English may involve a verb that does not intrinsically have the ability to render a derived predicate to be understood as describing an event with a natural endpoint (e.g. (35b)), TREs in

Japanese exclusively involve a verb that is intrinsically capable of rendering a derived predicate to be understood as describing an event with a natural endpoint ((36a) vs. (36b)). This indicates that TREs in Japanese are aspectually more verb-dependent than the TREs in English are, and suggests that TREs in Japanese are subject to a particular verbal restriction which is inert for TREs in English.

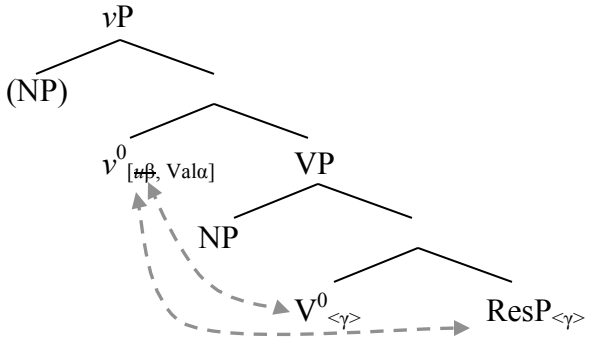
In order to explain the different degrees of verbal dependency observed between TREs in English and Japanese, I propose that ResPs in English and Japanese have different contributions to the selection of the v^0 with which a VP merges. Specifically, I argue that a $v^0_{[u\beta,\ Val\alpha]}$ can merge with a VP only when its uninterpretable feature [$u\beta$] can be deleted prior to the phase through matching with an X^0 that has the interpretable feature <γ>, and a Res^0 in English and Japanese (be it a functional head or a lexical X^0 that heads a ResP) contrast with each other in that the former has the <γ>-feature whereas the latter does not.[8, 9] Because TREs must involve a syntactic configuration in which a VP merges with a $v^0_{[u\beta,\ Val\alpha]}$ in order for a ResP to be properly licensed, this contrast in the syntactic properties of the Res^0 causes TREs in Japanese to be more verb-dependent than TREs in English are; in Japanese, a VP can merge with a $v^0_{[u\beta,\ Val\alpha]}$ only if it is headed by a V^0 that has the <γ>-feature, whereas in English, a VP can merge with a $v^0_{[u\beta,\ Val\alpha]}$ either when it is headed by a V^0 with the <γ>-feature or a V^0 without the <γ>-feature, because the uninterpretable feature [$u\beta$] of the $v^0_{[u\beta,\ Val\alpha]}$ can be deleted through matching with Res^0 even when V^0 does not have the <γ>-feature, since Res^0 in English, unlike Res^0 in Japanese, has the <γ>-feature itself. The cross-linguistic difference in the derivational possibilities of TREs in English and Japanese under consideration is schematically shown in (37) and (38) below, irrelevant details omitted:

[8] Please see Chapter 5 for discussion of the <γ>-feature.

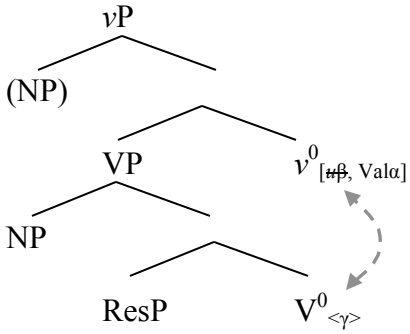
[9] Yet another possibility is that the lexical X^0 that heads a ResP may have the <γ>-feature in both languages, though ResPs in English and Japanese have different contributions to the selection of the $v^0_{[u\beta,\ Val\alpha]}$ because the ResP in these languages have different internal structures. That is, the internal structure of the ResP in English is such that the <γ>-feature of the lexical X^0 is visible to a $v^0_{[u\beta,\ Val\alpha]}$, while the internal structure of the ResP in Japanese is such that the <γ>-feature of the lexical X^0 is invisible to a $v^0_{[u\beta,\ Val\alpha]}$ in Japanese. While this seems to be a plausible hypothesis, I do not pursue it here, and leave it open for future research.

(37) TREs that are derived with a $V^0_{<\gamma>}$

a. English

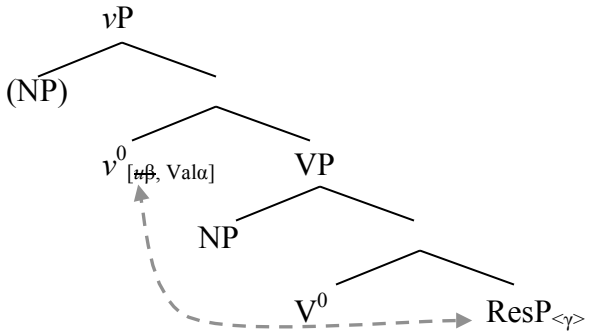


b. Japanese

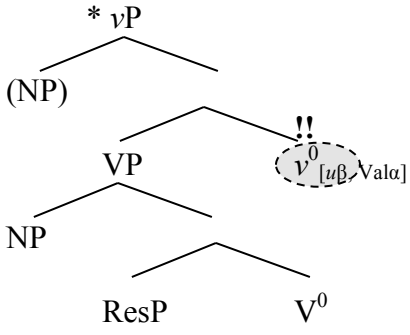


(38) TREs that are derived with a V^0 without the <γ>-feature

a. English



b. Japanese



The present analysis of the cross-linguistic behavior of TREs in English and Japanese also accounts for the fact that TREs in English can be understood as describing a telic situation even when they are derived with a verb which does not intrinsically have the ability to render a derived predicate to be understood as telic (e.g. (29), (35b)). Under the current proposals, what it means for a verb to intrinsically lack the ability to derive a telic predicate is that the verb in question does not have the <γ>-feature; a verb can derive a telic predicate only when the VP it projects can merge with a $v^0_{[u\beta,\ Val\alpha]}$, but a V^0 that lacks the <γ>-feature cannot enable the VP it projects to merge with a $v^0_{[u\beta,\ Val\alpha]}$. Now, because Res^0 in English has the <γ>-feature, VP can merge with the $v^0_{[u\beta,\ Val\alpha]}$ in the presence of ResP even when it is projected by a V^0 that does not have the <γ>-feature (38a). This explains why TREs in English can be understood as describing a telic situation even when they are derived with a verb that does not intrinsically have the ability render a derived predicate to be understood as telic.

1.4 The Structure of the Dissertation

This dissertation is divided into two major subparts. Chapter 2 to Chapter 4 are dedicated to setting up the background for the examination of the cross-linguistic contrast between TREs in English and Japanese from the viewpoint of the syntax-semantics mappings of event aspects. Then, Chapter 5 is dedicated to providing a formal syntactic explanation of the characteristic properties of TREs as well as of the cross-linguistic contrast observed between TREs in English and Japanese. In Chapter 2, I begin to examine the configurational properties of TREs in English and Japanese, and motivate the proposal that TREs in English and Japanese are derived with the same syntactic construction, namely, the Resultative Construction. Furthermore, I also introduce some differences observed between TREs in English and Japanese which were first explicitly discussed in Washio (1997)[10], and lay out a basic picture of the puzzle which I will be exploring for the remainder of the thesis. In Chapter 3, I first go over some previous accounts of the cross-linguistic behavior of TREs in English and Japanese, and point out some issues that are left unanswered by those accounts. Following which, I examine the aspectual properties of the verbs that are found in well-formed TREs in English comparatively with their Japanese counterparts. I show that the cross-linguistic contrast under consideration can be properly characterized in terms of a certain aspectual property which is intrinsic to the verb that appears in the V^0 position of the RC. In Chapter 4, I examine the aspectual behavior of TREs in English, and argue that the particular verbal restriction found among TREs in Japanese is most naturally understood as following from a general property of the Resultative Construction. I show that well-formed TREs in English unitarily behave aspectually like well-formed TREs in Japanese, despite the fact that some TREs in English are derived with a verb that intrinsically does not have the particular aspectual property that verbs that are found in well-formed TREs in Japanese universally have. In Chapter 5, I propose a formal syntactic account of the Resultative Construction that incorporates a particular version of the algorithm of syntax-semantics mappings of event aspects. In so doing, I attempt to provide a unitary explanation of the general aspectual requirement of the Resultative Construction and the cross-linguistic behavior of TREs in English and Japanese. In order to set up a background for an explicit discussion of the aspectual property of the Resultative Construction as well as the cross-linguistic behavior of TREs in English and

[10] See also Kageyama (1996).

Japanese, a major part of the chapter is devoted to developing general algorithms of the syntax-semantics mappings of event aspects that are responsible for determining a subset of the aspectual properties of a predicate that will be relevant for discussing the aspectual behavior of sentences that are derived with the Resultative Construction. Based on the algorithms of the syntax-semantics mappings of event aspects developed in Section 5.3, Section 5.4 proposes a formal syntactic account of the Resultative Construction, and discusses how some of the characteristic properties of TREs as well as the cross-linguistic behavior of TREs in English and Japanese may follow from the syntax of the Resultative Construction argued for in this study.

Chapter 2 Thematic Resultative Expressions in English and Japanese

The goal of this chapter is to motivate the proposal that Thematic Resultative Expressions (TREs) in English and Japanese are derived by parallel syntactico-semantic mechanisms, and to introduce a puzzle that the cross-linguistic behavior of TREs in English and Japanese raises. The sentences in (1) and (2) below exemplify the TREs in English and Japanese, respectively:

(1) a. John wiped the table clean
    b. John-gateeburu-o kirei-nihuita
       -NOM table-ACC clean-*ni* wiped

(2) a. the lake froze solid
    b. ike-gakatikati-nikootta
       lake-NOM solid-*ni* froze

As is discussed in the literature (Takezawa 1993, Koizumi 1994a, Kageyama 2001, 2005 among others), TREs in English and Japanese share fundamental configurational properties with each other, suggesting that TREs in English and Japanese are derived alike syntactically. This implies, crucially, that the syntax of English and Japanese are, in principle, equally capable of deriving a fundamentally identical syntactic configuration, and furthermore, that the relevant syntactic configuration is equally understood to be associated with the complex eventuality of the 'Resultative Expressions' in both languages. For ease of discussion, this particular syntactic configuration is hereafter referred to as the Resultative Construction, or the RC for short, and the term is reserved strictly to refer to this specific syntactic configuration, unless otherwise noted.

Although English and Japanese are equally capable of deriving the RC, the productivity of the RC varies in English and Japanese. It has been discussed in the literature (Kageyama 1996, 2001, 2005, Washio 1997, Takami 1998) that Japanese has a more restricted type of TRE than

English has.[11,12] This is illustrated by the cross-linguistic contrast in the well-formedness of the TREs in (3) and (4) below:

(3) a. She kicked the dog black and blue
b. They beat the man bloody

(4) a. *kanozyo-wamusuko-o azadarake-niketta
she-TOP son-ACCblack.and.blue-*ni* kicked
'She kicked her son black and blue'
b. *karera-wasonootoko-o timamire-ninagutta
they-TOP that man-ACC bloody-*ni* hit
'They beat the man bloody'

Washio (1997: (17b,d)-(18b,d)[13]) with slight modifications

[11]Washio (1997) discusses the cross-linguistic variations between English and Japanese specifically among Resultative Expressions that involve an 'adjective-type phrase' as a Result Phrase. 'Adjectival-type phrases' include an AP in English and so-called Canonical Adjectives and Nominal Adjectives (a.k.a. Adjectival Nouns) in Japanese, illustrated in (i) and (ii), respectively:

(i) a. **kawai-i**neko cute-i cat 'A cute cat'	b. sononeko-ga**kawai-i** that cat-NOM cute 'That cat is cute'	Canonical Adjective
(ii) a. **kirei-na**neko good.looking-na cat 'A good looking cat'	b. sononeko-ga**kirei-da** that cat-NOM beautiful-da 'That cat is beautiful'	Nominal Adjective

As was briefly introduced in chapter 1, and as the conventional labels suggest, these two classes of adjectival expressions in Japanese exhibit different morpho-syntactic properties from each other; Nominal Adjectives share certain morpho-syntactic properties with morpho-syntactic Nouns, whereas Canonical Adjectives do not. While these two classes of adjectival elements surface with different morphological markings when they appear as a Result Phrase in the RC due to their difference(s) in morphological/morpho-syntactic properties (e.g. -ni marking on a Nominal Adjectives, and –ku marking on a Canonical Adjectives), they behave alike syntactically (Takezawa 1993). For this reason, following Takezawa (1993) and Washio (1997), I consider the above mentioned two types of adjectival expressions in Japanese as equally comparable to the AP that appears as a Result Phrase in English for the purpose of the current study.

[12] As I briefly introduced in Chapter 1.3, Japanese lacks Non-Thematic Resultative Expressions entirely, contrasting with English. Because TREs and Non-Thematic Resultative Expressions resemble each other, and they share certain syntactic and syntactico-semantic properties with each other, the difference in the range of TREs found in English and Japanese is generally considered to be correlated with the fact that English has, but Japanese does not have, Non-Thematic Resultative Expressions. While I do not deny that the range of TREs found in languages may be correlated with the fact that the language in question has/does not have Non-Thematic Resultative Expressions to some extent, I find it difficult to explain those two cross-linguistic facts completely analogously. For this reason, this study will only be concerned with the cross-linguistic behavior of the Thematic Resultative Expressions.

[13] I excluded examples (18a) and (18d) from Washio (1997) and also their English correspondents (17a,d) since the former involves a compound verb and the latter involves a –sase causative, both of which have some effect on the argument structure of a main verb.

Given that TREs in English and Japanese are both derived with the RC, the cross-linguistic contrast observed in (3) and (4) immediately raises the following questions; (a) are TREs that show cross-linguistically parallel behavior (e.g. (1)-(2)) and those that show cross-linguistically different behavior (e.g. (3)-(4)) derived with the same syntactic construction, and (b) if they are, how are the range of TREs that English and Japanese can derive with the RC different from each other ((1)-(2) vs. (3)-(4))?

In this chapter, I first go over the configurational properties of the TREs in English and Japanese previously discussed in the literature, and discuss some motivations behind viewing TREs in English and Japanese to be derived by the same syntactic construction. Section 2.2 looks into the nature of the cross-linguistic patterns observed in (1)-(2) and (3)-(4) from a syntactic point of view, and argues that the difference in the range of TREs found in English and Japanese comes from the productivity of the RC being constrained/not constrained by a certain verbal restriction in these languages. Specifically, I show that TREs in English that have well-formed Japanese counterparts (1) and those whose Japanese counterparts are ill-formed (3) are equally derived with the RC, and argue that the cross-linguistic contrast under consideration cannot be explained by speculating that English has more than one syntactico-semantic means to derive a TRE whereas Japanese has only one. Furthermore, I introduce a semantic characteristic of well-formed TREs in Japanese discussed in the literature (Washio 1997, Takami 1998, Kageyama 2001, 2005, among others) which shows that the intra-linguistic pattern observed in Japanese (e.g. (2) vs. (4)) is quite systematic, and argue that the cross-linguistic difference in the range of TREs found in English and Japanese is unlikely to be reduced to some idiosyncratic difference in the lexicon of these languages. Based on the findings of section 2.2, section 2.3 discusses the puzzle that the cross-linguistic behavior of TREs in English and Japanese raises about the nature of the RC.

2.1 Configurational Properties of the TREs in English and Japanese

In this section, the configurational properties of TREs in English and Japanese are compared. Among the syntactic properties of TREs discussed in the literature, there are two properties that are generally considered as purely configurational in nature. Namely, these are a base-generated position for the ResP, and the structural relationship under which a ResP and an NP can be understood as establishing a predicate-subject relationship. Below, I introduce arguments for the aforementioned configurational properties of TREs in English and Japanese put forth in previous studies, as well as providing some supplementary data, and argue that English and Japanese employ the same syntactico-semantic means to derive a mono-clausal sentence that is understood as an instance of a TRE.

2.1.1 Base-generated Position of a ResP

2.1.1.1 English

One of the very few properties of TREs in English that most researchers agree upon is that a ResP is base-generated within the maximal projection of V^0 (Simpson 1983, Roberts 1988, Levin and Rappaport Hovav 1995, Bruening 2010, among others). For instance, Roberts (1988) argues that a ResP is base-generated internally to a VP based on the following observations. Examples (5)-(7) are taken from Roberts (1988: (3a-c)), with brackets and some emphasis added:

(5) VP Fronting
a. John wanted to hammer the metal flat – and hammer it [$_{ResP}$ flat] he did
b. *John wanted to hammer the metal flat – and hammer it he did [$_{ResP}$ flat]

(6) Though Movement
a. Hammer the metal [$_{ResP}$ flat] though John may …
b. *Hammer the metal though John may [$_{ResP}$ flat] …

(7) Pseudoclefts
a. What John did was hammer the metal [$_{ResP}$ flat]
b. *What John did [$_{ResP}$ flat] was hammer the metal

The VP-fronting, Though Movement, and Pseudo-clefting tests are generally taken as diagnostics for VP constituency. As is illustrated in (5)-(7) above, the TREs are well-formed

when these syntactic operations apply to a string that includes the ResP in its component part (the sentences in (a)), but they are ill-formed when these syntactic operations cause the ResP to be stranded (the sentences in (b)). Given that these syntactic operations affect an entire VP, the observed fact that a ResP cannot be left behind by these operations has been taken as evidence that the ResP is base-generated internally to the maximal projection of the V^0.

However, because traditional VP-constituency tests do not necessarily discriminate VP from *v*P, one might wonder if it is possible for the ResP to be base-generated outside of VP, though inside *v*P; if the aforementioned VP-constituency tests affect *v*P, rather than VP, the patterns observed in (5)-(7) can still be accounted for even if ResP is base-generated outside the VP so long as it is base-generated inside the *v*P. Since it is beyond the scope of this study to determine whether each of the above-mentioned traditional VP-constituency tests affect VP or *v*P, I do not go into detail here. Instead, the remainder of this subsection examines the distribution of ResPs in contrast to the distribution of what I refer to as Object-oriented Depictive Phrases, and show that ResPs in English TREs are most naturally understood to be base-generated internally not only to *v*P, but also to VP.

In order to discuss the base-generated position for a ResP, I first go-over the basic properties of an Object-oriented Depictive Phrase comparatively with those of a ResP. Ever since Halliday (1967), it has been accepted in the literature that English has a way that superficially resembles TREs to describe an ongoing-state of an entity referred to by an internal argument of V^0.[14] Observe the difference in how the state denoted by a clause-final XP is interpreted in (8a) and (8b). The examples in (8) are taken from McNulty (1988: Ch. 1 (57)), brackets added:

[14] In order to simplify the comparison, the discussion will be centered around the cases in which the state denoted by the state-describing XPs in question (= a ResP and an Object-oriented Depictive Phrase) is understood to be true of an entity which is referred to by an NP that appears as the Object of a transitive sentence. However, a crucial condition is that it is an internal argument of a V^0 that the state denoted by the relevant state-describing XP is understood to be true of, hence, a major part of the discussion applies to sentences that are derived based on Unaccusative intransitive sentences as well.

(8) a. Mary hammered the metal$_j$ [$_{ResP}$ flat]$_j$
b. Mary hammered the metal$_j$ [$_{DepP}$ hot]$_j$

(8a) is an instance of a TRE in which the state denoted by the sentence-final XP is understood as the resultant-state of the co-indexed NP; roughly speaking, the metal is understood as being flatas a consequence of it being hammered by Mary. In contrast, the sentence-final XP is understood as describing an ongoing-state of the co-indexed NP in (8b); roughly speaking, the metal is understood as being hotduring the process of its being hammered by Mary. For the sake of a simpler presentation, a state-describing XP that is understood as denoting an ongoing-state of a co-indexed NP (e.g. hot in (8b)) is referred to/labeled as a Depictive Phrase, or a DepP for shorthand, in order to distinguish it from the one which is understood as denoting the resultant-state of a co-indexed NP (e.g. flat in (8a)), which is referred to/labeled as a Result Phrase/ResP. As can be seen in (8), despite this interpretational difference, a sentence that involves a(n Object-oriented) DepP may look superficially identical to a TRE in English; the DepP appears in a clause-final position just like the ResP does, and it can co-occur with propositions with which a ResP can co-occur (e.g. Mary hammered the metal). Furthermore, as is exemplified in (8b), a DepP can be understood as denoting a state of an entity referred to by an NP that appears as an internal argument of a V^0 just like a ResP can be. Hence, in some instances, mono-clausal sentences that involve a clause-final state-describing XP may be ambiguously interpreted as either an instance of a TRE or an instance of a(n Object-oriented) Depictive sentence.[15]

[15] For example, with some contexts, Mary hammered the metal flat can be ambiguously understood as an instance of a TRE (e.g. the metal is understood to be flat as a consequence of Mary's hammering it) or an instance of a(n Object-oriented) Depictive sentence (e.g. the metal is understood to be flat independently of Mary's hammering it) depending on the interpretation of flat. This ambiguity, however, is not always available. As is observed in Carrier and Randall (1992), a state-describing XP which is derived with a deverbal adjective (e.g. shining/shined cf. shiny) generally fails to be understood as a ResP in English, except maybe for those that have undergone semantic drift. This is illustrated in (i) below, taken from Carrier and Randall (1992:(25a)), in which the categorical label of the state-describing XP has been changed from an AP to a ResP for the purpose of the current discussion:

(i) a. The maid scrubbed the pot [$_{ResP}$ shiny / *shined / *shining]
b. The jockeys raced the horses [$_{ResP}$ sweaty / *sweating]
c. The chef cooked the food [$_{ResP}$ black / *blackened / *charred]

This contrasts with DepPs in which deverbal adjectives are not barred from appearing as their heads, as is demonstrated in (ii) below:

(ii) a. John hammered the metal [$_{DepP}$ cool / cooled / cooling]
b. John ate the peanut [$_{DepP}$??salty / salted]

Second, sentences that involve an Object-oriented DepP behave like TREs with respect to the VP-constituency tests discussed earlier, indicating that an Object-oriented DepP is also base-generated at least internally to a *v*P.[16] Compare the results of the VP-constituency tests in (9)-(11) below with ones found in (5)-(7). Examples (9)-(11) are taken from Roberts (1988: (3a-c)), with brackets and emphasis added:

(9) VP fronting
a. John wanted to drink the beer [$_{DepP}$ flat] – and drink the beer [$_{DepP}$ flat] he did
b. *John wanted to drink the beer [$_{DepP}$ flat] – and drink the beer he did [$_{DepP}$ flat]

(10) Though movement[17]
a. Drink the beer [$_{DepP}$ flat] though John may …
b.*Drink the beer though John may [$_{DepP}$ flat] …

(11) Pseudo-clefting
a. What John did was drink the beer [$_{DepP}$ flat]
b. *What John did [$_{DepP}$ flat] was drink the beer

Just like the patterns observed among TREs (5)-(7), Roberts (1988) shows that a derived sentence is grammatical when a DepP is a constituent part of a string which is affected by VP-fronting (9a), Though movement (10a), and Pseudo-clefting (11a), but it becomes ungrammatical

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c. John wiped the table [$_{DepP}$ clean / cleaned]
d. John ate the meat [$_{DepP}$ black / blackened]

Thus, in some instances, TREs and (Object-oriented) Depictive sentences can be distinguished from each other based on the morphological shape of the adjectival element that appears as the head of the state-describing XP. The observed facts that deverbal adjectives that have not undergone sematic drift generally fail to appear as a head of a ResP (i), though they can appear as a head of a DepP (ii), suggests that the ResP and the DepP may involve different internal structures; certain morpho-syntactic/syntactico-semantic properties that distinguish deverbal adjectives (e.g. shined/shining, sweating, blackened/charred) from simple adjectives (e.g. shiny/sweaty/black) interfere with the formation of a ResP, though not of a DepP. Since it is beyond the scope of this study to provide a full explanation of the distribution of ResPs and (Object-oriented) DepPs, I do not go into detail in discussing the internal structure of the ResP and the DepP here, and leave it for future study. See Ch. 5.4 for related discussions.

[16] A DepP can be properly co-indexed with an NP which appears as the Subject of a transitive sentence as well as the Object of a transitive sentence:

(i) Mary$_j$ hammered the metal [$_{DepP}$ naked]$_j$ cf. (8b)

Unlike in (8b), in which the state denoted by the DepP is understood as an ongoing state of an NP that appears as the Object of a transitive sentence, the DepP in (i) is understood as describing an ongoing state of an NP that appears as the Subject of a transitive sentence. Thus, it is Mary who is understood to be naked during the process of her hammering the metal in (i). Note, however, although sentences that involve a Subject-oriented DepP (e.g. (i)) and an Object-oriented DepP (e.g. (8b)) equally surface as having a DepP in clause-final position, only the latter show parallel patterns with TREs with respect to the VP-constituency tests under consideration.

[17] Note that there is some speaker variation in the judgment of (10b).

when the DepP is stranded (the (b)-sentences). Irrespective of whether the syntactic operations under consideration affect a VP or a *v*P, I can conclude minimally that a DepP is base-generated at least internally to a *v*P, just like a ResP is.

Now, while TREs and Object-oriented Depictive sentences show similar behavior with respect to certain constituency tests, suggesting that both a ResP and an Object-oriented DepP are base-generated internally at least to a *v*P, the linear ordering restriction observed between a ResP and an Object-oriented DepP discussed in McNulty (1988) as well as the different behavior observed between TREs and Object-oriented Depictive sentences with respect to do so substitution possibilities suggests that the base-generated position of the two types of a state-describing XPs under consideration are nevertheless different. As I will discuss below, the base-generated position for a ResP is most naturally understood to be lower than the base-generated position for an Object-oriented DepP, which strongly suggests that a base-generated position for a ResP is not only internal to *v*P but also to VP.

First, observe the following data, taken from McNulty (1988: Ch. 1 (58)), with brackets added:

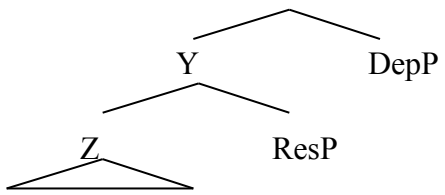
(12) a. %Mary hammered the metal$_j$ [$_{ResP}$ flat]$_j$ [$_{DepP}$ hot]$_j$
b. *Mary hammered the metal$_j$ [$_{DepP}$ hot]$_j$ [$_{ResP}$ flat]$_j$

As is reported in McNulty (1988), there is some dialectal variation among speakers of English in accepting/not accepting a sentence in which the ResP and the Object-oriented DepP co-occur in a single clause to denote the state of an entity which is referred to by one and the same NP simultaneously (see also Halliday 1967; Simpson 1982; Randall 1982). This dialectal variation is indicated as '%' in (12a). Interestingly, however, McNulty (1988) also reports that there is no dialectal variation in the acceptability of (12b), and it is judged as ill-formed even by those who find (12a) acceptable. Given that (12b) differs from (12a) minimally by the relative order of the ResP and the DepP with respect to the Object NP in the linear structure, the pattern observed in (12) indicates that the ResP has no way to appear linearly following the Object-oriented DepP. This linear order restriction is schematically illustrated in (13):

(13) a. OBJ << ResP << DepP
b. *OBJ << DepP << ResP

Taking a standard hypothesis that hierarchical relationships are reflected in linear structure in the form of a linear adjacency relationship (i.e. Embick and Noyer 1999, 2001, among others), (i.e a syntactic constituent and an X^0/XP that immediately c-commands it must appear linearly adjacent to each other), the linear ordering restriction observed in (13) suggests that a ResP is required to be base-generated lower in the hierarchical structure than a DepP in order for both the ResP and the DepP to be simultaneously understood as denoting the state of an Object NP. This can be seen from the derivational possibilities illustrated in (14) below, where linear adjacency relations are indicated by '*':

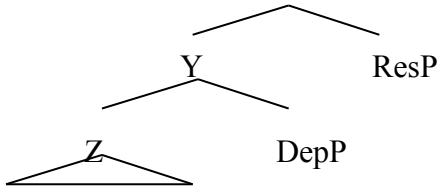
(14) a.



… OBJ …

b. [X [Y [Z … OBJ …] * ResP] * DepP]
c. OBJ << ResP << DepP = (12a)/(13a)

(15) a.



… OBJ…

where X, Z, Y can be any of a syntactic X^0/X' or an XP

b. [X [Y [Z … OBJ …] * DepP] * ResP]
*c. OBJ << DepP << ResP = (12b)/(13b)

Suppose, for a moment, that a ResP could be base-generated either lower (14a) or higher (15a) in the hierarchical structure with respect to an Object-oriented DepP. Assuming minimally that adjacency relations holding in a linearized structure ((14b), (15b)) must be properly expressed in the surface string (i.e. Embick and Noyer 1999, 2001, among others), the hierarchical structure in (14a) would be linearized as in (14b), and (15a) as in (15b), yielding a surface string schematically shown in (14c) and (15c), respectively.[18,19] Now, if a ResP could in effect be base-

[18] As is illustrated in (14b) and (15b), the current study assumes that an adjacency relation holds between a ResP/DepP and a constituent Z/Y, rather than between a ResP/DepP and an element that appears within the constituent in question (e.g. OBJ in a constituent Z). This technical distinction, however, would not be crucial to making the point of the current discussion.

generated either lower or higher in the hierarchical structure with respect to a DepP, it should be possible for a ResP to appear either linearly preceding (14c) or following a DepP (15c); (14c) and (15c) are equally legitimate linearizations of (14a) and (15a), respectively, where the adjacency relations found among the elements in the linearized structure (14b)-(15b) are properly maintained on the surface string. However, as is shown in (12)-(13), a ResP does not have the freedom of appearing linearly following a DepP, but rather it must appear linearly preceding a DepP. Given that (15c) is a legitimate linearization of (15a) as much as (14c) is a legitimate linearization of (14a), the ill-formedness of (12b) indicates that a hierarchical structure in (15a) cannot be derived.[20] In other words, a ResP cannot be base-generated higher than a DepP when

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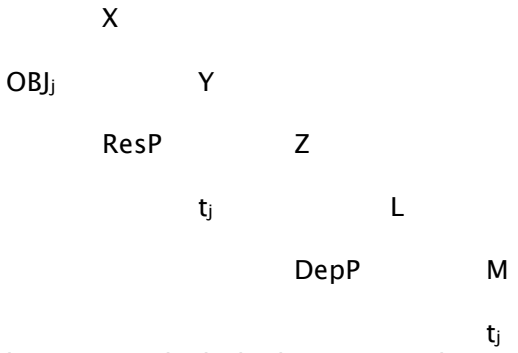
[19] Because linear adjacency is a non-directional relationship, all of the following would be, in principle, possible linearizations of (14a), and similar things can be said for (15a):

(i) a. $[_X [_Y [_Z \ldots$ OBJ $\ldots] *$ ResP$] *$ DepP$]$ →	OBJ << ResP << DepP	= (14b,c)
b. $[_X [_Y$ ResP $* [_Z \ldots$ OBJ $\ldots]] *$ DepP$]$	→ ResP << OBJ << DepP	
c. $[_X$ DepP $* [_Y$ ResP $*[_Z \ldots$ OBJ $\ldots]]]$ →	DepP << ResP << OBJ	
b. $[_X$ DepP $* [_Y [_Z \ldots$ OBJ $\ldots] *$ ResP$]]$	→ DepP << OBJ << ResP	

For simplicity, I disregard questions of how the precedence relationship between linearly adjacent entities is derived, and assume a hierarchical structure that already reflects the necessary precedence relationships.

[20] Alternatively, OBJ-ResP-DepP may be derived as a result of an OBJ undergoing successive movement in syntax, as is illustrated in (i) below:

(i) a.



b. $[_X$ OBJ $* [_Y$ ResP $* [_Z [_L$ DepP $* [_M]]]]]$

c. OBJ-ResP-DepP

Under the view in which the linear precedence relationship that holds between elements in a surface string is attributed to their dominance relationship in the hierarchical structure (i.e. Linear Correspondence Axiom, Kayne 1994), the OBJ-ResP-DepP order may be derived from a hierarchical structure in which the ResP is base-generated higher than the DepP such as in (i-a). Now, if the structure in (i-a) is responsible for the linear order restriction observed between a ResP and a DepP, it is predicted that any constituency tests that discriminate a ResP from an Object-oriented DepP will allow a ResP to be stranded in an environment in which an Object-oriented DepP cannot be stranded. This, however, does not seem to be the case; the empirical facts suggest the contrary as will be discussed shortly below. Thus, I reject the structure posited in (i-a) as being responsible for the linear-ordering restriction observed between the ResP and the DepP in (12)-(13).

both ResP and DepP are simultaneously understood as denoting the state of an Object NP.[21] This is schematically shown in (16) below:

(16) a … [$_X$ … [$_Y$ … [$_Z$ … OBJ …] … ResP] … DepP] …
b. *… [$_X$ … [$_Y$ … [$_Z$ … OBJ …] … DepP] … ResP] …

Recall, at this point, that a ResP and an Object-oriented DepP are both base-generated at least internally to *v*P. The relative height of the base-generated position of ResP and an Object-oriented DepP stated in (16a), then, suggests that the base-generated position of ResP is most likely to be not only internal to *v*P, but also internal to VP; even if a DepP is base-generated in the highest position available within the vP (e.g. vP-adjoined position), the next highest position available would be a VP-adjunction site[22], which is a part of the maximal projection of the V^0.

While the linear ordering restriction discussed above suggests strongly that the base-generated position of a ResP in English TREs is somewhere inside VP, there still remains a logical possibility in which the ResP can be base-generated outside of the VP, namely, if a ResP and an Object-oriented DepP can adjoin to the same syntactic position (e.g. *v*P), though the former is required to adjoin prior to the latter in the derivational step for some reason. This possibility, however, can be rejected based on the different behavior observed between TREs and sentences involving an Object-oriented DepP in do so substitution contexts. Observe the patterns in (17) and (18) below:

[21] Following the Late Linearization Hypothesis (Embick and Noyer 1999, 2001) which considers the linearization to be initiated by an association of syntactic terminals and morpho-phonological elements (i.e. Vocabulary Insertion), the ill-formedness of (12b) implies that (15a) cannot be a legitimate pre-linearization structure, and not necessarily an illegitimate merge-structure, to be more accurate. However, since there is no a priori reason to believe that an Object-oriented DepP in (15a) is base-generated lower than a ResP and is obligatorily raised above the base-generated position of the ResP prior to linearlization, it seems plausible to think that the relative height of ResP and DepP in (15a) remains unchanged throughout the derivation.

[22] Unless a *v'*-adjunction is possible, which I reject as a possibility without question.

(17) a. John painted the car [$_{ResP}$ yellow], and Tom did so as well
b. *John painted the car [$_{ResP}$ yellow], and Tom did so [$_{ResP}$ red]

(18) a. John drank the beer [$_{DepP}$ warm], and Tom did so as well
b. ?Johndrank the beer [$_{DepP}$ warm], and Tom did so [$_{DepP}$ cold]

The sentences in (17) and (18) differ from each other in that the former involves a ResP as one of its parts, whereas the latter involves an Object-oriented DepP as one of its parts. As is indicated by the grammaticality of (17a) and (18a), a TRE and a sentence that involves an Object-oriented DepP behave like each other when do so substitutes for a segment that includes a ResP (17a) and a DepP (18a), respectively. However, they show different behavior when do so replacement causes the ResP and the DepP to be stranded ((17b) vs. (18b)); stranding of the ResP causes a sentence to be ungrammatical (17b), whereas stranding of the DepP does not (18b). (18b) is somewhat degraded, yet still considered to be grammatical, at least by speakers of some dialects of English. With this contrast, I can now eliminate the possibility that ResP and Object-oriented DepPs are base-generated in the same syntactic position (e.g. multiple adjunction cases when they co-occur); if they are in effect base-generated in an identical syntactic position, do so replacement should be able to strand a ResP just like it strands a DepP (18b), contrary to fact (17b). This implies that the syntactic position in which a ResP can be base-generated is distinct from the position in which an Object-oriented DepP can be base-generated, effectively eliminating the possibility that a ResP and an Object-oriented DepP are base-generated in the same syntactic position.

Given that the base-generated position of a ResP is syntactically distinct from the base-generated position of an Object-oriented DepP, I can now safely conclude that the ResP in English TREs is base-generated internally not only to *v*P but also to VP. Because both a ResP and an Object-oriented DepP are base-generated inside at least *v*P, and they appear in syntactically distinct positions, the relative height of a ResP with respect to an Object-oriented DepP stated in (16a) is most naturally explained if a ResP is in effect base-generated within VP. This conclusion is supported by the behavior of TREs in the do so substitution context discussed above. In the literature on English, the fact that a certain segment of a sentence can be replaced by do so is often taken as an indication that the segment in question constitutes a 'VP' in the broad sense (i.e. McNulty 1988, Levin and Rappaport Hovav 1995), but not necessarily a VP in

the narrow sense. Since do so can affect an entire 'VP' in the broad sense just like other VP-constituency tests do, the fact that a certain segment can be replaced by do so does not necessarily constitute evidence that the segment in question is a VP in the narrow sense. However, the do so substitution possibilities observed in ditransitive sentences suggest that the smallest constituent that do so can replace is a VP in the narrow sense at the largest. Therefore, the failure of a ResP to be stranded by do so replacement (17b) indicates that the base-generated position for a ResP cannot be outside a VP in the narrow sense. Observe the do so substitution possibilities in ditransitive sentences:

(19) a. *John gave a bouquet to his wife, and Tom did so a diamond ring to his girlfriend
b. John gave a bouquet to his wife, and Tom did so as well
c. John gave a bouquet to his wife, and Tom did so to his mistress
d. ??John gave a bouquet to his wife, and Tom did so a diamond ring

As is demonstrated in (19), do so cannot replace just a V^0 (19a), though it can substitute for not only a VP in the broad sense (19b) but also a constituent smaller than the syntactic projection of the full argument structure of a ditransitive V^0 (19c).[23] Now, unless both the theme and goal argument of a ditransitive verb are syntactically projected outside the VP in the narrow sense, which seems to be a completely implausible assumption to make, the grammaticality of (19c) implies that do so is not required to replace a VP in the broad sense, but it can substitute for only a VP in the narrow sense as well. Given this observation, the fact that a ResP cannot be stranded by the do so substitution (17b) implies that a ResP cannot be base-generated outside a VP in the narrow sense; because do so can substitute for a segment at least as small as a VP in the narrow sense, it should be able to replace a segment excluding a ResP if the ResP can be base-generated outside a VP in the narrow sense, contrary to the empirical fact, (17b).[24] Thus, the fact that do so

[23] The parallel fact has been observed for soosu replacement contexts, which is a Japanese counterpart of the do so substitution test discussed in the following subsection (Koizumi 1994a).

[24] There seems to be two main possible interpretations of the facts observed in (19). One is that do so can replace either a VP or a constituent smaller than a VP. Another possibility is that do so always replaces the same type of syntactic constituent (e.g. a VP), and the grammaticality of (19b) and (19c) is to be attributed to the particular syntactic structure that a ditransitive verb projects (e.g. Larson 1988, among others) and/or the timing in derivational steps at which do so substitution takes place. For instance, Bowers (1998) proposes that a theme NP and/or goal PP in ditransitive sentence undergoes a focus movement when they appear as a remnant in the Pseudo-gapping/Comparative subdeletion contexts, and argues that the more deeply embedded constituent, which is a goal PP for him, undergoes the focus movement earlier in the derivational steps than the less deeply embedded constituent, which is the theme NP, when multiple focus movements take place. Under such view, the fact that (19b) and (19c) are equally well-formed can be explained if do so replaces the same type of syntactic constituent, though

fails to substitute for a string which excludes a ResP, (17b), provides further evidence that a ResP in English TREs is base-generated not only internally to a *v*P but also internally to a VP.

2.1.1.2 Japanese

TREs in Japanese have also been claimed to involve a ResP in a VP-internal position (i.e. Takezawa 1993, Koizumi 1994a, Kageyama 2001, among others). The following discussion is drawn mainly from Koizumi (1994a), who explicitly provides arguments for a VP-internal base-generation for a ResP in Japanese TREs.

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in the latter, unlike in the former, the goal PP raises to a Focus position higher in the structure than the constituent that do so replaces, such as in (i):

(i) a. Tom [~~gave$_j$ [a bouquet t$_j$ to his wife]~~] (19b)
b. Tom [$_{FocP}$ [~~gave$_j$ [a bouquet t$_j$t$_k$~~]] [to his mistress]$_k$] (19c)

If this is how do so replacement can strand an internal argument of ditransitive verbs, the fact observed in (17b), in contrast to (18b), can be interpreted as a ResP, unlike a(n Object-oriented) DepP, being unable to raise to a Focus position higher in the structure than the position of the constituent which is replaced by do so. Even in such an analysis, since a shorter distance of movement should be easier than a longer distance of the same type of movement, the fact that a ResP, unlike an Object-oriented DepP, fails to be stranded by the do so substitution ((17b) vs. (18b)) can be considered as indicative of the ResP being base-generated in a position lower in the hierarchical structure than the position in which an Object-oriented DepP is base-generated.

As is shown below, do so does not seem to be able to substitute for a constituent smaller than the syntactic projection of the full argument structure of a ditransitive V^0 when a goal/beneficiary/recipient surfaces as an Accusative Object:

(ii) a. *John gave his wife a bouquet, and Tom did so his girlfriend a diamond ring
b. John gave his wife a bouquet, and Tom did so as well
c. *John gave his wife a bouquet, and Tom did so a diamond ring
d. *John gave his wife a bouquet, and Tom did so his mistress

Since the current discussion concerns only whether a ResP is base-generated inside of a VP or only inside of a vP, I leave open the question of what type of syntactic constituent do so can replace, and leave it open for future research how certain XPs can, though others cannot, escape from do so substitution.

Koizumi (1994a) argues for a VP-internal base-generation of a ResP in Japanese TREs based on the observation that a ResP in Japanese TREs resists being stranded by syntactic operations that affect the VP, as in the case observed in English. To demonstrate the point, let me examine the behavior of TREs in Japanese under the VP preposing contexts (20) and pseudo clefting contexts (21) below. Example (20) is taken from Koizumi (1994a: (87)), with some modifications:

(20) VP preposing

a. [kuruma-o [$_{ResP}$kiiroku] nuri]$_j$-sae John-gat$_j$sita
car-ACC yellow paint-even -NOM did
'Even paint the car yellow John did'

b. *[kuruma-o nuri]$_j$-sae John-ga [$_{ResP}$kiiroku] t$_j$sita
car-ACC paint-even -NOM yellow did
'Even paint the car John did yellow'

(21) Pseudo clefting

a. John-gasita no wa [$_{VP}$kuruma-o kiirokunuru]-koto da
-NOM did NLTOP car-ACCyellow paint-NLCOP
'What John did is to paint the car yellow'

b. *John-gakiirokusita no wa [$_{VP}$kuruma-o __ nuru]-koto da
-NOMyellow didNLTOP car-ACC paint-NLCOP
'What John did yellow is to paint the car'

As is discussed in Koizumi (1994a), following Hoji (1987, 1989), the VP preposing and Pseudo clefting of a VP in Japanese can affect an entire VP, but not a fragment of a VP.[25] Given this fact,

[25]This is evidenced by the grammaticality contrasts between (i-a,b) and (i-c,d), and between (ii-a) and (ii-b,c) in the following examples:

(i) VP preposing

a. John-ga [$_{VP}$sonohako-no naka-niringo-o ire]$_j$-saesita
-NOM that box-GEN inside-in apple-ACC put-even did
'John even put an apple in that box'

b. [$_{VP}$sonohako-no naka-niringo-o ire]$_j$-sae John-gat$_j$sita
c. *[$_V$ ire]$_j$-sae John-ga [$_{VP}$sonohako-no naka-niringo-o t$_j$] sita
d. *[$_{V'}$ringo-o ire]$_j$-sae John-ga [$_{VP}$sonohako-no naka-nit$_j$] sita
Koizumi (1994a: (19)-(20)) with some modifications

(ii) Pseudo-clefting

a. John-gasita no wa [$_{VP}$sonohako-no naka-niringo-o ireru]-koto da
-NOM did NLTOP that box-GEN inside-in apple-ACC put-NLCOP
'What John did is put an apple in that box'
b. *John-ga [$_{VP}$sonohako-no naka-niringo-o] sita no wa [$_V$ireru]-koto da
c. *John-ga [$_{VP}$sonohako-no naka-ni] sita no wa [$_{V'}$ringo-o ireru]-koto da
Koizumi (1994a: (21)) with some modifications

the grammaticality contrast found between (20a) and (20b), as well as between (21a) and (21b), indicates that a ResP in Japanese TREs is base-generated inside a VP just like in English; TREs that undergo VP preposing (20) and pseudo clefting (21) are well-formed when a ResP appears as a part of the affected segment (20a)-(21a), suggesting that a ResP is a constituent part of a VP, but they are ill-formed when a ResP is not a part of the affected segment (20b)-(21b), confirming that a ResP is also base-generated internally to a VP.

Just like the issue discussed in English, the facts observed in (20) and (21) do not necessarily constitute evidence for a ResP to be base-generated internally to a VP in the narrow sense; so-called VP preposing and Pseudo clefting of a VP in Japanese do not necessarily discriminate a VP from a *v*P, hence, the observed pattern can still be accounted for so long as a ResP is base-generated internally to a *v*P. However, the claim that the ResP in Japanese TREs is base-generated internally to the VP in a narrow sense can be confirmed by the results of the soosu replacement test. As is discussed in Koizumi (1994a), soosu can replace either a VP in the broad sense or a constituent smaller than that (e.g. V' in a framework that lacks functional projections). Observe the example (22) below; (22a, b) are taken from Koizumi (1994a; (29)-(30)), with some modifications:

(22) Soosu replacement
Taroo-wasinroo-nihanataba-o watasi-ta.
-TOP groom-DAT bouquet-ACC gave.
'Taro gave a bouquet to the groom'

a. Hanako-mosoosita
–ALSO so did
'Hanako did so as well'

b. Hanako-wasinpu-nisoosita
–TOP bride-DATso did
'Hanako did so to the bride'

c. * Hanako-wasinpu-nigosyuugi-o soosita
–TOP bride-DATwedding.gift-ACC so did
'Hanako did so a wedding gift to the bride'

The grammaticality of (22a,b) shows that soosu can replace either a string that contains both the theme and the goal argument of a ditransitive verb (22a) or a string that excludes the goal argument (22b). The ungrammaticality of (22c), on the other hand, shows that soosu must replace more than just a V^0.[26] Again, since it is very unlikely for both the theme and the goal argument of a ditransitive verb to be base-generated outside the VP, I can conclude that the smallest constituent that that soosu can target is a VP in the narrow sense at the largest.[27]

[26] The following example completes the paradigm in (22):
(i) ??Hanako-wagosyuugi-o soosita
-TOPwedding.gift-ACC so did
'Hanako did so a wedding gift'

Although the sentence in (i) is certainly more degraded than (22a) and slightly worse than (22b), it does not seem to be as bad as (22c). Since it is not clear to me if (i) is degraded enough to be considered ungrammatical, and since the ill-formedness of (22c) seems to have something to do with a tautology, we leave the judgment of (i) open. In any case, the point of the current discussion would not be influenced by the grammaticality of a sentence like (i).

[27] Since Japanese is a scrambling language, one might wonder If the soosu replacement in (22b) is made possible by the goal phrase scrambling out of its base-generated position, as in (i-b) below:

(i) a. Hanako-mo [~~sinroo-nihanataba-o watasi~~]-ta cf. (22a)
b. Hanako-wasinpu$_j$-ni [t$_j$~~hanataba-o watasi~~]-ta cf. (22b)

Under this approach, the grammaticality of (22a) and (22b) are unitarily explained as soosu replacing a particular size of constituent, and whether the goal phrase is/is not part of the replaced segment can be explained as the goal phrase remaining in situ (i-a) or not (i-b). If this is in effect the case, the fact that both (22a) and (22b) are grammatical does not necessarily imply that the smallest constituent replaced by soosu is a VP in the narrow sense at the largest. However, the ungrammaticality of (ii) below, which is a scrambled counterpart of (22c), suggest that the grammaticality of (22a) and (22b) may not be reduced to the goal phrase undergoing/not undergoing a scrambling:

Given that the smallest constituent which soosu can replace is a VP in the narrow sense at the largest, it is expected to be possible for soosu to replace a segment that excludes the ResP if ResP in Japanese TREs can be base-generated outside the VP. However, as is shown in (23) below, taken from Koizumi (1994a: (88)-(89)) with some modifications, soosu cannot replace a segment that excludes a ResP:

(23) a. John-gazibun-no kuruma-o [$_{ResP}$kiiroku] nutta. Mary-mosoosita
-NOM self-GEN car-ACC yellow painted. -ALSOso did
'John painted his car yellow. Mary did so, too'

b. *John-gazibun-no kuruma-o [$_{ResP}$kiiroku] nutta. Mary-wa [$_{ResP}$akaku] soosita
-NOM self-GEN car-ACC yellow painted. -TOP red so did
'John painted his car yellow. Mary did so red'

The fact that soosu cannot replace a segment that excludes a ResP (23b), then, provides evidence that a ResP in Japanese TREs is base-generated internally to VP just like a ResP in English TREs is; the smallest constituent that soosu can replace is a VP at the largest, therefore, a ResP which is base-generated internally to VP, is obligatorily replaced by soosu(cf. (23a)).

2.1.1.3 Interim Summary

To summarize thus far, I have observed that TREs in English and TREs in Japanese equally involve a ResP which is base-generated internally to a VP; in both languages, TREs can undergo morpho-syntactic operations that affect a VP/*v*P so long as the ResP appears as a component part of the affected segment, but they fail to undergo such syntactic operations when they cause the ResP to be stranded. Because stranding of a ResP by these operations should be possible if a ResP is base-generated outside VP, it suggests that the ResP is base-generated internally to VP in both English TREs and Japanese TREs.

(ii) *gosyuugi$_k$-o sinpu$_j$-niHanako-wa [$t_j t_k$soosi]-ta cf. (22c)

If soosu can in effect replace a constituent that involves the trace of a scrambled goal phrase as in (i-b), there seems to be no a priori reason why it cannot replace a constituent that involves a trace of a scrambled theme phrase.

(iii) gosyuugi$_k$-o sinpu$_j$-niHanako-wa$t_j t_k$watasita
wedding.gift-ACC bride-DAT -TOP gave
'Hanako gave a wedding gift to the bride'

Since most of the VP-constituency tests that are traditionally used in the literature do not necessarily discriminate VP from *v*P, I have also considered the possibility of a base-generated position for the ResP being internal to *v*P, but external to VP, and have rejected such a possibility mainly based on the fact that do so in English and soosu in Japanese cannot replace a segment that excludes the ResP; the do so/soosu replacement possibilities in a ditransitive sentence in the respective languages indicate that the smallest segment that can be replaced by do so/soosu is a VP at the largest, and given that do so/soosu fail to replace a segment that excludes a ResP, VP-internal base-generation of the ResP in English TREs and Japanese TREs can be confirmed.[28]

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[28] Levin and Rappaport Hovav (1995) suggests that a ResP in English is base-generated in a position which is at the same bar level as subcategorized PPs are base-generated, based on the observation that a ResP and a subcategorized PP (e.g. goal PP) equally resist being stranded by syntactic operations such as do so replacement and VP-preposing that affect a 'VP'. Since I find that a ResP and a Subcategorized PPs do not always show identical behavior with respect to some VP-constituency tests contrary to what Levin and Rappaport Hovav (1995) claim, it is not entirely clear to me whether a ResP and subcategorized PPs are in effect base-generated at the same bar level. However, their observation that a ResP and a subcategorized PPs show parallel behavior with respect to many, if not all, VP-constituency tests is consistent with the conclusion that a ResP in English is base-generated internally to a VP in the narrow sense. As for Japanese, Takezawa's (1993) claims that a ResP in Japanese is base-generated lower than a locative/goal phrase based on the observation that an Accusative NP and a Numeral Quantifier (NQ) with which it is associated can be linearly intervened by a locative/goal phrase, but not by a ResP. Observe the following data, taken from Takezawa (1993: (65), (66)), with slight modifications:

(i) a. John-gakuruma-o Mary-nini.daiageta
-NOM car-ACC -ni two.CL gave
'John gave two cars to Mary'

b. John-gahon-o tukue-no ue-nizyus.satuoita
-NOM book-ACC desk-GEN above-ni ten.CL put
'John put ten books on the desk'

(ii) a. *John-gakuruma-o makka-nini.dainutta
-NOM car-ACC red-ni two.CL painted
'John painted two cars red'

b. *John-gakodomo-o rippa-nisan.ninsodateta
-NOM children-ACC admirable-ni three.CL raised
'John raised three children to be admirable'

As is well-known, Nominaitve and Accusative NPs allow a NQ to 'float out of' them in Japanese. This NQ-floating is generally understood as a result of an NP-movement having stranded an NQ in situ (e.g. Saito 1985). Then, the above observed fact that an Accusative NP and its associated NQ can be linearly intervened by a –ni marked locative/goal phrase (i), but not by a ResP (ii), implies that a ResP is base-generated lower than a –ni marked locative/goal phrase in Japanese; an NQ which is associated with an Accusative NP can appear linearly following a –ni marked locative/goal phrase (i) because an Accusative NP is base-generated lower than a –ni marked locative/goal phrase, but it cannot appear linearly following a ResP (ii) because an Accusative NP is base-generated

2.1.2 A Structural Relationship between a ResP and an NP

It has been well-recognized in the literature that the state described by a ResP can be understood as true of an entity referred to by a certain NP only when the NP in question is construed as a Direct Object of a V^0 in English (Simpson 1983, Carrier and Randall 1992, Levin and Rappaport Hovav 1995, among many others).[29, 30] This generalization, called the Direct Object Restriction (DOR) following Levin and Rappaport Hovav (1995), is drawn from the observation of three major asymmetries found in the distribution of an NP that the state described by a ResP can be understood as true of, namely, (a) a Subject-Object asymmetry in a transitive sentence, (b) an Unergative-Unaccusative asymmetry in an intransitive sentence, and (c) the Direct Object-Oblique asymmetry. As I will discuss shortly below, the three asymmetries mentioned above, together with the base-generated position for the ResP argued for in the previous subsection, indicate that the state described by a ResP can be understood as true of an entity referred to by a certain NP only when the ResP and the NP in question are in a particular structural relationship.

In this subsection, I first go over the distribution of the NP which can be understood as true of a ResP in English, and provide a structural condition that a ResP and an NP in English must meet in order for the state denoted by the ResP to be understood as the (resultant) state of the NP in question. I then turn to Japanese, and show that the parallel structural condition is required for an NP and a ResP in Japanese, and argue that English and Japanese employ the same syntactico-semantic means to derive TREs.

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higher than a ResP. Given that a ResP is base-generated lower than the position in which a locative/goal phrase is base-generated, it is not surprising that ResP shows similar behavior with a locative/goal phrase with respect to many VP-constituency tests. Thus, Levin and Rappaport Hovav's (1995) observation that ResPs and subcategorized PPs show identical behavior with respect to some VP-constituency tests in English is consistent with the current claim that a ResP is base-generated within the VP in the narrow sense in English as well as in Japanese, and it provides yet another piece of evidence for the VP-internal base-generation of ResP.

[29] Since the differences between an NP and DP do not bear any theoretical importance at this point, any morpho-syntactic nominal is referred to as an NP, unless otherwise noted.

[30] Note that this implication is only mono-directional; while an NP that refers to an entity of which a state described by a ResP can be understood as true generally appears in a particular structural relation with a ResP, not every NP that appears in such a structural relation with a ResP refers to an entity that the state described by a ResP can be understood as true of. See Chapter 5.3 for related discussion.

2.1.2.1 English

2.1.2.1.1 The Subject-Object Asymmetry: A Structural Condition on a ResP and an NP

First, it is well-recognized in the literature that an NP that appears as the Subject of a transitive sentence and Object of a transitive sentence show different interpretational possibilities with respect to the state described by a ResP (Simpson 1983, Levin and Rappaport Hovav 1995, among many others). This is illustrated in (24):

(24) Subject-Object asymmetry

a. #John$_j$ polished the floor [$_{ResP}$ ragged]$_j$	Subject NP
b. John polished the floor$_j$ [$_{ResP}$ shiny]$_j$	Object NP

In (24a), the state described by the ResP cannot be understood as the resultant-state of an entity that the Subject NP refers to, and the sentence is ill-formed as an instance of a TRE.[31] In contrast, (24b) is well-formed as an instance of a TRE, and the state described by the ResP is properly understood as the resultant state of the entity that the Object NP refers to.

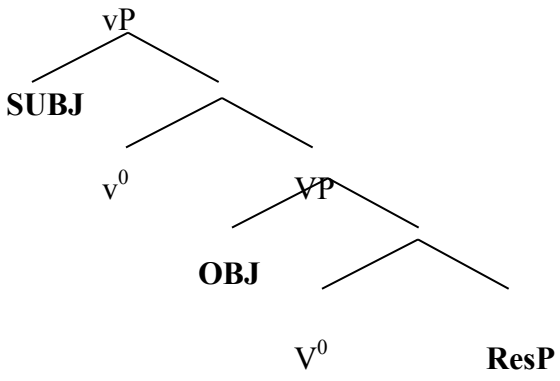
The Subject-Object asymmetry observed in (24) is generally attributed to the different structural relationships that a ResP is in with respect to the NP in question; while the Object of a transitive sentence is base-generated within the local domain of a ResP, the Subject of a transitive sentence is base-generated outside the local domain of a ResP. To be a little more concrete, let me take the local domain of a syntactic entity as the XP in which it is base-generated (i.e. the m-commanding domain).[32] Recall from section 2.1.1.1 that a ResP in English is base-generated internally to a VP; hence, the local domain of a ResP is defined as a VP. Taking the standard view that an NP

[31] While (24a) cannot be well-formed as an instance of a TRE, it is grammatical as an instance of a Depictive sentence; the state described by what is labeled as a ResP (e.g. ragged) cannot be understood as a resultant-state of the entity referred to by the Subject (e.g. John got ragged as a consequence of him polishing the floor), though it can be understood as an ongoing-state of the entity referred to by the Subject (e.g. John was ragged while he was polishing the floor). Since sentences of the type exemplified by (24a) are rejected on the grounds that the state described by what is labeled as a ResP cannot be understood as a resultant-state of the entity referred to by an NP that appears as the Subject of a transitive sentence, and not on the grounds that the state in question fails to be understood as true of a Subject NP in every context, they are marked as ill-formed (e.g. '#'), rather than ungrammatical (e.g. '*').

[32] Since the purpose of the current discussion is only to provide a description of the structural conditions under which the state described by a ResP can/cannot be understood as true of an entity which a certain NP refers to, this definition of the local domain seems to be sufficient for a moment. See Williams (1994) for some discussion of locality relevant to different types of syntactic procedures.

which appears as the Subject of a transitive sentence is base-generated in the specifier position of a v^0, whereas the one that appears as an Object of a transitive sentence is base-generated in a specifier/complement position of a V^0, the two occurrences of an NP under consideration are in different structural relations with a ResP. This is schematically shown in (25) below:[33]

(25)



As can be seen from the schematic picture in (25), although the Object of a transitive sentence is base-generated within the local domain of a ResP, the Subject of a transitive sentence is not. Given this difference, the Subject-Object asymmetry in transitive sentences observed in (24) can be described by purely structural terms as in the following:

(26) The state described by a ResP can be understood as true of an entity that an NP refers to when the NP appears within the local domain of the ResP (i.e. the m-commanding domain of the ResP), but not when the NP appears outside the local domain of the ResP

The observed correlation between the interpretational possibility of an NP with respect to a ResP and the structural relation holding between the NP and the ResP suggests that the state described by a ResP can be understood as true of an entity that a certain NP refers to only when the NP in question appears in the local domain of the ResP. In other words, a syntactic locality of the sort

[33] For expository purposes, the ResP is construed in the complement position of V^0, rather than in a VP-adjoined position/V'-adjoined position, without discussing the validity of this position. However, the current discussion does not hinge on the nature of the syntactic position (e.g. argument vs. adjunct) in which a ResP is base-generated, as long as it is base-generated inside the VP.

discussed above may be at play in determining the distribution of the NP that the state described by a ResP can be understood as true of.[34]

2.1.2.1.2 The Unergative-Unaccusative Asymmetry: The Relevance of the Merge-Structure Relation

Second, it has been widely discussed in literature that an NP which appears as a Subject of an intransitive sentence exhibits different interpretational possibilities depending on its co-occurring with a so-called Unergative verb or Unaccusative verb. This is demonstrated in (27) below:

(27) Unergative-Unaccusative asymmetry

a. #John$_j$ ran [$_{ResP}$ ragged]$_j$	Unergative verb
b. John$_j$ grew [$_{ResP}$ old]$_j$	Unaccusative verb

Example (27a) is derived with an Unergative verb, and it is ill-formed as an instance of a TRE; the state described by a ResP cannot be understood as true of an entity which a Subject NP refers

[34] Note that Levin and Rappaport Hovav (1995), following Carrier and Randall (1992), point out that syntactic locality itself is insufficient to explain the Subject-Object asymmetry found in the derivation of a TRE based on the fact that the relevant asymmetry is not observed in Depictive sentences, as is exemplified in (i) below:

(i) John$_j$ wiped the table [$_{DepP}$ tired]$_j$

Because the results of certain traditional VP-constituency tests indicate that a DepP is base-generated internally to VP just like a ResP, yet a DepP can be understood as describing the state of the entity referred to by an NP that appears as the Subject of a transitive sentence, they reason that the Subject-Object asymmetry found in TREs cannot be explained solely in terms of the structural condition required for a ResP and an NP to be understood as establishing a predicate-subject relationship.
I agree with their claim that the Subject-Object asymmetry found in the derivation of a TRE cannot be captured solely by the syntactic locality proposal under consideration in the sense that the structural description of the Subject-Object asymmetry found in TREs owes much to the fact that a ResP is base-generated internally to a VP. However, I do not find the absence of the Subject-Object asymmetry in the derivation of a Depictive sentence to be particularly problematic for the structural account. This is so because, contrary to what Levin and Rappaport Hovav (1995) seem to be assuming, a Subject-oriented DepP and an Object-oriented DepP appear in different syntactic positions, as is discussed extensively in McNulty (1988) for English and Koizumi (1994) for Japanese; a Subject-oriented DepP appears higher than an Object-oriented DepP appears. This difference in the base-generated position of DepPs suggests that the reason why Depictive sentences do not show the Subject-Object asymmetry is because a DepP can be base-generated in more than one syntactic position; it is understood as denoting a(n ongoing-)state of an entity referred to by the Subject of a transitive sentence when it is base-generated in one syntactic position, but it is understood as denoting a(n ongoing-)state of an entity referred to by the Object of a transitive sentence when it is base-generated in another syntactic position. Then, the fact that the TREs show the Subject-Object asymmetry, though Depictive sentences do not, can be attributed to a difference in the distribution of a ResP and a DepP; unlike a DepP, a ResP must always be base-generated internally to a VP. Thus, so long as the difference in the distribution of a ResP and a DepP can be properly explained, the fact that Depictive sentences do not show the Subject-Object asymmetry does not impose a problem for the structural explanation of the Subject-Object asymmetry found in TREs. I will come back to the difference in the distribution of a ResP and a DepP in Chapter 5.

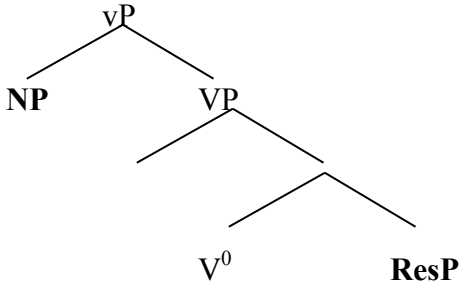
to. In contrast, the sentence in (27b), which is derived with an Unaccusative verb, is well-formed as an instance of a TRE; the state described by the ResP is properly understood as true of an entity which the Subject NP refers to.

Since Simpson (1983), the different interpretational possibilities that a Subject-NP of an intransitive sentence exhibits in the two environments exemplified by (27a) and (27b) have been commonly attributed to the different argument structures that the co-occurring V^0 encodes. As has been widely accepted in the literature, so-called Unergative verbs and Unaccusative verbs encode different argument structures, and the difference is reflected in the syntactic structure they project (i.e. The Unaccusative Hypothesis; Perlmutter 1978, due originally to Paul Postal, see also Rosen 1981, and Burzio 1986 for its adaptation in GB theory). Specifically, Unergative verbs and Unaccusative verbs contrast with each other in that the former project a structure in which the NP that realizes its sole argument appears in an external argument position (i.e. specifier of a v^0), whereas the latter project a structure in which the NP that realizes its sole argument appears in an internal argument position (i.e. specifier/complement of a V^0).[35] With this difference in how the sole argument of the V^0 is syntactically realized in the two environments under consideration, consider the structural relation that a ResP is in with respect to the Subject-NP of an intransitive sentence:[36]

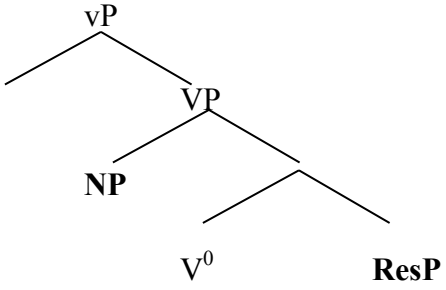
[35] Baker (1996) examines some grammaticalization patterns that question how faithfully the argument structure of a predicate is syntactically realized, and argues that the Uniformity of Theta Assignment Hypothesis (UTAH), which is a theory about how an entity in a particular syntactic position is associated with a particular thematic role, plays a role in the interface between LF and the Conceptual-Intentional system. While I agree with Baker (1996) that some version of the UTAH is needed, and it plays a role in the interface between LF and the Conceptual-Intentional system, I am not certain whether what assures a linking between a certain syntactic structure and the argument structure of a predicate is in effect the thematic properties of the syntactic entities themselves (see discussion in Tenny 1994, MacDonald 2006, as well as Chapter 5 below). Nevertheless, I take a (near-)isomorphic mapping relation between syntactic structure and thematic relationship as a working hypothesis.

[36] The schematic representations in (28) involve an empty node only for expository purposes, and not for any theoretical reason.

(28) a. Unergative



b. Unaccusative



As is schematically shown in (28a), an NP which syntactically realizes the sole argument of an Unergative V^0 appears in an external argument position, which is outside of the local domain of a ResP (i.e. VP). On the other hand, as is schematically shown in (28b), an NP which syntactically realizes the sole argument of an Unaccusative V^0 appears in an internal argument position, which is within the local domain of a ResP. Given this difference in the structural relation that holds between the ResP and the NP in the two environments under consideration, the different well-formedness found in (27a) and (27b) can be described in purely structural terms in a way that parallels how the Subject-Object asymmetry is described in (26); the state denoted by a ResP can be understood as a (resultant-)state of an entity referred to by an NP when the NP appears within an m-commanding domain of the ResP, though not when the NP appears outside the m-commanding domain of the ResP.

The fact that the correlation between the interpretational possibility and the structural relation found in intransitive sentences (27)-(28) is consistent with the one found in transitive sentences (24)-(25) suggests that whether or not the state described by a ResP can be understood as true of an NP may generally be determined based on a particular structural relation that holds between a ResP and the NP (e.g. Williams 1980, McNulty 1988, Levin and Rappaport Hovav 1995, among others). Furthermore, given that the structural difference between sentences that are derived with an Unergative V^0 and those derived with an Unaccusative V^0 is neutralized on the surface, the Unergative-Unaccusative asymmetry found in intransitive sentences implies that whether or not a ResP and an NP are in the relevant structural relation is, or at least can be, determined based on the Merge-structure. This is confirmed by the fact that a well-formed

transitive TRE can properly undergo passivization while maintaining its status as a TRE. Compare the sentences in (29) and (30) below:[37]

(29) a. John hammered the metal$_j$ [$_{ResP}$ flat]$_j$
b. John polished the floor$_j$ [$_{ResP}$ shiny]$_j$
c. John broke the vase$_j$ [$_{ResP}$ into pieces]$_j$
d. John shot the roaches$_j$ [$_{ResP}$ to death]$_j$
e. John beat Tom$_j$ [$_{ResP}$ black and blue]$_j$

(30) a. the metal$_j$ was hammered [$_{ResP}$ flat]$_j$ (by John)
b. the floor$_j$ was polished [$_{ResP}$ shiny]$_j$ (by John)
c. the vase$_j$ was broken [$_{ResP}$ into pieces]$_j$ (by John)
d. the roaches$_j$ were shot [$_{ResP}$ to death]$_j$ (by John)
e. Tom$_j$ was beaten [$_{ResP}$ black and blue]$_j$ (by John)

Taking the standard view that passivization in English is a structure changing operation that dislocates an NP from its base-generated position (e.g. a specifier/complement position of V^0) to a grammatical Subject position (i.e. a specifier position of v^0/T^0), the active-passive correspondence found in (29) and (30) provides evidence that whether or not the state described by a ResP can be understood as true of an entity that a certain NP refers to is/can be determined by their Merge-structure relation.

2.1.2.1.3 The Direct Object-Indirect Object Asymmetry: Bi-Directionality of the Structural Condition

Lastly, it is well-recognized in the literature that an NP that appears as a Direct Object (DO) of V^0 and the one that appears as a component part of an Indirect Object (IO; i.e. Oblique PP) exhibit different interpretational possibilities with respect to a ResP. As is demonstrated in (31), the state described by a ResP can be understood as true of an entity that a DO of V^0 refers to (31a), but it cannot be understood as true of the entity referred to by an NP that appears as a part of an IO (31b):

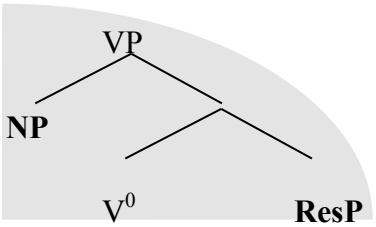
[37] Further support comes from the fact that well-formed transitive TREs can undergo Adjectival-Passive formation as well as Middle formation, both of which cause an internal argument of a transitive V^0 to be dislocated from its base-generated position (i.e. Carrier and Randall 1992). The behavior of TREs in Adjectival-Passive formation and in Middle formation is discussed in section 2.2.1.1.

(31) Direct Object and Oblique (Indirect Object) asymmetry
a. John sprayed the wall$_j$ [$_{ResP}$ yellow]$_j$ with a can of paint
b. #John sprayed the can of paint [$_{PP}$ onto the wall$_j$] [$_{ResP}$ yellow]$_j$

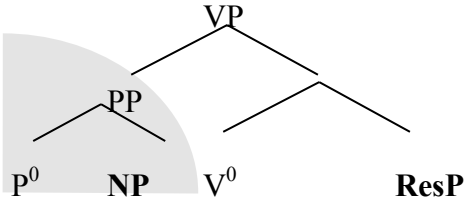
The sentences in (31) are two variants of the so-called Spray-Load alternation (a.k.a. locative alternation; Kishimoto 2001), in which a particular argument of a V^0 is syntactically realized as a DO (e.g. Accusative NP) in one instance (31a), but as an IO (e.g. PP) in another (31b). As is indicated by the different well-formedness found between (31a) and (31b), the state described by a ResP can be understood as true of the wall when it is referred to by an NP that appears as a DO (31a), but not when it is referred to by an NP that appears as a component part of an IO (31b).

Similar to the Subject-Object asymmetry and the Unergative-Unaccusative asymmetry, the DO-IO asymmetry observed in (31) has also been attributed to the different structural relationships that the ResP and the NP are in (Williams 1980, McNulty 1988, Levin and Rappaport Hovav 1995, cf. Bresnan 1982). The schematic pictures in (32) below illustrate the point:

(32) a. Direct Object



b. Indirect Object (Oblique)



The shaded area in (32a) and (32b) indicates the local domains of an NP that appears as a DO of V^0 and of one that appears as a component part of an IO of V^0, respectively, where the local domain is defined as the m-commanding domain of the NP in question. As can be seen in (32), an NP that appears as a DO and one that appears as a component part of an IO constitute a different structural relation with a ResP; while the local domain of the former properly contains the position in which a ResP appears (32a), the local domain of the latter does not (32b). Given

that the state described by a ResP can be understood as true of the entity referred to by an NP that appears as a DO of V^0 (31a), but not by an NP that appears as a component part of an IO (31b), the correlation found between the interpretational possibility and the structural relation indicated by the DO-IO asymmetry is consistent with the one found in the Subject-Object asymmetry and the Unergative-Unaccusative asymmetry; an NP and a predicative XP must be in a syntactically local relationship in order for the state described by the XP to be understood as a state true of the NP in question.

Notice, however, the DO-IO asymmetry differs from the Subject-Object asymmetry/the Unergative-Unaccusative asymmetry in that an NP that appears as a DO and the one that appears as a component part of an IO are equally base-generated within the local domain of a ResP; the local domain of a ResP is VP, and the NP is construed within VP in both instances (32a,b). Given that an NP which is base-generated as a component part of an IO appears within the local domain of a ResP as does an NP which is base-generated as a DO, the fact that the state described by a ResP cannot be understood as true of an entity that a component part of the IO refers to (31b) indicates that the syntactic locality relevant for a ResP to be understood as true of an NP is calculated bi-directionally. That is, not only must an NP appear within the local domain of a ResP (i.e. a VP) but the ResP must also appear within the local domain of the NP (i.e. the VP for an NP that appears as a DO and the PP for an NP that appears as a component part of an IO) simultaneously.

2.1.2.1.4 The Structural Condition in English: Summary

The three asymmetries generalized under the DOR indicate that an NP and a ResP must be in a mutual m-commanding relationship at Merge-structure in order for the state denoted by the ResP to be understood as true of an entity referred to by the NP. In section 2.1.2.1.1, I introduced the Subject-Object asymmetry, which indicates that the state denoted by a ResP can be understood as true of an entity referred to by an NP when the NP appears within the local domain of a ResP (i.e. VP), though not when the NP appears outside the local domain of a ResP. Section 2.1.2.1.2 introduced the Unergative-Unaccusative asymmetry which suggests that the syntactic locality under consideration is calculated based on the Merge-structure relationship that holds between a ResP and an NP in question. In section 2.1.2.1.3, I introduced the DO-IO asymmetry, which

indicates that the syntactic locality under consideration is calculated bi-directionally; not only must an NP appear within the local domain of a ResP but the ResP must also appear within the local domain of the NP in order for the state denoted by the ResP to be understood as true of an entity referred to by the NP in question. In what follows, I examine the structural relations under which an NP can be understood as true of a ResP in Japanese, and show that the parallel structural condition is effective in Japanese as well.

2.1.2.2 Japanese

2.1.2.2.1 An NP Within vs. Outside of the Local Domain of a ResP

It is well-recognized in the literature that TREs in Japanese show a Subject-Object asymmetry similar to the one found in English, suggesting that the state described by a ResP can be understood as true of an entity referred to by an NP when the NP appears within the local domain of the ResP (i.e. a VP), but not otherwise:

(33) a. *John$_j$-gayuka-o [$_{ResP}$asedaku]-nimigaita
-NOM floor-ACC sweaty-*ni* polished
'(Int.) #John$_j$ polished the floor sweaty$_j$'

b. John-gayuka$_j$-o [$_{ResP}$pikapika]$_j$-nimigaita
-NOM floor-ACC shiny-*ni* polished
'John polished the floor$_j$shiny$_j$'

Similar to the Subject-Object asymmetry found in English, an NP that appears as the Subject of a transitive sentence fails to be understood as true of a ResP, unlike an NP that appears as an Object of a transitive sentence, shown by the grammaticality contrast between (33a) and (33b) (Takezawa 1993, Koizumi 1994a, Kageyama 2001, among others).[38]

[38] Unlike in English, in which a ResP and a DepP may be morphologically identical to each other, a ResP and a DepP in Japanese usually surface with distinctive morphological marking, -ni and -de, respectively (Takezawa 1993). Due to this difference in morphological marking, sentences in which an XP, which is intended to be a ResP, is forced to be understood as denoting the state of an entity referred to by an NP with which it is not in the syntactically local relationship (i.e. mutual m-commanding relation) is usually judged ungrammatical, rather than ill-formed as an instance of a TRE.

The Subject-Object asymmetry observed in Japanese can be properly characterized in terms of the different structural relations holding between a ResP and an NP in a way that parallels English. Recall from section 2.1.1.2 that a ResP is base-generated internally to VP in Japanese just like in English, implying that the local domain of a ResP is defined as VP in Japanese as well. Since an NP that appears as the Subject of a transitive sentence is base-generated in an external argument position (i.e. a specifier position of a v^0), it is not in the local domain of a ResP, contrasting with an NP that appears as the Object of a transitive sentence which is base-generated within the local domain of a ResP (e.g. a specifier/complement position of V^0). Thus, as in the case found in English, Japanese also requires an NP to appear within the local domain of a ResP in order for the state described by the ResP to be understood as true of the entity referred to by the NP.

2.1.2.2.2 A ResP Within vs. Outside of the Local domain of an NP

Second, recall that an NP that appears as a DO and the one that appears as a component part of an IO exhibited different interpretational possibilities with respect to a ResP in English, from which I concluded that the syntactic locality which is relevant for a ResP and an NP in order for the state denoted by the ResP to be understood as true of an entity referred to by the NP is calculated bi-directionally in English; the NP must appear within the local domain of the ResP and so must the ResP within the local domain of the NP. As is demonstrated by example (34) below, the parallel structural condition seems to be at play in Japanese as well:[39]

[39] Although Japanese seems to show a DO-IO asymmetry in a derivation of a TRE, the grammaticality contrast is not as robust as in English. Furthermore, the contrast triggered by a DO and IO is often milder than the contrast triggered by a Subject NP and an Object NP in a transitive sentence and/or a Subject of an intransitive sentence which is derived with an Unergative V^0 versus one derived with an Unaccusative V^0. This cross-linguistic difference seems to owe to the fact that an IO in Japanese is morpho-syntactically realized as a Dative case-marked NP, contrasting with an IO in English which is morpho-syntactically realized as a PP. Given this difference in the morpho-syntactic properties of an IO, the structural condition under consideration is tested out by examining the behavior of an internally simplex NP in contrast to the one that appears as a component part of a complex NP.

Note also that the structural condition under consideration is most likely not able to be tested by examining the behavior of an NP that appears as a DO in contrast to the one that appears as a component part of a thematic PP in Japanese. This is because there are not many PPs that behave like a syntactic argument of V^0 in Japanese, due perhaps to the presence of case-morphology that supplements the function of P^0s in the grammar and/or the limited numbers of P^0s available in the language, and those that may be understood as a thematic argument of V^0 generally appear with verbs that denote a change-in-location (e.g. directed motion verbs such as <u>das(u)</u> 'take something out'), which are known to be incompatible with a ResP that denotes a state/property of an entity referred to by a certain NP

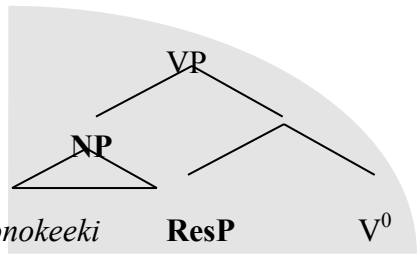
(34) a. John-ga[$_{NP}$sonokeeki]$_j$-o [$_{ResP}$petyanko]$_j$-nitubusita
-NOMthat cake-ACC flat-*ni* smashed
'John smashed that cake flat'

b. #John-ga [$_{NP}$[$_{NP}$sonokeeki]$_j$-no hako]-o [$_{ResP}$petyanko]$_j$-nitubusita
-NOMthat cake-GEN box-ACC flat-*ni* smashed
'(Int.) John smashed the box of that cake to the extent that the cake is flat'

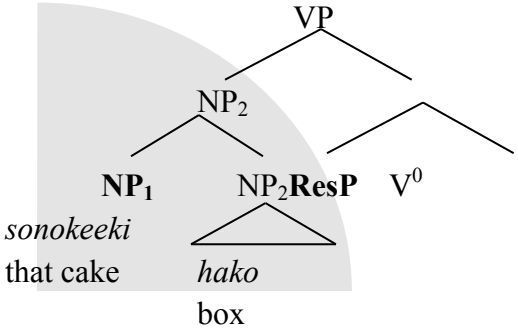
cf. c. John-ga[$_{NP}$ [$_{NP}$sonokeeki]-no hako]$_j$-o [$_{ResP}$petyanko]$_j$-nitubusita
-NOMthat cake-GEN box-ACC flat-*ni* smashed
'John smashed the box of that cake flat'

The ill-formedness of (34b) in contrast to the well-formedness of (34a) indicates that the state denoted by a ResP cannot be understood as true of an entity referred to by an NP which appears as a modifier of another NP. Since the state described by a ResP can be properly understood as true of an entity that the relevant NP refers to when the NP appears as a DO of a V^0 (34a), the ill-formedness of (34b) can be attributed to the particular syntactic position in which the NP in question is base-generated. The schematic pictures in (35a) and (35b) illustrate the structural relation holding between the relevant NP and the ResP in (34a) and (34b), respectively:

(35) a.



b.



In both contexts, the NP in question appears within VP, implying that the NP is inside of the local domain of the ResP in both instances. However, the structural relation holding between the NP and the ResP differs in (35a) and (35b) from the view point of the NP. As is illustrated by the shading, the local domain of the NP is VP when the NP appears as a DO of V^0 (35a), but it is

(e.g. Simpson 1983, the Single Delimiting Constraint in Tenny 1987, Further Specification Constraint in Tortora 1998).

NP_2 when the NP appears as a modifier of NP_2 (35b). This means that the ResP appears within the local domain of the NP in the former, though not in the latter. Given this structural difference, the fact that the state described by a ResP can be understood as true of an entity referred to by the relevant NP in (34a), though not in (34b), indicates that the state denoted by a ResP can be understood as true of an entity referred to by an NP when it is properly contained in the local domain of the NP in question, though not when it appears outside the local domain of the relevant NP. This in turn suggests that the structural condition under which a ResP can be understood as describing the (resultant-)state of an entity referred to by an NP is calculated bi-directionally in Japanese just like in English; the state described by a ResP can be understood as true of an entity that an NP refers to iff the NP appears within the local domain of the ResP AND the ResP appears within the local domain of the NP simultaneously.

2.1.2.2.3 Relevance of the Merge-Structure Relation

Lastly, recall that in English, whether an NP in question can/cannot be understood as true of a ResP is calculated based on the Merge-structure relation holding between the NP and the ResP; an NP that surfaces as a grammatical Subject of an Unaccusative intransitive sentence as well as a passive sentence can be understood as true of a ResP, though an ResP generally fails to be understood as true of an NP that appears as a grammatical Subject of an Unergative intransitive. The same condition seems to also hold in Japanese, as indicated by the fact that Japanese also shows an Unergative-Unaccusative asymmetry like the one found in English (Takezawa 1993, Tsujimura 1990d, Kageyama 2001, among others), as well as by the fact that well-formed TREs can undergo passivization without changing their status. Let me first introduce the Unergative-Unaccusative asymmetry found in intransitive sentences. The examples in (36) below are taken from Takezawa (1993: (22a), (21a)) with slight modifications:

(36) a.*John-ga [$_{ResP}$kutakuta]-niodotta Unergative V
-NOM limp-*ni* danced
'(Int.) John danced himself tired / limp'

b. John-ga [$_{ResP}$kutakuta]-nitukareta Unaccusative V
-NOM limp-*ni* tired
'(lit.) John got tired to limp (e.g. John became exhausted)'

Similar to the case found in English, anResp generally fails to be understood as true of an NP that appears as the Subject of an intransitive sentence when the sentence is derived with an Unergative verb, unlike when the sentence in question is derived with an Unaccusative verb, as is evidenced by the grammatical contrast between (36a) and (36b). Assuming that an NP which syntactically realizes the sole argument of Unergative verbs and Unaccusative verbs is base-generated in different syntactic positions (e.g. the specifier position of v^0 vs. a specifier/complement position of V^0, respectively), the differing grammaticality found between (36a) and (36b) can be attributed to the different structural relations that the NP in question is in with respect to a ResP in the two environments; the sole argument of an Unergative verb is base-generated outside the local domain of a ResP (i.e. the VP), contrasting with the sole argument of an Unaccusative verb which is base-generated within the local domain of a ResP. Since this difference in structural relation holds only at the point of Merge and not in the later course of the derivations, as is suggested by the fact that the NP in question surfaces with a Nominative case-marker in both (36a) and (36b), the grammatical contrast found in (36) indicates that the locality condition that constrains a ResP and an NP to enter into a predicate-subject relationship in Japanese is/can be calculated based on a Merge-structure relation just like in the case of English.[40]

The claim that the structural relation of a ResP and an NP that determines if the NP can be understood to be true of the ResP is calculated at the point of Merge in Japanese just like in

[40] Since it is somewhat controversial whether the Nominative case-marking of an NP implies that the NP has undergone movement (e.g. Kuroda 1987, Koizumi 1994b, Tada 1992, Miyagawa 1989, cf. Kageyama 1993), the Unergative-Unaccusative asymmetry found in (36) is not conclusive evidence for the claim that the interpretational possibility of an NP with respect to a ResP can be determined by the Merge-structure relation holding between the NP and the ResP. However, since it seems less controversial for an NP that appears as an internal argument of V^0 to raise out of its in-situ position in the case of the –niyotte passive (i.e. Hoshi 1991, 1999) discussed below, I can still maintain the claim that the interpretational possibility of an NP with respect to a ResP is/can be determined based on their Merge-structure relationship.

English is supported by the fact that the TREs in Japanese can undergo –niyottepassivization without changing their well-formedness as TREs. As has been discussed in the literature (Kuroda 1979, 1985, 1987, Hoshi 1991, 1999), -niyottepassivization in Japanese is a structure-changing operation that causes an NP that appears as an internal argument of V^0 to raise into a grammatical Subject position, similar to a be-passive in English (Hoshi 1991, 1999). Given this property of the –niyotte passive in Japanese, the interpretational possibility of an NP with respect to a ResP in an active sentence is expected to be maintained when the sentence undergoes –niyottepassivization if the relevant structural condition is required to be satisfied by the ResP and the NP only in their base-generated positions. That is, well-formed transitive TREs should be able to undergo –niyottepassivization without changing their grammatical status as well as their status as TREs. This prediction is born out, as is demonstrated by (37) and (38) below, rendering further support to the claim that the locality condition at play in determining the distribution of a ResP that can be understood to be true of an NP in Japanese applies at the Merge-structure, as in the case of English:

(37) a. John-ga kabe$_j$-o [$_{ResP}$makka]$_j$-ninutta
-NOM wall-ACC red-*ni* painted
'John painted the wall red'

b. John-ga kabin$_j$-o [$_{ResP}$konagona]$_j$-niwatta
-NOM vase-ACC pouderly-*ni* broke
'John broke the base into pieces'

c. John-ga yuka$_j$-o [$_{ResP}$pikapika]$_j$-nimigaita
-NOM floor-ACC shiny-*ni* polished
'John polished the floor shiny'

d. John-ga suika$_j$-o [$_{ResP}$mapputatsu]$_j$-nikitta
-NOM watermelon-ACC halves-*ni* cut
'John cut the watermelon into halves'

e. John-ga niku$_j$-o [$_{ResP}$kitsune.iro]$_j$-niyaita
-NOM meat-ACC fox.color-*ni* grilled
'John grilled the meat to light brown'

(38) a. kabe$_j$-ga (John-niyotte) [$_{ResP}$makka]$_j$-ninur-are-ta
wall-NOM -to owing red-*ni* paint-PASS-PAST
'The wall was painted red (by John)'

b. kabin$_j$-ga (John-niyotte) [$_{ResP}$konagona]$_j$-ni war-are-ta
vase-NOM -to owing powderly-*ni* broke-PASS-PAST
'The vase was broken into pieces (by John)'

c. yuka$_j$-ga (John-niyotte) [$_{ResP}$pikapika]$_j$-nimigak-are-ta
floor-NOM -to owing shiny-*ni* polished-PASS-PAST
'The floor was polished shiny (by John)'

d. suika$_j$-ga (John-niyotte) [$_{ResP}$mapputatsu]$_j$-nikir-are-ta
watermelon-NOM -to owing halves-*ni* cut-PASS-PAST
'The watermelon was cut into halves (by John)'

e. niku$_j$-ga (John-niyotte) [$_{ResP}$kitsune.iro]$_j$-ni yak-are-ta
meat-NOM -to owing fox.color-*ni* grill-PASS-PAST
'The meat was grilled to light brown (by John)'

2.1.2.2.4 The Structural Condition in Japanese: Summary

In this subsection, I argued that the structural condition under which the state described by a ResP can be understood as true of an entity referred to by a certain NP in Japanese is identical with the one found in English. Specifically, a ResP can be understood to be true of a particular NP iff the NP appears within the local domain of the ResP (section 2.1.2.2.1) AND the ResP appears within the local domain of the NP simultaneously (section 2.1.2.2.2). Furthermore, I have argued that the structural condition under consideration is/can be calculated based on the Merge-structure relationship that holds between a ResP and an NP in Japanese as in the case observed in English (section 2.1.2.2.3).

2.1.3 Implications of Cross-Linguistic Similarities

In section 2.1.2, I showed that English and Japanese impose the same structural condition on a ResP and an NP in order for the ResP to be understood as denoting the (resultant-)state of an entity referred to by the NP in question. The observed fact that the same structural relationship is required to hold between a ResP and an NP in English and Japanese in order for the state described by the ResP to be understood as true of an entity referred to by the NP suggests that (a)

the derivation of a TRE in English and Japanese is subject to the same structural constraint, (b). That is, English and Japanese employ parallel syntactico-semantic mechanisms to render the state described by a ResP to be understood as true of the entity that a certain NP refers to.

First, the fact that English and Japanese show a parallel structural restriction for a ResP and an NP in order for the state described by the ResP to be understood as true of an entity referred to by the NP implies that TREs in English and Japanese are subject to the same structural constraint(s). This is so since the derivation of a TRE can converge only if a ResP successfully establishes the relevant structural relationship with some NP in the derived structure, or else the derivation crashes because the ResP cannot be properly interpreted. Given that the structural condition under which a ResP can be properly interpreted with respect to a certain NP is identical in English and Japanese, the Merge-structure relation of a ResP and an NP with respect to which the ResP is interpreted must be identical in TREs in English and Japanese.

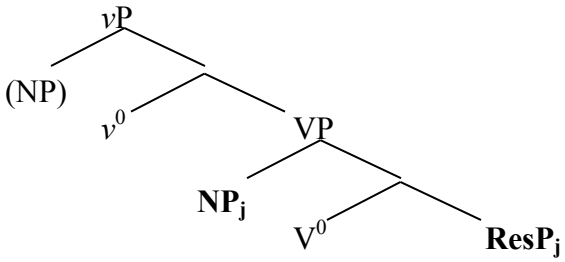
Second, the fact that English and Japanese show a parallel structural restriction for a ResP and an NP in order for the NP to be understood as true of the ResP also implies that the two languages under consideration employ the same syntactico-semantic mechanisms to render the state described by a ResP to be understood as true of the entity that a certain NP refers to. The fact that the state described by a ResP in English is understood as true of the entity referred to by an NP only when the ResP and the NP appear syntactically local to each other is generally explained as a ResP in English being a syntactic predicate (i.e. McNulty 1988, Levin and Rappaport Hovav 1995, Koizumi 1994a, among others). Because syntactic elements that enter into a predicate-subject relationship are generally required to appear in a syntactically local configuration (e.g. mutual c-/m-command requirement; Rothstein 1983, 1989, Williams 1980, 1983, McNulty 1988, Bowers 1993, Koizumi 1994a, among others), the structural condition found between a ResP and an NP discussed above is most naturally attributed to a syntactic requirement on a formation of a predicate-subject relationship. This means that the state described by a ResP in English is understood to be true of an entity referred to by a certain NP only by virtue of the ResP establishing a predicate-subject relationship with the NP. Given that the same structural condition holds between a ResP and an NP in Japanese as well, it seems plausible to conclude that TREs in Japanese are derived with parallel syntactico-semantic

procedures, and that the state denoted by a ResP is understood as true of an NP through the establishment of a predicate-subject relationship with the NP just like in English. In other words, a ResP in Japanese is a syntactic predicate just like a ResP in English is.[41]

Finally, recall from section 2.1.1 that TREs in English and Japanese both show the Subject-Object asymmetry. Given that ResPs in English and Japanese are both syntactic predicates, and hence they are both subject to a locality condition imposed by the syntax of predication, the Subject-Object asymmetry suggests that a ResP is obligatorily base-generated internally to VP in both English and Japanese. Because the locality requirement imposed by the syntax of predication does not preclude a predicative XP from appearing outside of VP establishing a predicate-subject relationship with an NP that appears in an external argument position, this suggests that a ResP is required to be base-generated internally to a VP for a construction-specific reason. In other words, the obligatory VP-internal base-generated position of a ResP is a characteristic property of the syntactic construction in question. Then, given that the syntactic construction that derives TREs in English and the one that derives TREs in Japanese share even this characteristic property, it seems natural to conclude that TREs in English and Japanese are derived with the same syntactic construction, namely, the Resultative Construction (RC). Putting it slightly differently, this means that there is a certain syntactic configuration under which the 'resultative meaning' can be expressed, and English and Japanese employ the same syntactico-semantic strategy to express the 'resultative meaning'. The syntactic structure of the Resultative Construction drawn from the discussions in section 2.1.1 and 2.2.2 is schematically presented in (39) below:

[41] Note that a crucial point of this discussion is that a ResP in English and a ResP in Japanese behave syntactico-semantically alike , rather than their equally being a syntactic predicate. Given that English and Japanese both show the same structural constraints for the state described by a ResP to be understood as true of an NP, whichever way a state described by a ResP is understood as true of an entity referred to by a certain NP in one language must also be possible in another.

(39) The Resultative Construction



(*Word order irrelevant)*

2.2 Productivity of the RC in English and Japanese: An Introduction to the Puzzle

In the previous section, I observed that TREs in English and TREs in Japanese exhibit fundamentally identical configurational properties, suggesting that they are derived by the same syntactico-semantic procedures. Interestingly, however, it has also been recognized in the literature that Japanese has a more restricted range of TREs than English (Kageyama 1996, 2001, Washio 1997, Takami 1998, among others). Observe the cross-linguistic contrast in (40) and (41). Examples (40a,b) and (41a,b) are taken from Washio (1997: (17b,d), (18b,d)) with slight modification, and (40c) and (41c) are taken from Kageyama (2001: (25a), (25a')) with gloss and translation added:

(40) a. She kicked the dog black and blue
b. They beat the man bloody
c. The earthquake shook the old houses to pieces

(41) a. *kanozyo-wamusuko-o azadarake-niketta
she-TOP son-ACCblack.and.blue-*ni* kicked
'She kicked her son black and blue'

b. *karera-wasonootoko-o timamire-ninagutta
they-TOP that man-ACC bloody-*ni* bashed
'they beat the man bloody'

c. *zisin-gahurui ie.ie-o barabara-niyusutta
eartyquake-NOM old house.house-ACC pieces-*ni* shook
'The earthquake shook the old houses to pieces'

d. *bokusaa-wasonootoko-o hurahura-niutta
boxer-TOP that man-ACC breathless-*ni* knocked
'The boxer knocked the man breathless'

As can be seen from the grammaticality contrast found between (40) and (41), some well-formed TREs in English do not have well-formed correspondents in Japanese. This differs from the pattern observed in (42)-(43) below, taken from Kageyama (2001: (24a-c), (24a'-c')) with gloss and translation added, where well-formed TREs in English find a well-formed correspondent in Japanese:

(42) a. The antique vase shattered into a million pieces
b. He painted the fence white
c. She polished the shoes to a brilliant shine

(43) a. kottoo.mono-no kabin-gakona.mizin-nikowareta
antique.thing-GEN vase-NOMpowder.miniscule-*ni* broke
'The antique vase broke into pieces'

b. kare-wafensu-o siro-kunutta
he-TOPfensu-ACC white-*ku* painted
'He painted the fence white'

c. kanozyo-wakutu-o pikapika-nimigaita
she-TOP shoes-ACC shiny-*ni* polished
'She polished the shoes shiny'

The cross-linguistic patterns observed in (40)-(41) and (42)-(43) is puzzling for the following reason. As will be discussed in the following subsection, TREs in English that have a well-formed Japanese counterpart (42) and those that lack a well-formed Japanese counterpart (40) show parallel syntactic behaviors. This implies that the TREs in (40) and (42) are a product of the same syntactic construction, namely, the RC. Given that Japanese can derive the RC just like English can (e.g. (42)-(43)), the cross-linguistic difference found in (40)-(41) must be attributed to some language-specific properti(es) of English and/or Japanese. On the other hand, as will also be discussed below, sentences of the type exemplified in (40)-(41) differ from those exemplified in (42)-(43) in some systematic ways, suggesting that Japanese rejects TREs of the type exemplified in (41) for some principled reason(s). Now, if TREs that show the cross-linguistically identical behavior (e.g. (42)-(43)) and TREs that show the cross-linguistically different behavior (e.g. (41)-(42)) are in fact both derived with the RC, the question arises of how it is possible for Japanese to reject a subset of TREs that are derivable with the RC (e.g. (41)) on principled grounds, and/or how it is possible for English to derive TREs that are supposedly rejected for some principled reason(s) (e.g. (40)). The remainder of this chapter is dedicated to showing that these seemingly paradoxical cross-linguistic patterns are not illusory, and suggest a direction for the study.

2.2.1 The Cross-Linguistic Patterns from the Perspective of Intra-Linguistic Behavior

2.2.1.1 Structural Properties of TREs in English

In the previous section, I observed that well-formed TREs in English and well-formed TREs in Japanese are both derived with the RC. Given this fact, one might wonder if sentences that show the cross-linguistically different behavior (e.g. (40)-(41)) may be derived with a different syntactic construction from the ones that show the cross-linguistically identical behavior (e.g. (42)-(43)). That is, there could be more than one syntactic construction with which a TRE can be derived, and while both syntactic constructions are available in English, only one is available in Japanese. However, this possibility is rejected on the grounds that TREs in English that have a well-formed Japanese counterpart (e.g. (42)) and those that lack a well-formed Japanese counterpart (e.g. (40)) show identical syntactic properties.

First, both types of TREs involve a post-verbal NP which is thematically licensed by a V^0 and is base-generated in an internal argument position of a V^0. For expository purposes, let us refer to TREs in English that lack a well-formed Japanese counterpart as TRE-D(ifferent), and those that have a well-formed Japanese counterpart as TRE-S(same). As is demonstrated by the well-formedness of (44) and (45) below, the licensing of a post-verbal NP is not conditioned by the presence of a ResP in either type of TREs, suggesting that the post-verbal NP is licensed by a V^0:

(44) a. She kicked the dog TRE-D
b. They beat the man
c. The earthquake shook the old houses

(45) a. The antique vase shattered TRE-S
b. He painted the fence
c. She polished the shoes

Furthermore, TRE-D and TRE-S can both undergo Middle Formation as well as Adjectival Passive Formation. As has been discussed in Carrier and Randall (1992), both Middle Formation and Adjectival Passive Formation apply to a verb only if the verb takes a direct internal argument. Thus, the fact that TRE-D and TRE-S can both undergo Middle Formation and

Adjectival Passive, shown in (46)-(47) and (48)-(49), respectively, suggests that the post-verbal NP in both types of TREs is base-generated in an internal argument position of a V^0:

The Middle Formation:

(46) a. These dogs kick *t* black and blue (easily) TRE-D
b. This man beats *t* bloody (easily)
c. Old houses shake *t* to pieces (easily)

(47) a. This fence paints *t* white (easily) TRE-S
b. These shoes polish *t* to a brilliant shine (easily)

The Adjectival Passive Formation:

(48) a. The beaten-bloody man TRE-D
b. The knocked-breathless man

(49) a. The painted-white fence TRE-S[42]
b. The polished-shiny shoes

Second, TRE-D behaves like TRE-S with respect to various VP-constituency tests, indicating that the ResP appears in the same syntactic position in the two types of TREs under consideration. In examples (50)-(53), the behavior of TRE-D is illustrated by sentences (a,b), and that of TRE-S is illustrated by sentences (c,d):

[42] Note that judgments of Adjectival Passives derived with a TRE-S as well as the behavior of TRE-Ss with respect to Though movement (51) varies across speakers. However, the variation in the acceptability of these phrases is lessened when the contextual information is provided in some cases. Furthermore, while TRE-Ss and TRE-Ds do not necessarily show different behavior with respect to do so substitution, judgments of sentences that undergo do so substitution vary slightly across speakers. Further study on this point is needed.

(50) VP Fronting
a. He wanted to beat the man bloody – and beat him bloody he did
b. *He wanted to beat the man bloody – and beat him he did bloody

c. He wanted to paint the fence white – and paint it white he did
d. *He wanted to paint the fence white – and paint it he did white

(51) Though Movement
a. Beat the man bloody though he may …
b. *Beat the man though he may bloody …

c. Paint the fence white though he may …
d. *Paint the fence though he may white …

(52) Pseudocleafts
a. What he did was beat the man bloody
b. *What he did bloody was beat the man

c. What he did was paint the fence white
d. *What he did white was paint the fence

(53) do so substitution
a. He beat the man bloody, and his sister did so as well
b. *He beat the man bloody, and his sister did so black and blue

c. He painted the fence white, and his sister did so as well
d. *He painted the fence white, and his sister did so red

Finally, both types of TREs show the Subject-Object asymmetry as well as the DO-IO asymmetry, indicating that the same syntactico-semantic mechanisms are responsible for the state described by a ResP being understood as true of the entity referred to by an NP in the two types of TREs under consideration:

(54) a. She kicked the dog$_j$ [$_{ResP}$ black and blue]$_j$ TRE-D
b. #She$_j$ kicked the dog [$_{ResP}$ breathless]$_j$
c. #She kicked [$_{PP}$ at the dog$_j$][$_{ResP}$ black and blue]$_j$

(55) a. He painted the fence$_j$ [$_{ResP}$ white]$_j$ TRE-S
b. #He$_j$ painted the fence [$_{ResP}$ breathless]$_j$
c. #He painted [$_{PP}$ on the wall$_j$][$_{ResP}$ white]$_j$

Based on the facts observed above, it seems plausible to conclude that TRE-Ds and TRE-Ss involve the same syntactic structures. Then, there seems to be not much reason to believe that TRE-D and TRE-S are derived with different syntactic constructions. That is, TRE-Ds and TRE-Ss are both derived with the RC. Thus, the different cross-linguistic patterns observed in (40)-(41) and (42)-(43) cannot be explained by stipulating the presence of multiple syntactic constructions with which a TRE can be derived. In other words, the cross-linguistic patterns observed in (40)-(41) and (42)-(43) must receive a unitary explanation.

2.2.1.2 Dependency on Lexical Semantics of the Verb in Japanese

Because the well-formedness of TREs is often subject to various extra-linguistic restrictions such as contextual saliency (i.e. Verspoor 1997) as well as familiarity/token frequency, the fact that a particular instance of a well-formed TRE in one language is ill-formed in another does not necessarily imply that the two languages in question impose different restrictions on the derivation of the RC; a particular instance of a TRE may be judged differently across languages due to some accidental gap, for example. However, the cross-linguistic contrast observed in (40) and (41) is unlikely to be attributed to such extra-linguistic factors, since well-formed TREs in Japanese and those exemplified in (41) show certain systematic differences (Washio 1997, Takami 1998, Kageyama 1996, 2001, 2005, among others).

As has been discussed in the literature, well-formed TREs in Japanese generally exhibit a particular semantic characteristic; informally speaking, the state described by a ResP is always found to be a more specific state of one of the possible resultant-states that the lexical semantics of the verb implies/entails that its argument is in. In other words, the state described by a ResP in well-formed TREs in Japanese is generally understood as only providing a further specification of the resultant-state of an argument which is already implied/entailed by the lexical semantics of

the verb. Putting it slightly differently, well-formed TREs in Japanese generally show some dependency on the lexical semantics of a verb.[43] To give a concrete example, let me look into the well-formed TREs in Japanese shown in (43), repeated below as (56):

(56) a. kottoo.mono-no kabin-gakona.mizin-nikowareta
antique.thing-GEN vase-NOMpowder.miniscule-*ni* broke
'The antique vase broke into pieces'

b. kare-wafensu-o siro-kunutta
he-TOPfensu-ACC white-*ku* painted
'He painted the fence white'

c. kanozyo-wakutu-o pikapika-nimigaita
she-TOP shoes-ACC shiny-*ni* polished
'She polished the shoes shiny'

The well-formed TREs illustrated in (56) all involve a verb that lexico-semantically either entails or implies that its argument undergoes some change in its physical state. For instance, an event of koware(ru) 'break (Int.)' (56a) describes a situation in which something undergoes a change in its state from 'not broken' to 'be broken', such as acquiring a crack on its surface, being in multiple pieces, or stopping functioning. Similarly, nur(u) 'paint' (56b) describes an action of putting some liquid-like/powdery substance on the surface of a certain entity, implying that the entity undergoes a change in its state from 'not coated' to 'coated'. Although migak(u) 'polish' (56c) describes an event that does not necessarily require its argument to undergo any change in its physical state, it still implies a certain direction of change if its argument does undergo a change in its physical state, such as its surface gets smoother/shinier/cleaner than how it was prior to undergoing the event of migak(u) 'polish'. Notice that in each of (56a-c), the state described by a ResP is only a more specific counterpart of one of the possible resultant-states that the lexical semantics of the verb entails/implies that its argument can be in. With this

[43] Resultative Expressions that show this type of semantic dependency are called 'Weak Resultatives' in Washio (1997), 'Lexical Resultatives' in Takami (1998), and 'Inherent [honrai.teki-na] Resultatives' in Kageyama (1996, 2001, 2005). While these works all group together Resultative Expressions in which the state described by a ResP functions as a further specification of the resultant-state entailed/implied by the lexical semantics of the verb, they cover slightly different ranges of Resultative Expressions. See Chapter 3.1 for related discussion.

dependency observed between the lexical semantics of the verb and the state described by a ResP in mind, let me re-examine the ill-formed sentences in (41). (41) is repeated below as (57):

(57) a. *kanozyo-wamusuko-o azadarake-niketta
she-TOP son-ACCblack.and.blue-*ni* kicked
'She kicked her son black and blue'

b. *karera-wasonootoko-o timamire-ninagutta
they-TOP that man-ACC bloody-*ni* bashed
'they beat the man bloody'

c. *zisin-gahurui ie.ie-o barabara-niyusutta
eartyquake-NOM old house.house-ACC pieces-*ni* shook
'The earthquake shook the old houses to pieces'

Unlike in the case found in (56), the sentences in (57) all involve a verb that only describes how an action takes place (e.g. manner of motion). In other words, the event that these verbs denote can be defined without including any description about its undergoer. Hence, no physical change in the state of its undergoer is entailed/implied by the lexical semantics of these verbs. Specifically, ker(u) 'kick' (57a) describes an action of hitting something with one's foot, nagur(u) 'bash / punch' (57b) describes a similar action, except that it involves one's fist rather than one's foot, and yusur(u) 'shake' describes an action of pulling or pushing that makes something to move in a particular manner. Since the lexical semantics of these verbs does not include any description about their undergoers, they do not entail/imply that its argument undergoes a certain direction of change in its physical state, thus no dependency between the lexical semantics of the verb and the state described by a ResP can be found in the sentences shown in (57).

Because well-formed TREs in Japanese generally show this dependency on the lexical semantics of a verb, and because such a dependency is equally absent in all sentences in (57), it seems reasonable to conclude that the sentences in (57) are rejected in Japanese for this particular reason; a derived sentence can be judged as a well-formed TRE iff it shows the relevant dependency between the lexical semantics of the verb and the state described by a ResP. Since the relevant dependency between the lexical semantics of the verb and the state described by a ResP can be established only if the lexical semantics of a verb either entails or implies a

certain direction of change that its argument undergoes, this in turn implies that only the class of verbs that lexico-semantically either entails or implies a certain direction of change its argument can undergo is allowed to appear in the RC in Japanese. Putting it slightly differently, Japanese has a more restricted type of TREs than English has because the RC imposes a restriction on the lexical semantics of a verb that appears in its V^0 position in Japanese.

2.2.2 The Puzzle: Non-Dependency on Lexical Semantics of the Verb in English

In section 2.2.1, I observed that TREs in English that have well-formed Japanese counterparts (= TRE-Ss) and those that lack well-formed Japanese counterparts (= TRE-Ds) show identical syntactic properties, and concluded that both types of TREs are derived with the RC. On the other hand, I have examined the fact that that the TRE-S and TRE-D in Japanese exhibit different semantic characteristics, and concluded that the contrasting behavior of the TRE-S and the TRE-D in Japanese is most naturally explained if the RC imposes a particular restriction on its main verb. That is, the RC requires a verb which lexico-semantically either entails or implies a certain direction of change that its argument can undergo in Japanese (e.g. Washio 1997, Kageyama 2001), for instance. With these conclusions drawn from intra-linguistic examinations of the TRE-Ss and the TRE-Ds, the most natural explanation to the cross-linguistic patterns under consideration seems to be, at first glance, that it is a consequence of the idiosyncratic nature of the lexicon. That is, a certain set of verbs in English and their synonyms in Japanese might be lexico-semantically different in that a lexical semantics of the former entails/implies a certain direction of change that their arguments can undergo, whereas the lexical semantics of the latter does not. Since the fact that some lexical items express a 'similar meaning' does not necessarily imply that those lexical items encode the same grammatical properties, it appears, at first glance, possible to appeal to the idiosyncratic differences between 'synonymous' lexical items in English and Japanese to explain the cross-linguistic patterns under consideration. However, this does not seem to be the case. Examples of the TRE-D in English illustrated in (40) are repeated as (58) below for convenience:

(59) a. She kicked the dog black and blue
b. They beat the man bloody
c. The earthquake shook the old houses to pieces

Just like their Japanese counterparts, English verbs such as kick (59a), beat (59b), and shake (59c) all describe a manner of an action. Hence, the event they denote can be defined without including any description about their participant. This implies that no specific direction of the change in the state of an event participant can be predicted from the lexical semantics of these verbs, either. Given that the TRE-Ds in English involve verbs that do not lexico-semantically entail/imply a certain direction of change its argument can undergo just like their Japanese counterparts, yet the TRE-Ds in English are well-formed (59), I am now forced to conclude that the verbal restriction of the RC under consideration is not at play in English.

Now, given that a certain type of verb is required for the derivational convergence of the RC in Japanese, it must be explained why such a restriction can be inert in English. Alternatively, if the verbal restriction observed in Japanese does not necessarily follow from the characteristic properti(es) of the RC, it must be explained why such a restriction arises in the context of the RC in Japanese. Whichever direction the answer turns out to be in, it seems promising that an examination of the cross-linguistic behavior of TREs in English and Japanese will contribute to a deeper understanding of the RC.

2.3 Chapter Summary

In this chapter, I first introduced and re-examined some configurational properties of TREs in English and TREs in Japanese discussed in the literature, and showed that they are both derived with the same syntactic construction. I then introduced the cross-linguistic difference in the range of TREs found in English and Japanese, and showed that the relevant cross-linguistic difference requires some principled explanation.

Chapter 3 The Verbal Dependency in Japanese TREs Revisited: A View From Event Aspect

In the previous chapter, I comparatively examined the configurational properties of TREs in English and Japanese, and concluded that TREs in English and Japanese are equally derived via a parallel syntactico-semantic mechanism, the Resultative Construction (the RC). This implies that English and Japanese should, in principle, have the same range of TREs, and thus the cross-linguistic contrast found among a subset of TREs, repeated below as (1) and (2), requires some explanation. Examples (3) and (4) are provided just to show the contrast:

(1) a. She kicked the dog black and blue = Ch2 (40)
b. They beat the man bloody
c. The earthquake shook the old houses to pieces

(2) a. *kanozyo-wa musuko-o azadarake-ni ketta = Ch2 (41)
she-top son-acc black.and.blue-ni kicked
'She kicked her son black and blue'

b. *karera-wa sono otoko-o timamire-ni nagutta
they-top that man-acc bloody-ni bashed
'they beat the man bloody'

c. *zisin-ga hurui ie.ie-o barabara-ni yusutta
eartyquake-nom old house.house-acc pieces-ni shook
'The earthquake shook the old houses to pieces'

(3) a. The antique vase shattered into a million pieces = Ch2 (42)
b. He painted the fence white
c. She polished the shoes to a brilliant shine

(4) a. kottoo.mono-no kabin-ga kona.mizin-ni kowareta = Ch2 (43)
antique.thing-gen vase-nom powder.miniscule-ni broke
'The antique vase broke into pieces'

b. kare-wa fensu-o siro-ku nutta
he-top fensu-acc white-ku painted
'He painted the fence white'

c. kanozyo-wa kutu-o pikapika-ni migaita
she-top shoes-acc shiny-ni polished
'She polished the shoes shiny'

As I have briefly introduced at the end of the previous chapter, TREs of the type illustrated in (1) and (2) differ from TREs in (3) and (4) in that they are derived with a verb that lexico-semantically does not entail or imply any particular direction of change that its argument undergoes (i.e. Washio 1997, Takami 1998). Given this observation, the well-formedness of the TREs in English in (1), in contrast to the ill-formedness of their Japanese counterparts in (2), indicates that the RC can be derived only with a more restricted type of verbs in Japanese than in English; in Japanese, the class of verbs that can derive the RC is restricted to ones that lexico-semantically either entail or imply a certain direction of change that its argument undergoes, whereas in English, the class of verbs that can derive the RC is not restricted to those that lexico-semantically either entail or imply a certain direction of change that its argument undergoes.

The observation that the class of verbs that can derive a well-formed TRE in Japanese is lexico-semantically more restricted than the class of verbs that can derive a well-formed TRE in English provides an explanation why Japanese has a more limited types of TREs than English, despite the fact that TREs in these languages are supposed to be derived with parallel syntactico-semantic mechanisms. However, it leaves off the question of why a class of verbs that can derive the RC must be more constrained in Japanese than in English. Thus, this chapter is devoted to the examination of the nature of verbal restriction observed among TREs in Japanese, which is absent in TREs in English. Specifically, I address the following questions in regard to the cross-linguistic contrast under consideration:

(5) a. Does the particular restriction on the lexical semantics of the verb observed among TREs in Japanese (e.g. (2) vs. (4)) follow from more general properti(es) of the verb?

b. What is the nature of the cross-linguistic difference observed between TREs in English and Japanese?

The first question comes from Washio's (1997) observation that some verbs such as migaku 'polish' that are found in well-formed TREs in Japanese do not lexico-semantically entail that their argument undergoes a change in its state, although those verbs specify a particular direction of change that their argument can undergo, as is discussed in Chapter 2. Because the class of verbs that are found in well-formed TREs in Japanese actually consists of two lexico-semantically related, though not completely identical, types of verbs, namely, those that entail that their argument undergoes a change in its state (e.g. kowas(u) 'break (Intr.)'), and those that only specify the direction of change that their argument can, though not necessarily must, undergo (e.g. migak(u) 'polish'), the fact that these and only these lexical semantic classes of verbs are found in well-formed TREs in Japanese raises a question if the two lexical-semantic classes of verbs under consideration share any particular semantic and/or syntactico-semantic property which distinguish them from other lexical semantic classes of verbs that are rejected in TREs in Japanese. That is, is there any particular semantic and/or syntactico-semantic property that distinguishes these lexical-semantic classes of verbs from other lexical-semantic classes of verbs, and if there is, can a similarity in lexical semantics of verbs found in well-formed TREs in Japanese be reduced to such semantic and/or syntactico-semantic property?

Thus, in order to discuss a source of the cross-linguistic difference observed between TREs in English and Japanese, it is first necessary to figure out exactly which property of a verb that a derivation of the RC is sensitive to in Japanese. The goal of this chapter is hence two-folds. One is to examine the class of verbs that can derive the RC in Japanese comparatively with those that fail to derive the RC in Japanese but their English counterpart can derive the RC, and find out the nature of the verbal restriction that a derivation of the RC is subject to in Japanese. For the sake of simpler presentation, English-Japanese pairs of verbs that both are found in well-formed TREs are hereafter referred to as **TRE-S**(ame) verbs, and English-Japanese pairs of verbs that only English one is found in a well-formed TRE are henceforth referred to as **TRE-D**(ifferent) verbs. Another is to discuss a source of the cross-linguistic contrast in regard to the

verbal restriction under consideration through examining TRE-S verbs and TRE-D verbs from both intra- and cross-linguistic perspectives. Before proceeding to examine a source of the cross-linguistic difference in a range of verbs that are found in well-formed TREs in English and Japanese, it is instructive to first go over some accounts of the cross-linguistic behavior of TREs in English and Japanese previously proposed in the literature. Hence, section 3.1 introduces previous accounts of the cross-linguistic behavior of TREs in English and Japanese, and points out some questions that these accounts leave unanswered. Following which, I turn to examine the properti(es) of verbs that are found in well-formed TREs in English and Japanese from viewpoint of the event aspect. To do so, section 3.2 introduces and defines aspectual terms used in the remainder of this study. In section 3.3, I examine aspectual properties of TRE-S verbs and TRE-D verbs in Japanese, and show that TRE-S verbs in Japanese generally have a particular influence on an aspectual interpretation of a predicate they derive, which TRE-D verbs in Japanese usually lack. Based on the observation, I argue that the verbal restriction found among TREs in Japanese is most naturally explained if a derivation of the RC is sensitive to a certain aspectual property intrinsic to a verb that appears in its V^0 position in Japanese, and similarity in lexical semantics of verbs that are found in well-formed TREs in Japanese may be a byproduct of the RC requiring a verb with a particular aspectual property for its derivational convergence in Japanese. Section 3.4 discusses the source of the cross-linguistic contrast observed between English and Japanese with respect to the verbal restriction under consideration. I show that the set of verbs that are found in well-formed TREs in English does not consist of an aspectually homogeneous class of verbs in the way relevant to avoid being subject to the verbal restriction observed among TREs in Japanese, and argue that the cross-linguistic behavior of TREs in English and Japanese is most naturally explained if a derivation of the RC makes crucial use of a particular aspectual property intrinsic to a verb in Japanese, though it makes use of the relevant aspectual property of a verb less crucially in English.

3.1 The Cross-Linguistic Variations in English and Japanese: Previous Accounts

3.1.1 Thematic Account: Washio (1997)

Washio (1997) elaborates on the notion of the thematic role of 'patient', and argues that the cross-linguistic contrast between TREs in English and Japanese comes from the two languages' employing the different notions of 'patient' in the derivation of TREs.[44] The four-way classification of 'patient' elaborated in Washio (1997:(115)) is shown in (6) below:

(6) Patient$_1$: the verb, being intransitive, lexically specifies nothing about this; it may be interpreted as 'affected' by virtue of discourse or pragmatics; Jackendoff's discourse patient; e.g., *run (the pavement thin)*

Patient$_2$: the verb lexically specifies that it is affected; hence it may undergo some change of state; but the verb does not specify whether or how it changes; e.g., *drag the logs (smooth)*.

Patient$_3$: the verb lexically specifies that it is affected; hence it may undergo some change of state; the verb does not specify whether it actually changes its state or not; but the verb specifies that, if it does change, then it changes in certain fixed directions (the verb has a disposition toward certain states); e.g., *wipe the table (clean)*

Patients$_4$: the verb lexically specifies that it undergoes some specific change of state; hence it is also affected; e.g., *sharpen the pencil (pointy)*

Based on the four-way distinction of 'patient' given in (6), Washio (1997) claims that an NP which is true of a ResP is required to be more specific type of 'patient' in Japanese than in English:

[44] To be more accurate, Washio's (1997) motivation behind this approach comes from an observation that Japanese lacks both Non-Thematic Resultative Expressions such as John ran his sneakers ragged (see also Chapter 1.1.4.2) and a subset of TREs that are well-formed in English. Under the thematic approach, not only the cross-linguistic variation in behavior of TREs observed between English and Japanese, but also the fact that English has, but Japanese does not have, Non-Thematic Resultative Expressions, follows from the 'Patienthood' of an NP that is predicated of the ResP. However, see Takami (1998) for some criticisms of attributing the well-formedness of TRE / Non-TRE to the patienthood of an NP that is predicated of the ResP, as well as a discussion in Tenny (1994:Ch.1.5.2) which concerns the nature of thematic role in the grammar.

(7) a. In English resultatives of the form S-V-O-AP, O must be a Patient
b. In Japanese resultatives of the form S-O-ATP-V, O must be a $Patient_3$ or $Patient_4$.[45]
Washio (1997:(117))

While the thematic approach proposed in Washio (1997) provides an explanation for the cross-linguistic contrast between TREs in English and Japanese without abandoning the supposition that TREs in English and Japanese are derived with the same syntactic construction, it is not without question.

One is that the parametrization of English and Japanese stated in (7) is construction-specific. This immediately raises the question of whether the parametric difference in question can be observed anywhere outside of the Resultative Construction. Furthermore, related to this question, the proposal leaves off an answer to the question of why an NP being true of a ResP must be of a different degree of 'patient' in English in comparison to Japanese. Thus, while I am sympathetic to the observations of Washio (1997) in regard to the cross-linguistic behavior of TREs in English and Japanese, I find the thematic account provided in (6)-(7) to be merely a generalization of the cross-linguistic facts, and it calls for a further explanation 'why' such a difference is observed between English and Japanese.

3.1.2 Semantic Account: Beavers (2011)

In discussing the role of affectedness in the grammar, Beavers (2011) proposes an alternative account to Washio's (1997) patienthood condition in which the cross-linguistic behavior of TREs in English and Japanese is attributed to some difference in lexical semantics of a verb that co-occurs with a ResP. Specifically, he argues that an affectedness of a theme argument *x* of a dynamic predicate ϕ is determined by a particular degree of change that a lexical semantics of a verb that derives the predicate in question entails, and English and Japanese allows a ResP to co-occur with a verb that derives a dynamic predicate that entails different degree of change its theme argument undergoes. (8) is his definitions of four different degrees of change that a theme argument of a dynamic predicate may undergo, (9) is his proposal about semantic relationship

[45] ATP stands for Adjective-Type-Phrase. As I introduced in Chapter 1.1, some adjectival elements in Japanese are morpho-syntactic adjectives (/adverbs), though other adjectival elements are morpho-syntactic nouns.

holding among those dynamic predicates, and (10) is his description of the cross-linguistic behavior of TREs in English and Japanese, taken from Beavers (2011:(60), ((62), (66)):[46]

(8) a. *x* undergoes a **quantized** change iff $\phi \rightarrow \exists e \exists s[result'(x, s, \mathbf{g}_{\phi}, e)]$
(e.g. accomplishments/achievements: break, shatter, destroy, devour *x*)
b. *x* undergoes a **non-quantized** change iff $\phi \rightarrow \exists e \exists s \exists g[result'(x, s, g, e)]$
(e.g. degree achievements/*cutting*: widen, cool, lengthen, cut, slice *x*)

c. *x* has **potential** for change iff $\phi \rightarrow \exists e \exists s \exists \theta[\theta(x, s, e)]$
(e.g. surface contact/impact: wipe, scrub, rub, punch, hit, kick, slap *x*)

d. *x* is **unspecified** for change iff $\phi \rightarrow \exists e \exists \theta'[\theta'(x, e)]$
(e.g. other activities/states: see, laugh at, smell, follow, ponder, ogle *x*)

(9) **The Affectedness Hierarchy**: for all *x*, ϕ, *e*,
$\exists s[result'(x, s, \mathbf{g}_{\phi}, e)] \rightarrow \exists s \exists g[result'(x, s, g, e)] \rightarrow \exists s \exists \theta[exists(x, s, e)] \rightarrow \exists \theta'[\theta'(x, e)]$
(*quantized*) (*non-quantized*) (*potential*) (*unspecified*)

(10) a. An English predicate ϕ permits a result XP iff ϕ entails its theme argument *x* has potential for change.

b. A Japanese predicate ϕ permits a result XP iff ϕ entails/implicates its theme argument *x* undergoes a non-quantized change.

Under his proposals, the 'patienthood' condition of Washio (1997) is properly compensated with the Affectedness Hierarchy which is defined in terms of independently motivated semantic properties, and so it has an advantage of capturing the cross-linguistic behavior of TREs in English and Japanese without necessitating fine-grained thematic roles to be at play in the grammar.

However, just like Washio's (1997) proposal, (10) is merely a generalization of the cross-linguistic fact about TREs in English and Japanese, and so it calls for a further explanation 'why' a ResP in English and Japanese requires a verb that have different semantic properti(es). Furthermore, the generalization in (10) fails to capture the fact that Japanese has TREs that involve a verb deriving a predicate that entails/implicates its theme argument has potential for

[46] Beavers (2011) defines an operator *result*' as the following, where the subscript 'c' indicates a constant determined by context and constants are shown by bold face (Beavers 2011: (48)):
(i) For all dynamic predicates ϕ, theme *x*, events *e*, states *g*, and scales *s*:
$[[\phi(x, s, e) \wedge result'(x, s, g, e) \leftrightarrow [\phi(x, s, e) \wedge SOURCE(s, \mathbf{b}_c, e) \wedge GOAL(s, g, e)]$

change; TREs in Japanese can be derived with some surface contact verb such as huk(u) 'wipe', though not with impact verbs such as ker(u) 'kick', both of which are supposed not to be able to derive a TRE in Japanese because they equally derive a predicate that denotes a potential change (8c), rather than a non-quantized change (8b). Thus, although I agree entirely with Beavers (2011) that what conditions a class of verbs that can derive the RC in English and Japanese differently is some difference in lexical semantics of verbs that affects an internal structure of an event that a derived predicate describes, it seems difficult to attribute the cross-linguistic difference under consideration to lexical semantics of a verb that contributes to determine a degree of change that a derived predicate entails/implicates for its theme argument to undergo.

3.1.3 Semantic / Functional Approach: Takami (1998)

In Takami (1998), the cross-linguistic contrast in a range of TREs found in English and Japanese is explained as a result of some difference in a semantic/functional constraint that bans a language from expressing a particular type of causal relation by means of a mono-clausal sentence. He examines the relationship between the meaning of a ResP and the lexical semantics of the verb, and classifies them into two sub-types, namely, 'lexical' resultatives and 'pragmatic' resultatives. In the former type of TREs, he claims that the meaning of the ResP is either a part of a lexical semantics of the verb or it is implied by the verb's meaning. This is illustrated in (11)-(12) below, taken from Takami (1998: (51a)-(56a), (52a)-(57a)):

(11) a. The boy broke the glass to pieces
b. break: [ ]$_x$ CAUSE [[ ]$_y$ BECOME [[ ]$_y$ BE AT-[SMALL PIECES]]]

(12) a. Mary tinted her hair blond
b. tint: [ ]$_x$ CAUSE [[ ]$_y$ BECOME [[ ]$_y$ BE AT-[COLORED]]]
|
blonde

In contrast, the meaning of the ResP is neither part of the lexical semantics of the verb, or is it implied by the verb's meaning in 'pragmatic' resultatives, though it can easily be expected or inferred by the cause-result relationship denoted by the verb and the ResP from our pragmatic knowledge of the world. This is illustrated in (13) below, taken from Takami (1998:(53a), (58a)):

(13) a. The man was burned to death in the fire
b. burn: [ ]$_x$ CAUSE [[ ]$_y$ BECOME [[ ]$_y$ BE AT-[ON FIRE]]]

With this classification of TREs based on the relationship holding between the ResP and the lexical semantics of the verb, Takami (1998) argues that the cross-linguistic behavior of TREs in English and Japanese is subsumed under the difference in a semantics/functional constraint which is at play in the respective languages (Takami 1998:(60), (66)):

(14) A Semantic/Functional Constraint on the English Resultative Construction:
English resultative construction is acceptable to the extent

(i) that the expressed semantic cause-result relationship is either specific to or implied in the verb meaning (lexical resultative), or

(ii) that it is reasonably inferred from our pragmatic knowledge (pragmatic resultatives)

(15) A semantic/Functional Constraint on the Japanese Resultative Construction
The Japanese resultative construction is acceptable to the extent

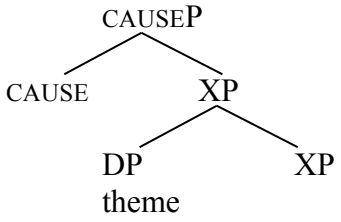
(i) that the expressed semantic cause-result relationship is either specific or implied in the verb meaning (lexical resultatives)

Although Takami's (1998) semantic/functional approach has the merit of explaining a wide range of data in English, and it still allows us to maintain the proposal that TREs in English and Japanese are equally derived with the same syntactic construction, the same question as has been raised for Washio's (1997) thematic approach arises here as well. Namely, what allows English to express a pragmatically inferred cause-result relationship with the same syntactic means by which it expresses a lexically specified or implied cause-result relationship? Alternatively, what disallows Japanese from expressing a pragmatically inferred cause-result relationship with the same syntactic means by which it expresses a lexically specified or implied cause-result relationship? Again, the semantic/functional approach provided by Takami (1998) is merely a generalization about the cross-linguistic behavior of TREs in English and Japanese, and it leaves off an answer to the question of why TREs in Japanese are subject to a particular constraint that TREs in English are not subject to.

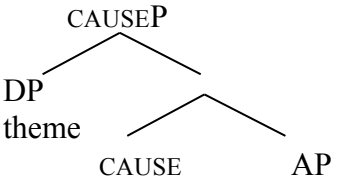
3.1.4 Structural Account: Tomioka (2009)

Tomioka (2009) argues that Resultative Expressions in English and Japanese involve different syntactic structures which come from some difference in properties of the cause predicate that appears in these languages. She claims that Resultative Expressions involve an underlying structure in which a lexical verb adjoins to the causative predicate cause, which is usually phonetically null, and that English and Japanese differ from each other in that the cause predicate in the former takes a small clause complement, expressed as an XP in (16a), whereas the cause predicate in the latter takes a DP and a ResP (= an AP in (16b)) as its complement. The schematic pictures in (16) below are taken from Tomioka (2009):

(16) a. English



b. Japanese



Tomioka (2009) claims that a lexical verb enters into the derivation as an adjunct onto the cause predicate in both English and Japanese (through 'incorporation by Merge'/M-Incorporation), and in both languages, if the selectional information of a verb is/is not reflected in the syntactic derivation is determined by the Theta Identification mechanism proposed in Higginbotham (1985):

(17) Theta identification
a. Two predicates (F(x) and G(y)) are combined by conjunction
b. The argument position in one of the conjuncts is identified with the argument position of the other (x = y)

However, due to the different points at which the lexical verb enters into the derivation, the argument structure as well as the selectional information of the lexical verb will not be reflected in the derivation in English, unlike in Japanese. Based on the Theta Identification mechanism described in (17), the structure Tomioka (2009) gives for (16a) and (16b) should differ in how the DP labeled as 'theme' is understood. Specifically, under the M-incorporation account, the DP labeled as 'theme' in (16b) is interpreted as the logical object of the lexical verb because at the

point when a lexical verb enters into the derivation (through M-incorporation to cause), the argument of the cause predicate is not yet saturated, and so Theta Identification applies. On the other hand, the DP labeled as 'theme' in (16a) is not required to be understood as the logical object of the lexical verb because, by the point at which the lexical verb enters into the derivation, the argument of the cause predicate has already been saturated (since its sole argument is the small clause complement, the XP in (16a)). So, the argument position of the lexical verb cannot be identified with the argument position of the cause predicate through Theta identification in (16a). This leads the object position of the lexical verb to remain unsaturated and to be interpreted existentially, which makes it possible for a post-verbal NP in Resultative Expressions in English to violate the selectional restriction of the lexical verb.

While the proposed parametric difference between English and Japanese provides an answer to the pressing question of WHY English and Japanese have a different range of TREs, it immediately raises the following intriguing questions which mostly concern the treatment of TREs and the Non-Thematic Resultative Expression in English. These questions in turn raise additional questions about how this approach explains the cross-linguistic behavior of TREs in English and Japanese.

The first question arises from this proposal's implication that TREs in English do not involve argument sharing between the V^0 and the ResP; because the argument position (= object position) of a lexical verb cannot be identified with the argument position of a cause predicate according to this account, the post-verbal NP in TREs in English may be understood as the logical object of the lexical verb only by implicature. Thus, TREs in English are treated completely identical to Non-Thematic Resultative Expression (e.g. John ran his sneakers ragged) in which the post-verbal NP is **not** understood to be a logical object of the lexical verb. However, as is convincingly argued in Carrier and Randall (1992), a post-verbal NP in TREs is interpreted as an argument of the lexical verb, unlike a post-verbal NP in Non-Thematic Resultative Expressions, and so the two types of Resultative Expressions under consideration show different behavior with respect to Middle Formation (18)-(19) and Adjectival Passive Formation (20)-(21), that presumably apply only to a verb that takes a direct internal argument. Examples (18)-(21) are taken from Carrier and Randall (1992: (45)-(46), (59)):

(18) *TREs*

a. NP water the new seedlings flat → New seedlings water *t* flat (easily)
b. NP break those cookies into pieces → Those cookies break *t* into pieces (easily)
c. NP won't scrub my socks clean → My socks won't scrub *t* clean (easily)
d. NP iron permanent press napkins flat → Permanent press napkins iron *t* flat (easily)

(19) *Non-Thematic Resultative Expressions*

a. NP run competition Nikes threadbare → *Competition Nikes run threadbare (easily)
b. NP talk Phys Ed majors into a stupor → *Phys Ed majors talk into a stupor (easily)
c. NP walk delicate feet to pieces → *Delicate feet walk to pieces (easily)

(20) *TREs*

a. the stomped-flat grapes
b. the spun-dry sheets
c. the smashed-open safe
d. the scrubbed-clean socks

(21) *Non-Thematic Resultative Expressions*

a. *the fanced-thin soles
b. *the run-threadbare Nikes
c. *the crowed-awake children
d. *the talked-unconscious audience

Furthermore, Carrier and Randall (1992) also show that a post-verbal NP in TREs cannot escape from the selectional restriction of the lexical verb when the lexical verb is obligatorily transitive. This is illustrated by examples in (22), taken from Carrier and Randall (1992: (35a), (36a), (37a)):

(22) a. The bears frightened *(the hikers)
b. The bears frightened the hikers speechless
c. *The bears frightened the campground empty

The fact observed in (22) suggests that a post-verbal NP in TREs differ from a post-verbal NP in Non-Thematic Resultative Expressions not only in that it CAN be interpreted as a logical object of the lexical verb, but it IS interpreted as a logical object of the lexical verb. Now, if TREs in English are, in effect, derived syntactically identically to Non-TREs and/or if TREs in English essentially do not involve argument-sharing between the V^0 and the ResP, it seems difficult to explain why TREs can, though Non-TREs systematically cannot, undergo the aforementioned morpho-syntactic operations, as well as why a post-verbal NP in TREs cannot escape from

selectional restrictions of the lexical verb when the lexical verb in question is obligatorily transitive.

Furthermore, the proposed structure of the Resultative Construction in English does not seem to be able to explain why transitive verbs that can appear in Non-Thematic Resultative Expressions are usually restricted to verbs that have an (unergative) intransitive use outside of the Resultative Construction (e.g. Simpson 1983, Hoekstra 1988, Williams 2008). Because Theta Identification always fails to take place in the derivation of the Resultative Construction in English, an internal argument of the lexical verb must always be left unsaturated in the case of TREs, and the fact that they can still be well-formed implies that an existential interpretation of an unsaturated object of a lexical verb should always be available. Then, any transitive verbs, in principle, should be able to derive Non-Thematic Resultative Expressions by means of an existential interpretation of its argument, contrary to empirical fact (e.g. (22)).

These questions cast doubt on the proposal that TREs and Non-Thematic Resultative Expressions are syntactically derived completely identically to each other. Now, if the syntactic derivation of TREs and Non-Thematic Resultative Expressions in English must be differentiated even in a very minor way, the proposed syntactic approach to the cross-linguistic contrast between English and Japanese immediately loses an explanation of why Japanese has a more restricted types of TREs than English has.

Thus, although a structural distinction such as the one proposed in Tomioka (2009) may be needed to explain the presence/absence of Non-Thematic Resultative Expressions in English and Japanese, such a structural account does not seem to readily explain the cross-linguistic contrast observed between TREs in English and Japanese under consideration.

3.2 Introduction to Aspectual Terms: Viewpoint Aspects and Situation Aspects

Before examining aspectual properties of verbs found in TREs in English and Japanese, it is in order to first clarify terminology used in this study. As Tenny and Pustejovsky (2000) explicitly remark, the terminology found in discussions of event aspects can be quite confusing, since, on

the one hand, I see multiple terms used for similar or identical concepts, and, on the other, the same term used in multiple ways. In order to avoid possible confusion that may arise from the use of terminology, this section is devoted to introducing and defining the terms adopted in this study, as well as providing some motivation behind choosing to give a certain concepts one name over another.

First, adopting a two-component theory of Smith (1991), I assume that aspect is the domain of temporal organization of situations, and the aspectual meaning of a sentence is determined by the interaction between two independent components, namely, situation type and viewpoint. This is to say that the aspectual meaning of a sentence is a composite of both viewpoint and situation type, and while sentences may present aspectual information about situation type and viewpoint simultaneously, the two types of information are considered independent of each other. Sentences (23a) and (23b) exemplify how a difference in temporal perspective / aspectual viewpoint of a sentence affects an interpretation of an event:

(23) a. John and Mary built a rock garden last summer
b. John and Mary were building a rock garden last summer (Smith 1991: P. XV (1))

(23a) and (23b) express the same event in different aspectual viewpoints; the former describes an event in the perfective viewpoint, whereas the latter describe an event in the imperfective viewpoint. In (23a), a building event is understood to have occurred in its entirety, and the sentence conveys that a garden was built to completion. On the other hand, (23b) expresses that a building event was in progress, and it conveys no information about whether the garden was / was not ever built to completion. As illustrated by the examples in (23a) and (23b), the aspectual viewpoint of a sentence determines how much of an event is 'visible' to the speaker / listener of the sentence. While the perfective viewpoint takes an external perspective, that is, a situation is viewed as a total bounded whole and so it spans an entire event, the imperfective viewpoint takes an internal perspective, that is, a situation is viewed from within and so it spans only a part of an event (Comrie 1976, Smith 1991, Tenny 1994, Bhat 1999, Shirai 1998, among others).

Preliminary definitions of three main types of aspectual viewpoints are provided in (24) below, adopted from Smith (1991: P.6 (3)):[47]

(24) Main Types of Aspectual Viewpoints
Perfective viewpoints focus on the situation as a whole, with initial and final points

Imperfective viewpoint focus on part of a situation, including neither initial nor final point

Neutral viewpoints are flexible, including the initial point of a situation and at least one internal stage (where applicable)

A situation type expressed in a sentence provides aspectual information which interacts with, though independent of, viewpoint aspects. Situation aspects provide information about the internal temporal structure of event and states. Following Bach (1986), the term **eventualities** is used to refer to situations described by a predicate interchangeably with the term situation types, and henceforth the term **events**/**eventives** are reserved to refer to eventualities that are dynamic, to be distinguished from **states/statives** that are static. Abstracting away from some language-specific variations, I assume that there are four basic types of eventualities found in natural language expressions (i.e. Vendler 1967, Dowty 1979, cf. Smith 1991)[48], and these eventualities are distinguished from one another based on their durativity/punctuality, as well as by the nature of the action/process that constitutes the situation (e.g. a presence/absence of a natural endpoint), aside from their being static/dynamic as is mentioned above. Four basic types of eventualities assumed in this study are defined in (25) below:

(25) Basic Situation Types (cf. Smith 1991: P. 6 (2))

states	Static	Durative	
activities	Dynamic	Durative	Expresses an action / process that

[47] Smith (1991) introduces Neutral Viewpoints for to capture some cross-linguistic variations, and she argue that Neutral viewpoints arise when there is no overt marking of perfectivity / imperfectivity.
[48] In Smith (1991), semelfactives are classified as an independent situation type. However, as she mentions in endnote 9 (P. 64), semelfactives may be considered either a special subclass of Achievements, being instantaneous events that are not telic, or a subclass of Activities, being atelic events that are not durative. Since it is beyond the scope of this study to discuss exact nature of semelfactives, I simply assume without question that semelfactives are special subclass of Activities, rather than constituting an independent situation type.

			has no natural endpoint
accomplishments	Dynamic	Durative	Expresses an action / process with a natural endpoint
achievements	Dynamic	Instantaneous	Expresses an action / process with a natural endpoint

e.g.

a. John knows Greek	state
b. John carried the bag	activity
c. John closed the door	accomplishment
d. John won the race	achievement

The temporal properties associated with each of the four situation types introduced above are mainly based on Smith (1991), with one major modification; accomplishments and achievements are distinguished from activities based purely on the nature of the action/process that constitutes the situation, rather than by their telicity, a point I will take up towards the end of this subsection. From this point on, the terms states, activities, accomplishments and achievements are used as conventional labels for referring to a predicate with a particular cluster of conceptual temporal properties as is described in (25). Each of the conceptual temporal properties that characterize a situation denoted by a predicate is described one by one below.

To begin with, states and events are distinguished from each other in their dynamicity; states are static situations that consist of undifferentiated moments, whereas events are dynamic situations, consisting of stages (Smith 1991). As has been discussed in Smith (1991), the property of dynamism is closely related to the property of agency, and thus the distinction between stative predicates and eventive predicates can be made by their incompatibility / compatibility with volitional expressions.[49] Examples (26)-(27) below, taken from Smith (1991: P. 68 (5)-(6)), illustrates the point:

[49] Although dynamism of a predicate is often correlated with its agentivity, dynamism and agentivity are nevertheless two independent properties of a predicate, and so the fact that a predicate in question is dynamic does not necessarily imply that the predicate is agentive, and vice versa. In effect, a predicate may express a static situation which is agentive (e.g. John stood still deliberately) as is discussed in Dowty (1979), and a predicate may

(26) a. John carefully washed his car — accomplishment
b. *John carefully knew Greek — state

(27) a. Mary opened the door with a key — accomplishment
b. The door was opened with a key — accomplishment
c. *The door was open with a key — state

In (26), the predicate co-occurs with the manner adverbial carefully, and in (27), the predicate co-occurs with the instrumental adverbial with a key. Because both manner adverbials and instrumentals require an agent, and the agentivity of a predicate is closely related with its dynamism, eventive predicates are compatible with both a manner adverbial (26a) and an instrumental adverbial (27a,b), but stative predicates are not ((26b), (27c)). Similar contrasts can be found in Japanese as well:

express a dynamic situation without agentive connotation (e.g. *The door flung open deliberately). Since the dynamicity of a predicate does not play a central role in explaining the cross-linguistic behavior of TREs in English and Japanese, I nevertheless take results of linguistic tests for agentivity such as those discussed below as sufficient evidence for to discriminate stative predicates and dynamic predicates for the purpose of the current study. I thank John Beavers for pointing out this issue to me.

(28) a. John-ga sintyoo-ni kuruma-o aratta (koto) accomplishment
-nom carefully-*ni* car-acc washed fact
'(the fact that) John carefully washed (his) car'

b. *John-ga sintyoo-ni girisya.go-ga dekiru (koto) state
-nom carefully Greek.language-nom can fact
'*(the fact that) John carefully knew Greek'
(lit. John carefully can [speak / understand] Greek)

(29) a. Mary-ga suupu-o densi.renzi-de atatame-ta (koto) activity / accomplishment
-nom soup-acc microwave-with warm-past fact
'(the fact that) Mary warmed the soup with a microwave'

b. suupu-ga densi.renzi-de atatame-rare-ta (koto) activity / accomplishment
soup-nom microwave-with warm-pass-past fact
'(the fact that) the soup was warmed with a microwave'

c. *soup-ga densi.renzi-de atatakat-ta (koto)[50] state
soup-nom microwave-with warm-past fact
'*(the fact that) the soup was warm with a microwave'

Durativity is another conceptual temporal property that plays an important role in distinguishing the type of a situation described by a predicate. Among eventive predicates, activities and accomplishments are durative, whereas achievements are instantaneous. What it means by this is that achievements, unlike activities and accomplishments, have no internal interval that excludes endpoints in their temporal schema (Smith 1991: P. 63). Therefore, under a single-event reading in which a situation described by a predicate is understood to occur just once, achievements are usually incompatible with a Durative Phrase such as for 5 minutes. Additionally, they are not always compatible with the imperfective viewpoint, except may be by way of making the imperfective viewpoint focus on the preliminary stages of the situation. This is illustrated in examples (30) and (31) below:

[50] (29c) involves an adjectival predicate, and as adjectival predicates are generally stative, the observed fact that it is incompatible with an instrumental adverbial densi.renzi-de 'with a microwave' provides evidence in support of the claim that stative predicates are incompatible with volitional expressions.

(30) a. John rubbed the vase for 5 minutes — activity
b. ?John ate a pizza for 5 minutes — accomplishment
c. #John broke a vase for 5 minutes — achievement

(31) a. John was pounding the metal — activity
b. John was eating a pizza — accomplishment
c. John was breaking a vase — achievement

In (30a), a time expressed by a Durative Phrase is understood as a duration for which a situation described by a predicate holds. Similarly, in (30b) in which a situation described by a predicate has a defined endpoint, a time expressed by a Durative Phrase can be understood as a duration for which a situation described by a predicate stretches over. In contrast, (30c) does not even have a forced-stretched reading, and it is simply infelicitous, indicating that achievements are not durative, unlike activities and accomplishments. An interpretation of sentences (31a,b) in contrast to (31c) also points to the same conclusion. Sentences in (31) describe a situation in an imperfective viewpoint; while (31a) and (31b) express that a (part of the) situation described by the predicate was ongoing, such an interpretation is unavailable in (31c). What is understood to be ongoing at some past time in (31c) is only the preliminary stages that led to a situation described by the predicate, and so (31c) does not entail that John broke a vase, not even part of it. These facts indicate that activities and are accomplishments have an internal interval, they are durative, whereas achievements lack an internal interval that excludes endpoints, they are instantaneous. A similar pattern is attested in Japanese:

(32) a. ?John-ga sono kabin-o 5hun.kan kosutta (koto) activity
-nom that vase-acc 5min.during rubbed fact
'(the fact that) John rubbed the vase for 5 minutes'

b. ??John-ga sono piza-o 5hun.kan tabeta (koto) accomplishment
-nom that pizza-acc 5min.during ate fact
'(the fact that) John ate the pizza for 5 minutes'

c.#John-ga sono kabin-o 5hun.kan watta (koto) achievement
-nom that vase-acc 5min.during broke fact
'#(the fact that) John broke the vase for 5 minutes'

In (32a) and (32b), a time expressed by the Durative Phrase 5hun.kan 'during 5 minutes' can be understood as the (minimum) duration for which the situation in question lasted.[51] On the other hand, the time expressed by a durative phrase can be understood only as the (minimum) duration for which John repeatedly broke the vase (e.g. John broke the vase into halves, then broke the broken pieces of the vase into smaller pieces, and so on for 5 minutes, for example), and it cannot be understood as the (minimum) duration for which a single instance of the situation in question lasted, similar to the pattern observed in English. Furthermore, achievements yield a different interpretation from activities and accomplishments under an imperfective viewpoint:

[51] In an out-of-blue context, well-formedness of a sentence involving a durative phrase is somewhat degraded without the presence of an aspectual verb tuzuke(ru), especially so for predicates that describe an ACCOMPLISHMENT such as in (32b). However, given the right context, these sentences are perfectly well-formed.

(33) a. John-ga sono kabin-o kosut-te i-ta (koto) activity
-nom that vase-acc rub-*te i*-past fact
'(the fact that) John was rubbing the vase'

b. John-ga sono piza-o tabe-te i-ta (koto) accomplishment
-nom that pizza-acc eat-*te i*-past fact
'(the fact that) John was eating the pizza'

c. John-ga sono kabin-o wat-te i-ta (koto) achievement
-nom that vase-acc break-*te i*-past fact
'(the fact that) John was breaking the vase'

c'. John-ga sin-de i-ta (koto) achievement
-nom die-*te i*-past fact
'(the fact that) John was dead'
'#(the fact that) John was dying'

In (33a) and (33b), the situation described by the predicate is understood to be ongoing at some past time without being necessarily completed, in a way similar to their English counterparts (cf. (31a) (31b)). In contrast, such an interpretation is unavailable in (33c); aside from an iterative interpretation, (33c) only has the so-called result-state reading in which what was ongoing at some past time is understood to be the stages that follow a situation described by a predicate. In fact, (33c'), in which an iterative interpretation is pragmatically ruled out, has only the result-state reading; it means that the state of John being dead has been ongoing at some past time, and it cannot mean that John was in a process of dying. As has been discussed in Shirai (1998), an imperfective viewpoint in Japanese has different effects from the imperfective viewpoint in English when the situation described by a predicate cannot be viewed from within, that is, when it is not possible to focus on an internal interval of the situation described by the predicate due to the absence of an internal interval; unlike in English, it usually focuses on stages that follow the situation described by a predicate, rather than the preliminary stages that lead to the situation described by a predicate.[52] Given this difference in the effect of imperfective viewpoint in English and Japanese, the fact that (33c) and (33c') yield the result-state reading suggests that it is not possible for an imperfective viewpoint to focus on an internal interval of the situation described by a predicate. That is, achievements, unlike activities and accomplishments, do not

[52] Shirai (1998: endnote 20) notes that the only exceptions that he is aware of to this claim are katu 'win' and makeru 'lose'.

involve an internal interval that excludes endpoints.[53] Thus, durativity seems to be one of central conceptual temporal properties that characterize the type of a situation described by a predicate.

Finally, whether or not an action/process involved in a situation has/does not have a natural endpoint seems to be another important temporal property that characterizes a situation described by (eventive) predicates (cf. Smith 1991). While activities involve an action/process that does not have a natural endpoint, accomplishments and achievements do; the former involves an action/process that cannot be completed/finished, hence, it must be terminated at the end of a situation, whereas the latter involve an action/process that can be completed/finished, and so it can, though does not have to be, completed/finished at the end of the situation described by the predicate. To see this point, consider the nature of an action/process involved in a situation described by the sentences in (34a) and (34b,c):

(34) a. John rubbed the vase — activity
b. John ate the pizza — accomplishment
c. John broke the vase — achievement

An action/process involved in the situation described in (34a) has no condition under which it can be understood as completing/finishing; one can rub something so long as s/he wants to do so,

[53] Shirai (1998) discusses that some clothing verbs (e.g. ki(ru) 'wear') yield either a progressive reading or result-state reading under an imperfective viewpoint depending on context. The example below is taken from Shirai (1998: (21)) with some modification:

(i) Ken-ga seetaa-o ki-te iru (koto)
-NOM sweater-ACC wear-*te iru* fact
a. (the fact that) Ken is wearing a sweater — Result-state reading
b. (the fact that) Ken is putting on a sweater — Progressive reading

Because most typical ACCOMPLISHMENTS prefer a progressive reading under an imperfective viewpoint, he suggests that two instances of the verb ki(ru) (or of verbs that belong to this class) may be construed differently; i.e. it is an 'Achievement verb' (e.g. a verb that heads a VP which is understood as an ACHIEVEMENT) in (a) but an 'Accomplishment verb' in (b). On the other hand, he also notes that "[result-state reading] is possible even with non-punctual verbs (e.g. Jacobsen 1992), but progressive reading (without iteration) is possible only with durative, dynamic verbs (activity and accomplishment)" (Shirai 1998: ftnt 21), leaving open a possibility that the clothing verbs are inherently 'accomplishment verbs' though they tolerate a result-state reading under an imperfective viewpoint more easily than typical 'accomplishment verbs' do. While the way in which viewpoint and situation aspects interact with each other is surely an important issue for the current study, I will leave the question of the variable aspectual behavior that the class of clothing verbs in Japanese show for the future study, since it requires independent research to determine if the variability in question comes from properties of a lexical item (e.g. two aspectually different entries in the lexicon) or from the interaction between viewpoint aspects and situation aspects of the predicate.

for instance. For this reason, the action/process in question must be understood as terminating, rather than completing or finishing, when the situation in question ends; the situation ends when John stops rubbing the vase. In contrast, an action/process involved in the situation described in (34b) and (34c) can be understood as completing/finishing when the undergoer can no longer be subjected to the action of the verb; eating something is understood to be completed/finished when the entire quantity of that 'something' is eaten (e.g. consumed), and breaking something is understood to be completed/finished when that 'something' is broken, loosely speaking. Because an action/process involved in the situation described in (34b) and (34c) can be understood to be completed/finished under certain circumstances, it can be understood as completing/finishing, rather than terminating, when a situation that involves such action/process ends. In effect, the situations described in (34b) and (34c) are understood as ending simultaneously with the completion of the action/process involved in the situation; it ends when the action/process in question no longer can be applied to its undergoer (e.g. when the pizza is eaten (34b) and the vase is broken (34c), cf. (34a)).

Incompatibility/compatibility with an end-time reading of Time-Span Adverbials (TSAs; aka frame adverbials), shown in (35) below, provides evidence in support of the claim that an action/process involved in a situation described in (34a) is understood to be terminated when the situation ends, whereas an action/process involved in a situation described in (34b,c) is understood to be completed / finished when the situation ends:

(35) a. #John rubbed the vase in 5 minutes	activity
b. John ate a pizza in 5 minutes	accomplishment
c. John broke a vase in 5 minutes	achievement

It is standardly assumed in literature that TSAs in English such as in 5 minutes can elicit an end-time reading when they are interpreted with respect to telic predicates, though such a reading of TSAs is unavailable when they are interpreted with respect to atelic predicates (Dowty 1979, Krifka 1992, 1998 Tenny 1987, 1994, MacDonald 2006 et seq., among many others). Thus, the fact that the end-time reading of a TSA is unavailable in (35a) indicates that it describes a situation which is atelic, whereas the fact that a TSA can elicit the end-time reading in (35b,c) indicates that they describe a situation which is telic. Now, a crucial property that distinguishes

telic predicates from atelic predicates is that they describe a situation which requires some time to be completed; telic predicates describe a situation which is finite; it is directed toward a goal which is intrinsic to the event (e.g. a set terminal point in Vendler 1957), and so the situation ends when the goal is reached (Garey 1957, Vendler 1957, Smith 1991, Krifka 1992, 1998, among many others), whereas atelic predicates describe a situation which is non-finite and only has an arbitrary final point; the situation is realized as soon as it begins and it stops at any time (Smith 1991, Krifka 1992, 1998, Vendler 1957, among others). Given this distinction, the fact that a predicate in (35a) is atelic entails that it describes a situation that has only an arbitrary final point, which in turn implies that an action/process involved in the situation is understood as terminating when the situation ends. In contrast, the fact that the predicates in (35b) and (35c) are telic entails that they describe finite situations which are complete, which in turn implies that an action/process involved in the situation is understood as completing/finishing when the situation ends.

While the telicity of a predicate is closely correlated with the nature of the action/process which is involved in the situation described by the predicate, the fact that an action/process involved in the situation has a natural endpoint does not always make the predicate telic (i.e. Krifka 1992, Tenny 1994, MacDonald 2006, et seq., Beavers 2012). To see this point, consider first the following examples:

(36) a. #John ran in 5 minutes
b. John ran to the store in 5 minutes
c. John ran a mile in 5 minutes

Sentences (36a) and (36b,c) minimally differ from each other in that an action/process involved in the situation described in the former has no natural endpoint, whereas the one in the latter has a natural endpoint; the action/process in question is understood as completing/finishing when John reaches the store (36b) or reaches a mile away from where he started to run (36c), though it cannot be understood as completing/finishing under any particular conditions in (36a). This difference is reflected in the telicity of these predicates, shown by the incompatibility/compatibility with an end-time reading of a TSA, suggesting that the presence/absence of a natural endpoint in an action/process involved in a situation is closely

correlated with the telicity of a predicate. Furthermore, while a natural endpoint of an action/process involved in a situation described in (36b) and (36c) are externally imposed[54], that the relevant action/process is understood to be completed/finished under a concrete circumstance owing to expressions such as to the store (36b) and a mile (36c), it is not the case that a natural endpoint of an action/process must be externally imposed and/or overtly expressed. This is demonstrated by the different compatibilities with the end-time reading of a TSA that sentences (37a) and (37b) below show:

(37) a. John ate a pizza in 5 minutes
b. #John carried a pizza in 5 minutes

The situation described in (37a) and (37b) differ from each other minimally by the nature of the action/process they involve. The predicate in the former is understood as telic, whereas the predicate in the latter is understood as atelic. This implies that an action/process involved in a situation described in (37a) is understood to be completed when the situation ends, whereas an action / process involved in a situation described in (37b) is understood to be terminated when the situation ends. All else being equal, this implies that an action/process described in (37a) has a natural endpoint, whereas an action/process described in (37b) lacks a natural endpoint. Because a situation described in (37a) and (37b) differ from each other minimally by the nature of an action/process they involve, the fact that an action/process involved in a situation described in (37a) is understood to have a natural endpoint implies that a natural endpoint of an action/process can be intrinsic to the action/process in question itself; it does not have to be externally imposed. Now, although it appears that an action/process involved in a situation described by telic predicates necessarily have a natural endpoint ((36a) vs. (36b,c), (37a) vs. (37b)), the converse does not hold true; the fact that an action/process involved in a situation described by a predicate has a natural endpoint does not necessarily make the predicate telic. Observe the contrast between (37a) and (38) below:

[54] In this sense, the term 'natural endpoint' may be a somewhat misleading way to describe the temporal property under consideration. However, since we cannot come up with an alternative label for it, we will call it a natural endpoint without any theoretical implications.

(38) #John ate pizza in 5 minutes

Sentence (38) differs from its corresponding sentence (37a) minimally by the nature of the event participant which is understood as the undergoer of the action/process involved in the situation described by the predicate; while a pizza (37a) refers to an entity with a specific quantity (e.g. quantized in Krifka 1989 et seq., [+SQA] in Verkuyl 1972, 1993, 1998, [+q] in MacDonald 2006 et seq., cf. Quine 1960), pizza (38) refers to an entity with an unspecific / non-specific quantity (e.g. cumulative in Krifka 1992 et seq., [-SQA] in Verkuyl 1972, 1993, 1998, [-q] in MacDonald 2006 et seq.). Given that (38) differs from (37a) minimally by the nature of the event participant, it appears reasonable to assume that the action/process involved in the situation described in (38) has a natural endpoint just like in (37a). Now, if the predicate in (37a) is understood to be telic because it describes a situation with an action/process that has a natural endpoint, the predicate in (38) which also describes a situation with an action/process that has a natural endpoint is expected to be telic as well. Contrary to the expectation, however, the predicate in (38) is atelic, as is indicated by the unavailability of the end-time reading of a TSA. This suggests that the presence of a natural endpoint in the action/process that a situation described by a predicate involves does not always make the predicate telic, minimally speaking. Given this fact, it seems plausible to conclude that the presence/absence of a natural endpoint in an action/process involved in a situation described by a predicate is a temporal distinction independent of, though closely correlated with, the telic-atelic distinction of a predicate. Furthermore, given that an action/process involved in a situation described by telic predicates is required to have a natural endpoint ((36a) vs. (36b,c), (37a) vs. (37b)), though the presence of a natural endpoint in the action/process involved in a situation described by a predicate does not always make the predicate telic ((37a) vs. (38)), it appears reasonable to conclude that the presence/absence of a natural endpoint in an action/process involved in a situation described by a predicate is a more fundamental distinction than the telic-atelic distinction. For this reason, although the telicity of a predicate is canonically taken as one of defining temporal properties that characterize basic situation types (e.g. Smith 1991, Tenny 1994, Vendler 1957, among many others), I consider it to be derivative, and define the basic situation types in terms of the nature of an action/process involved in the situation described by a predicate, rather than by the telicity of a predicate. For ease of presentation, this temporal property of a predicate is hereafter referred to as **[+/-NEP]-**

property, a shorthand for a predicate denoting a situation in which an action/process it involves has ([+NEP]-predicate, i.e. accomplishments and achievements) or does not have a natural endpoint ([-NEP]-predicate, i.e. activities).

Before closing this subsection, another remark on the use of an aspectual term is in order. Under the current study, although telicity is not considered one of temporal properties that define basic types of the situation that predicates describe, it is nevertheless considered a fundamental temporal property of a situation described by a predicate, i.e. it has an independent status as a situation aspect of a predicate; a situation described by a predicate is understood as either finite/non-finite (e.g. completive/non-completive) irrespective of it actually being understood to be completed/not completed prior to a reference time. To see this point, consider examples in (39) below:

(39) a. John was eating a pizza in 5 minutes [when Mary entered the room]
b. #John was carrying a pizza in 5 minutes [when Mary entered the room]

Sentences in (39) are an imperfective counterpart of sentences in (37). Recall that viewpoint aspects determine a perspective that a speaker takes on a situation described by a predicate, and unlike perfective aspects that have an effect of viewing a situation in its entirety, imperfective viewpoints have an effect of viewing a situation from within, disregarding the initial point and, crucially, the final point of the situation (Comrie 1976, Smith 1991, Shirai 1998, among others). Now, if the telicity of a predicate does not have an independent status as a situation aspect of a predicate, the telic-atelic distinction observed in a perfective context (e.g. (37)) is expected to be neutralized under the imperfective context such as in (39). However, while (39a) can be felicitous under an interpretation that John was eating a pizza with an intention of finishing it within 5 minutes, such a reading is unavailable in (39b) unless some implicit goal location is assumed, suggesting that a situation described in the former is/can still understood to be finite, contrasting with the latter which is understood to be non-finite. Hence, it appears reasonable to conclude that the telicity of a predicate has an independent status as a situation aspect, though its value is derivative of other properties of a predicate (e.g. [NEP]-property of a predicate and the nature of an event participant) as I have briefly mentioned earlier. For this reason, the term telicity is reserved to describe whether or not the situation described by a predicate is finite/non-

finite, without implying that the situation described by the predicate is actually understood to be completed or not completed.

Note that an important consequence of defining basic situation types on the nature of the action/process involved in a situation (i.e. [NEP]-property of a predicate), and therefore teasing apart the notion of a natural endpoint and a set terminal point of a situation described by a predicate, is that the terms accomplishments and achievements refer to situations that are either telic or atelic, unlike canonical usage of these terms in the literature in which they only refer to telic situations.

3.3 TRE-S verbs and TRE-D verbs in Japanese

In this section, I examine the source of the verbal restriction observed in TREs in Japanese from a view point of event aspect. In order to elucidate the property of a verb that causes the language-particular restriction observed in TREs in Japanese, I limit my attention to the set of verbs in Japanese which corresponds to the set of verbs that are found in well-formed TREs in English.[55] For ease of comparison, verbs that are found in well-formed TREs in Japanese are hereafter referred to as **TRE-S**(ame) **verbs** and those that cannot derive a well-formed TRE in Japanese (e.g. (2)) are referred to as **TRE-D**(ifferent) **verbs**, to indicate that the verbs in question have the same/different ability to derive the RC as their English counterpart. I show that TRE-S verbs and TRE-D verbs in Japanese differ from each other not only in terms of their lexico-semantically specifying/not specifying the particular direction of change their argument can undergo, but they also differ from each other with respect to how they affect the aspectual interpretation of a predicate of which they appear as a component part.

Below are partial lists of the TREs-S verbs and TRE-D verbs in Japanese that are examined throughout this subsection. The list of TRE-S verbs in (40) is derived mainly from Kageyama

[55] Since the RC is a rather marked construction, and thus the well-formedness of a derived sentence can be affected by numbers of different factors, verbs that fail to derive a well-formed TRE in both English and Japanese are excluded from the set of verbs that are examined in this section, assuming that the reason for their failing to derive a well-formed TRE is not related to the reason for the different productivity of the RC in English and Japanese, at least not in a direct way.

(2001, P. 158), with translations added, and the list of TRE-D verbs in (41) is compiled from the literature (i.e. Kageyama 2001, Washio 1997, Takami 1998, among others):[56]

(40) A Partial List of TRE-S verbs in Japanese (Transitive)

kowasu 'break'	*kiru* 'cut'	*ageru* 'deep fry'
	kizamu 'chop (up)'	*atatameru* 'warm'
	tigiru 'tear (into pieces)'	*yaku* 'bake'
	mageru 'bend'	*kawakasu* 'dry'
	oru 'break'	*nurasu* 'wet'
	someru 'dye'	*migaku* 'polish'
	nuru 'paint'	*katameru* 'harden'

a. John-ga sono taoru-o [$_{ResP}$ betabeta]-ni nurasita (koto)
-nom that towel-acc wet-*ni* wetted fact
'(the fact that) John soaked the towel wet'

b. John-ga sono kabin-o [$_{ResP}$ pikapika]-ni migaita (koto)
-nom that vase-acc shiny-*ni* polished fact
'(the fact that) John polished the vase shiny'

c. John-ga yuki-o [$_{ResP}$ gatigati]-ni katameta (koto)
-nom snow-acc hard-*ni* hardened fact
'(the fact that) John hardened the snow very hard (e.g. made a very hard snow ball)'

(41) A Partial List of TRE-D verbs in Japanese (Transitive)

tataku 'beat / pound'	*hiku* 'pull'	*yusuru* 'shake'
	osu 'push'	*utu* 'knock / beat'
	yusaburu 'shake hard'	*kosuru* 'scrub'

[56] For ease of discussion, I first limit myself to discussion of the aspectual properties of TRE-S verbs and TRE-D verbs that are transitive. The aspectual properties of intransitive verbs are discussed in section 3.3.3.

a. *zisin-ga sono ie-o [$_{ResP}$ barabara]-ni yusutta (koto)
earthquake-nom that house-acc pieces-*ni* shook fact8
'(the fact that) the earthquake shook the house to pieces'

b. *bokusaa-ga sono otoko-o [$_{ResP}$ hurahura]-ni utta (koto)
boxer-nom that man-acc breathless-*ni* knock fact
'(the fact that) the boxer knocked the man breathless'

c. *John-ga sono yakan-o [$_{ResP}$ pikapika]-ni kosutta (koto)
-nom that kettle-acc shiny-*ni* scrubbed fact
'(the fact that) John scrubbed the kettle shiny'

Example (21a,b) are from Kageyama 2001, P. 164 (25a', b') with gloss and translation added, and with slight modification

Since there is no cross-linguistic difference that has been reported for the range of intransitive verbs that are found in well-formed TREs in English and Japanese as far as I am aware of, the properties of transitive verbs will be a main focus of study in this chapter.[57]

Following recent tradition in the literature (i.e. Verkuyl 1972, et seq., Tenny 1994, Krifka 1989 et seq., MacDonald 2006 et seq., among others), I assume that the aspectual interpretation of a predicate is determined by the properties of the entire VP, rather than of the V^0 alone[58], implying that the minimal verbal domain in syntax that can be understood as constituting a semantic predicate is a VP. For this reason, I use the terms **predicate** and **VP** interchangeably, the former is used to refer to a linguistic entity in question from semantic perspective, the latter is used to refer to the same linguistic entity from syntactic perspective. Furthermore, given that the aspectual interpretation of a predicate is determined by the properties of the entire VP, I discuss the aspectual properties of the verb through an examination of the aspectual behavior of an

[57] Since the Resultative Construction is subject to the Direct Object Restriction in both English and Japanese, well-formed intransitive TREs generally involve an unaccusative verb in both languages.
[58] As is discussed in section3.2 above, the telicity of a predicate can be affected by the nature of the nominal element that appears as an internal argument of a V^0 in English. While it is unclear to us if the aspectual effect of the nominal element that appears as an internal argument of the V^0 has as immediate an effect on the telicity of the predicate in Japanese as it has in English, I nevertheless control for the nature of the internal argument of the V^0 in Japanese here, in order to maintain some consistency for the purpose of cross-linguistic comparison. Related discussions are found in Chapter 5.3.2.

internally simplex VP in the proposed configurations in (42) in order to eliminate possible influences from other VP-internal elements on the aspectual interpretation of a predicate:[59]

(42) a. English: … [$_{VP}$ V^0 Det-N^0] …
b. Japanese: … [$_{VP}$ [sono N^0]-o V^0] …
that -acc

In what follows, the aspectual properties of TRE-S verbs and TRE-D verbs are examined through concrete linguistic tests, namely, the Time-Span Adverbial (TSA) test and the tui-ni 'finally' test (Hasegawa 1996, Kiyota 2008, Toratani 1997, Tsujimura 1996, 2008, among others). Based on the observation that an internally simplex VP that is headed by a TRE-S verb generally behaves like telic predicates, while the one headed by a TRE-D verb often, if not always, fails to behave like telic predicates, I argue that TRE-S verbs and TRE-D verbs in Japanese differ from each other in that the former have an ability to project a VP that is mapped onto a [+NEP] predicate, whereas the latter lack the relevant ability. Given this independently motivated property of the verb that distinguishes TRE-S verbs and TRE-D verbs from each other, I suggest that Japanese may be able to derive the Resultative Construction (the RC) only with a verb that has that particular aspectual property, and discuss how this restriction on the aspectual property of a verb may surface as the observation that TRE-S verbs are generally understood as lexico-semantically either entailing or implying a certain direction of change that their argument undergoes. Then, I extend my analysis to intransitive verbs, showing that the intransitive verbs that are found in well-formed TREs also conform to the generalization under consideration, confirming that the derivation of the RC is sensitive to a particular aspectual property of the verb in Japanese, namely, the <γ>-feature which enables a VP it projects to be interpreted as a predicate having the [+NEP]-property.

3.3.1 The Time-Span Adverbial Test

It has been discussed in literature that Time-Span Adverbials (TSA) in Japanese such as 3.pun-de 'in 3 minutes' is compatible with a telic predicate, but not with an atelic predicate (Hasegawa 1996, Kiyota 2008, Toratani 1997, Tsujimura 1990, 1996, among others). To be more accurate,

[59] For discussion of the aspectual effect of VP-internal elements other than V^0, please see Chapter 5.

while TSA may co-occur with either telic or atelic predicates to yield a felicitous sentence, it can elicit an **end-time reading** in an out-of-the-blue context only when it co-occurs with a telic predicate. Observe the contrast between (43) and (44) below. The examples in (43) involve a predicate which is understood to be atelic, taken from Kiyota (2008: pp131-132 (10)) with slight modifications, and the examples in (44) involve a predicate which is understood to be telic, derived by using the aspectual classification of verbs discussed in Kiyota (2008):

(43) a.#John-ga **2 zikan-de** (sono hamabe-o) aruita (koto)[60] *Activity*
-nom 2 hour-in that beach-acc walked fact
'#(the fact that) John walked the beach in 2 hours'

b. #John-ga **2 zikan-de** zibun-no hahaoya-o tetudatta (koto) *Activity*
-nom 2 hour-in self-gen mother-acc helped fact
'#(the fact that) John helped his mother in 2 hours'

c. #John-ga **3 kka-de** benkyoo.sita (koto) *Activitiy*
-nom 3 day-in studied fact
'#(the fact that) John studied in 3 days'

(44) a. John-ga **2 zikan-de** ano kuruma-o naosita (koto) *Accomplishment*
-nom 2 hour-in that car-acc fixed fact
'(the fact that) John fixed that car in 2 hours'

b. sono kame-ga **1 ssyuukan-de** sinda (koto) *Achievement*
that turtle-nom 1 week-in died fact
'(the fact that) that turtle died in a week'

c. sono mado-ga **5 hun-de** kumotta (koto) *Inchoative State*
that window-nom 5 minute-in fogged fact
'(the fact that) that window got fogged in 5 minutes'

The sentences in (43) are infelicitous under the end-time reading of the TSA in which the time expressed by the TSA is understood as the duration that it took for the event described by the VP to be completed/finished. In contrast, the sentences in (44) are felicitous under the end-time reading of the TSA.[61] According to Kiyota's (2008) aspectual classification of verbs in Japanese

[60] Note that (43a) can be understood felicitously under the end-time reading of a TSA when there is a contextually understood distance of the beach (e.g. the entire beach), and what it took John two hours to do is understood as walking across the contextually salient distance of the beach in question. This is a general property of Motion Events in which an Accusative case-marked NP can be understood as describing a Path along the motion (e.g. Tsujimura 2008, Muerhleisen and Imai 1996, among others). A related discussion is found in Chapter 5.4.

Note also that the V^0 aruk(u) 'walk' can co-occur with the time-span adverbial when it takes a goal phrase headed by made 'until':

(i) John-ga **15 hun-de** (eki kara) [gakkoo made] aruita
-NOM 15 minute-in station from school until walked
'John walked (from the station) to the school in 15 minutes'

At this point, I will not be concerned with the aspectual properties of the V^0 / VP that co-occurs with the made ' until' phrase.

[61] Note that a sentence in which a TSA co-occurs with an atelic predicate may be felicitous when the time expressed by the TSA is understood as the time that has passed before the event described by the VP begins:

(i) ?Taro-ga 2.zikan-de zibun-no hahaoya-o tetudau (koto-o yakusoku sita)

which defines four classes of eventive verbs (cf. Kindaichi 1976, also Vendler 1967 for English), the VPs in (43) are derived with an Activity verb, whereas the VPs in (44a-c) are derived with an Accomplishment verb, an Achievement verb, and an Inchoative State verb, respectively. Assuming that the aspectual properties of a verb are directly reflected to the eventuality of a predicate when the verb appears as the head of an internally simplex VP, this implies that the VPs in (43) denote an activity, whereas the VPs in (44a-c) describe an accomplishment, an achievement, and an inchoative state, respectively.[62] As is indicated by infelicity of sentences in (43) compared to felicity of sentences in (44) in the presence of a TSA that elicits the end-time reading, a TSA in Japanese usually fails to elicit the end-time reading when it co-occurs with a predicate that denotes an activity, although it can elicit the end-time reading when it co-occurs with a predicate that denotes an accomplishment, an achievement, or an inchoative state. As I have discussed in previous subsection, activities and accomplishments/achievements differ from each other in their [NEP]-property; the former are [-NEP]-predicates that they are understood as describing a situation which is constituted with an action/process that has no natural endpoint, whereas the latter are [+NEP]-predicates that they are understood as describing a situation which is constituted with an action/process which ceases to take place at particular point in time/at under particular circumstances. Furthermore, adopting Kiyota's (2008) definitions, inchoative states are also [+NEP]-predicates.[63] Thus, under the condition in which the internal structure of

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-NOM 2.hours-in self-GEN mother-ACC help fact-ACC promise did
'Taro (promised that he) will help his mother in 2 hours'

While this reading, call it a start-time reading of the TSA, seems to be possible when the TSA co-occurs with an atelic predicate which is in non-past tense, it becomes quite difficult to obtain when a predicate with which a TSA co-occurs is in the past tense. Since it is beyond the scope of this study to provide a full explanation for the behavior of TSAs, and because what is crucial for the current discussion is the availability of an end-time reading of a TSA and not the availability of a start-time reading of a TSA, I do not discuss this issue further. However, in order to eliminate the possibility that a sentence is understood as felicitous due to the availability of the start-time reading of a TSA, the behavior of the predicate with respect to a TSA will be examined in the past tense context. See discussion below as well as MacDonald (2006) for related discussion in English.

[62] As I mentioned in previous subsection, I use small capital letters to refer to a predicate with a particular cluster of aspectual properties that a VP in question is mapped onto (e.g. ACTIVITIES), and a regular font with the first letter capitalized (e.g. Activity) to name the class of verbs that project a VP which can, though is not required to, be mapped onto a predicate with the relevant cluster of aspectual properties (e.g. ACTIVITY).

[63] Kiyota (2008) classifies verbs in Japanese into five classes based on their aspectual behavior, and define them as the following:

(i) a. Activities: $\lambda e.\exists e_1.\exists e_2[e=^s(e_1 \cup e_2)$ & (BECOME(P))(e_1)&(DO(P))$(e_2)]$ Kiyota (2008: P.158)

b. Accomplishments: $\lambda e.\exists e_1.\exists e_2[e=^s(e_1 \cup e_2)$ & (BECOME(P))(e_1)&$\forall$w'[w' is an inertia world w.r.t w at the beginning of e → [$\exists$e'[e' is a culmination of e in w' & e causes e' in w']]]]
Bar-el 2005, Bar-el, Davis and Matthewson 2005m Kiyota 2006b, cited in Kiyota (2008: P. 160)

c. Achievements: λe(BECOME(P))(e) Kiyota (2008: P. 162)

the VP is controlled (e.g. (42b)), the acceptability of the end-time reading of a TSA can illuminate the [NEP]-property of a predicate to which a VP projected by a verb in question can be mapped onto.[64]

Because a TSA in Japanese cannot elicit the end-time reading when it co-occurs with an atelic predicate, a sentence is predicted to be infelicitous under the end-time reading of a TSA whenever it is derived with a VP that is obligatorily mapped onto a [-NEP]-predicate; by definition, [-NEP]-predicates can never be understood as telic. This in turn implies that a VP in question can be mapped onto a predicate that describe an event with an endpoint (i.e. [+NEP]-predicates) if it co-occurs with the end-time reading of a TSA to yield a felicitous sentence. Furthermore, under the condition in which the internal structure of the VP is controlled (e.g. (42b)), an ability/inability of a VP being mapped onto a [+NEP]-predicate can directly be attributed to an aspectual property of a V^0 that heads the VP in question. Thus, this test can be applied to discriminate a particular intrinsic property of a verb, namely, if the verb has an ability to render a VP it projects to be mapped onto a [+NEP]-predicate or not. With these patterns in mind, observe the felicity of sentences in (45) and (46) below. The examples in (45) are derived with an internally simplex VP which is headed by a TRE-S verb, and (46) with an internally simplex VP which is headed by a TRE-D verb:

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d. Inchoative states: $\lambda e.\exists e_1.\exists e_2[e=s(e_1 \cup e_2)\ \&(\text{BECOME}(P))(e_1)\ \&\ P(e_2)]$ Kiyota (2008: P. 163)
e. Homogeneous states: $\lambda e.P(e)$ Dowty 1979, Rothstein 2004, cited in Kiyota (2008: P. 163)

[64] While predicates that describe an event with no endpoint are necessarily understood as atelic, the inverse is not always true. As is discussed in previous subsection, and will be discussed in more details in chapter 5.3, an event may be understood as not culminating either because it lacks an endpoint description as a part of its event representation or because it describes an event whose endpoint cannot be associated with a particular point in the time-scale. For this reason, the claim that a TSA in Japanese fails to elicit the end-time reading when it is interpreted with respect to [-NEP]-predicates may be an undergeneralization of the environments in which a TSA fails to elicit the end-time reading, if a TSA in Japanese fails to elicit the end-time reading whenever it co-occurs with an atelic predicate as is generally assumed in literature. However, since what is crucial for the current study is the fact that a TSA in Japanese cannot elicit the end-time reading when it co-occurs with a predicate that describes an event with no endpoint, and not necessarily the reverse, I do not pursue this question further.

(45) a. John-ga **30 byoo-de** sono taoru-o nurasita (koto)
-nom 30 second-in that towel-acc wetted fact
'(the fact that) John wetted that towel in 30 seconds'

b. John-ga **3 pun-de** sono kabin-o migaita (koto)
-nom 3 minute-in that vase-acc polished fact
'(the fact that) John polished that vase in 3 minutes'

c. John-ga **10 byoo-de** baketsu-no naka-no yuki-o katameta (koto)
-nom 10 second-in bucket-gen inside-gen snow-acc hardened fact
'(the fact that) John hardened the snow in the bucket in 10 seconds'

(46) a. %John-ga **3 pun-de** sono kinzoku-o tataita (koto)
-nom 3 minute-in that metal-acc pounded fact
'(the fact that) John pounded that metal in 3 minutes'

b. %kanozyo-ga **3 pun-de** zibun-no musuko-o ketta (koto)
she-nom 3 minute-in self-gen son-acc kicked fact
'(the fact that) she kicked her son in 3 minutes'

c. %karera-ga **3 pun-de** sono otoko-o nagutta (koto)
they-nom 3 minute-in that man-acc punched fact
'(the fact that) they beat the man in 3 minutes'

d. #John-ga **3 pun-de** sono ki-o yusutta (koto)
-nom 3 minute-in that tree-acc shook fact
'(the fact that) John shook the tree in 3 minutes'

e. #John-ga **3 pun-de** sono kabin-o kosutta (koto)
-nom 3 minute-in that vase-acc scrubbed fact
'(the fact that) John rubbed the vase in 3 minutes'

As is demonstrated by the felicity of the sentences in (45), a TSA can elicit the end-time reading when it co-occurs with a VP which is headed by a TRE-S verb. This implies that the VPs in (45) describe an event that has an endpoint as a proper part of its representation, which in turn indicates that TRE-S verbs consist exclusively of verbs that have the ability to render a VP they project to be mapped onto a [+NEP]-predicate. In contrast, the presence of the end-time reading of the TSA yields a variable result when the VP is headed by a TRE-D verb; as is indicated by '%', (46a-c) are felicitous under a particular reading, contrasting with (46d-e) which are simply infelicitous. At first glance, the variable results found in (46a-c) versus (46d,e) appear to indicate that TRE-D verbs may consist of an aspectually heterogeneous type of verbs in that some TRE-D

verbs have the ability to render a VP they project to be mapped onto a [+NEP]-predicate, (putatively (46a-c)), whereas others lack the relevant ability (46d,e). However, as I will discuss shortly below, a closer examination of the fact that sentences in (46a-c) are felicitous only under the restricted interpretation of a predicate suggests that an event described by a predicate in (46a-c) is unlikely to involve a terminus in its representation, despite the fact that a TSA that co-occurs with these predicates can elicit the end-time reading. In below, I adopt Kiyota's (2008) proposals that a TSA is interpreted with respect to a transition point in a representation of an event denoted by a predicate it modifies, and argue that the restricted interpretation of a predicate found in (46a-c) is most naturally understood if an initial transition point of an event described by these predicates is defined in terms of a culmination of a certain subevent. I explain how the restricted interpretation of a predicate found in (46a-c) may follow from a TSA being interpreted with respect to an initial point of the event denoted by these predicates, which cannot be expected if the end-time reading of a TSA is made available by these predicates denoting an event that involves a final transition point. I argue that predicatess in (46a-c) are understood as denoting an event with no endpoint so much as predicates in (46d,e) are, and suggest that TRE-D verbs may generally lack an ability to render a VP they project to be mapped onto a [+NEP]-predicate, contrasting with TRE-S verbs.

To begin with, (46a-c) are felicitous only under the interpretation in which what is understood to be finished/terminated within the time frame expressed by the TSA is a minimal action/process that brings about a situation described by the predicate. For example, (46a) can only be understood as asserting that John undertook entire 3 minutes to lower his arm to make his fist to touch on the metal just once, and the same goes for (46b) and (46c). This is rather surprising since an event described by the predicates in (46a-c) can usually be understood as describing a situation in which a particular action/process that minimally brings about the event in question takes place either just once or repetitively; (46a) in the absence of a TSA is compatible with either a situation in which John moved his arm to make his fist to touch on the metal just once, or a situation in which John moved his arm to make his fist to touch on the metal multiple times, and the same goes for (46b) and (46c) in the absence of a TSA. Now, if the felicity of (46a-c) in effect comes from the predicates in these sentences describing an event with an endpoint just like in the case of (45), it cannot explain why (46a-c) give a rise to an entailment

that a certain action/process that minimally brings about the event in question takes place just once when this is not the case for the same sentences without a TSA.[65] This minimally suggests that it may be premature to conclude that the VPs in (26a-c) describe an event with an endpoint solely based on the fact that that they can be felicitous under the end-time reading of a TSA.

In effect, the restricted interpretation of a predicate found in (46a-c) under the end-time reading of a TSA can be straightforwardly explained by the general properties of a TSA if the predicates in (46a-c) describe an event with a sub-event structure in which the initial point of the main event is defined in terms of a culmination of (the first token of) its sub-event. Under the assumption that a particular action/process that minimally brings about an event denoted by predicates in (46a-c) constitutes a sub-event of the event that these predicates describe, the entire event that these predicates describe is expected to have the following two characteristic properties. First, given that the predicates in (46a-c) can usually be understood as describing a situation in which a particular action/process takes place either just once or multiple times, these predicates describe an event in which its sub-event is understood as occurring an unspecified number of times. This implies that the entire event described by these predicates is understood as not completing/finishing at any particular condition/time, in a way similar to the event described by the predicates in (46d-e) is understood as not completing/finishing at any particular condition/point in time. This is so because for the entire event to be understood as completing/finishing, there must be a particular circumstance under which an occurrence of its sub-event must cease, though such circumstance cannot exist if the sub-event of the event described by predicates in (46a-c) is in effect understood as occurring unspecific number of times. Thus, the entire event described by predicates in (46a-c) cannot involve the final transition point in its representation, and so predicates in (46a-c) must be a [-NEP]-predicate just like the predicates in (46d,e) are.

Second, observe that the event described by the predicates in (46a-c) generally cannot be understood as occurring when the progress of the particular action/process that minimally brings about the event in question has been started though not completed. Concretely, John-ga sono

[65] For example, (45b) is compatible with a situation in which John spent 3 minutes to cover the entire surface of the vase just once as well as a situation in which John spent 3 minutes to cover the entire surface of the vase multiple times. That is, the presence of the TSA does not seem to entail that the particular action/process that minimally brings about the event described by a VP takes place just once within the time expressed by the TSA.

kinzoku-o tataita 'John pounded the metal' (cf. (46a)) cannot be true when John started lowering his arm with an intention of making his fist to touch on the metal, unless his fist actually touches on the metal, and the same goes for (46b) and (46c) even in the absence of the TSA. Putting it slightly differently, a particular action/process that minimally brings about the event described by the predicates in (46a-c) is indivisible in a sense that its occurrence is evaluated only upon its completion.[66] Under the current assumption, this suggests that the predicates in (46a-c) describe an event in which the initial transition point of the event coincides with the endpoint of (the first token of) its sub-event; the entire event denoted by the predicate is understood to as happening only when its sub-event is completed/finished at least once. Now, given these implications, the facts observed in (46a-c), that the time expressed by a TSA cannot be understood as the time spent to complete/finish a repetitive tokens of an action/process that minimally brings about the event described by the predicate, though it can be understood as the time spent to complete/finish the minimal action/process that brings about the event described by the predicate, can be straightforwardly explained by the following general properties of a TSA: (a) the time expressed by a TSA is understood as the time spent to complete/finish an event described by a predicate when the TSA is interpreted with respect to a final transition point of an event denoted by the predicate it modifies, and (b) in principle, a TSA can be interpreted either with respect to an initial transition point or a final transition point of an event denoted by a predicate it modifies. To see how these general properties of a TSA can explain the restricted interpretation of (46a-c), consider again the infelicity of (43a), in which a TSA co-occurs with a predicate that denotes an activity, in comparison to felicity of (44a), in which a TSA co-occurs with a predicate that denotes an accomplishment, repeated below as (47a) and (47b), respectively:

[66] This suggests that a sub-event of the event denoted by VPs in (46a-c) are quantized, though the main event that these VPs denote is understood as cumulative in the sense of Krifka (1992).

(27) a.#John-ga **2 zikan-de** (sono hamabe-o) aruita (koto) *Activity* = (43a)
-nom 2 hour-in that beach-acc walked fact
'#(the fact that) John walked the beach in 2 hours'

b. John-ga **2 zikan-de** ano kuruma-o naosita (koto) *Accomplishment* = (44a)
-nom 2 hour-in that car-acc fixed fact
'(the fact that) John fixed that car in 2 hours'

Recall that activities differ from accomplishments in that the event representation of the former does not involve an endpoint description whereas the event representation of the latter involves a description about its final transition point. This means that the predicate in (47a) describes an event with no endpoint, contrasting with the predicate in (47b) which is understood as describing an event with an endpoint. Given this difference in an internal temporal structure of an event denoted by the predicate in (47a) and (47b), the fact that a time expressed by a TSA cannot be understood as the time spent for an event denoted by the predicate to be completed/finished in (47a) indicates that a time expressed by a TSA is interpreted through using transition points of an event denoted by the predicate it modifies as a temporal reference point; that is, the time expressed by the TSA cannot be understood as the time spent for the event described by the predicate to be completed/finished in (47a) because an event denoted by the predicate lacks a final transition point in its representation, and therefore, the time expressed by the TSA cannot be understood as the time of an interval between an initial point and an endpoint of an event denoted by the predicate, unlike in (47b) in which an event described by the predicate involve both an initial point and endpoint in its representation. This provides an explanation as to why the time expressed by the TSA in (46a-c) cannot be understood as the time spent for the repetition of the particular action/process that minimally brings about the event described by the predicate to be completed/finished; the main event denoted by the predicates in (46a-c) does not involve a final transition point, and therefore, the time expressed by the TSA cannot be understood as the duration of an interval between an initial transition point and the final transition point of a situation described by these predicates. Furthermore, since what gives a rise to the understanding that a particular action/process that minimally brings about an event described by these predicates is repeated is the progress of the main event denoted by these predicate, the time expressed by the TSA cannot be understood as the time spent to

complete/finish the repeated tokens of the particular action/process that minimally brings about the event described by these predicates, either.

Now, the implication that an initial point of an event denoted by the predicates in (46a-c) is simultaneously understood as a time point at which (the first token of) its subevent culminates can explain why sentences in (46a-c) can be felicitously understood with the end-time reading of a TSA under the restricted interpretation of a predicate. Observe that although a TSA cannot elicit the end-time reading when it co-occurs with a predicate that denotes an event with no endpoint, it can elicit a start-time reading when the predicate appears in non-past tense context:

(48) 2.hun-de sotti-o tetudau kara, tyotto matte! cf. (43b)
2.minutes-in there-acc help because, little.bit wait
'(I will) help you in 2 minutes, so wait!'

The sentence in (48) involves a [-NEP]-predicate, and it is felicitous under the start-time reading of the TSA; the time expressed by a TSA is understood as the time spent before the start of the event described by the VP. The observed fact that the time expressed by the TSA can be understood as the time that elapse before the start of the event described by the predicate shows minimally that the interpretation of the TSA is not always determined by using the final transition point in a representation of an event denoted by a predicate as a temporal reference point; it can be determined by using the initial transition point of an event described by the predicate as a temporal reference point as well.[67] Given that an interpretation of a TSA can, in

[67] As is mentioned in footnote 18 above, the start-time reading of a TSA is generally not available when the event described by the predicate with which it co-occurs is understood as taking place in the past time. This pattern is consistent with the current view that the interpretation of a TSA is derived through the use of a transition point in the representation of an event described by the predicate as a temporal reference point. In order for the time expressed by the TSA to be understood as the time that elapses before the initial point or the endpoint of an event described by a predicate, there must be another temporal reference point from which the time expressed by the TSA can be measured. In the absence of a contextually salient temporal reference point, the required temporal referent point can be either the initial point of an event described by the predicate or the speech time when the TSA is interpreted using the endpoint of an event described by the predicate as its (final) temporal reference point, but it can only be the speech time when the TSA is interpreted using the initial point of an event described by the predicate as its (final) temporal reference point. Then, the fact that the start-time reading of a TSA is generally unavailable in a past-tense context follows from the utterance time failing to function as a proper temporal reference point in the past tense context, since a temporal point at which the sentence is uttered cannot **precede** a temporal point with which the initial point of an event described by the oreducate refers to, and the fact that the availability of the end-time reading of a TSA is usually unaffected by the tense of the sentence follows from the initial point of the event described by the predicate always being available to serve as the required temporal reference point from which the time expressed by a TSA can be measured.

principle, be determined by using the initial point of the event described by the predicate as a temporal reference point, the fact that (46a-c) can be understood as asserting that the time expressed by the TSA is the time spent to complete/finish only the minimal action/process that brings about the event described by the predicate follows if the interpretation of a TSA is determined by using the initial point of the main event described by the predicate in these sentences; because the initial point of the event described by the predicates in (46a-c) is simultaneously understood as the endpoint of (the first token of) a sub-event of the event they describe, the time expressed by the TSA can be understood as the time elapsed before the completion of the initial token of a sub-event of the event these predicate denote simultaneously a the time elapsed before the entire event denoted by these predicates are initiated. Then, the fact that (46a-c) are felicitous under the end-time reading of the TSA does not itself necessarily imply that the predicates in (46a-c) describe an event with an endpoint. On the contrary, because the restricted interpretation found in (46a-c) can be explained only if the TSA **fails** to be interpreted with respect to the entire event described by the predicate, the fact that (46a-c) are felicitous under the end-time reading of the TSA only under the restricted interpretation of a predicate actually serves as support for the idea that the predicates in (46a-c) describe an event with no endpoint. Therefore, despite the mixed pattern observed in (46) with respect to the availability of the end-time reading of a TSA, I can plausibly conclude that an internally simplex VP projected by a TRE-D verb generally fail to be mapped onto a [+NEP]-predicate, which implies that TRE-D verbs generally lack the ability to render a VP they head to be mapped onto a predicate that denote an event with an endpoint, in contrast with TRE-S verbs that **exclusively** consist of verbs that have the relevant ability.[68]

3.3.2 Interpretation of tui-ni 'finally'

The claim that TRE-S verbs and TRE-D verbs in Japanese are set apart from each other in how they affect the aspectual interpretation of a predicate that the VP they head is mapped onto gains support from the interpretational possibilities of tui-ni 'finally' as well. It has been discussed in

[68] The internally simplex VP which is projected by some TRE-S verbs behaves like a telic predicate in some contexts, though like an atelic predicate in others. Furthermore, such a VP is ambiguously understood as telic or atelic when no context (e.g. conversational context, as well as the presence of some modifiers) forces one reading over the other (see also Washio 1997). However, since a VP projected by those TRE-S verbs CAN be mapped onto a [+NEP]-predicate, it does not disrupt the generalization made above. See footnote 27 for related discussion.

Kiyota (2008) that the event modifier tui-ni 'finally' induces different readings depending on the aspectual property of the predicate that it modifies. Specifically, it induces an **event inceptive reading** when it modifies a [-NEP]-predicate that denotes an event with no endpoint, such as an activity, but it induces an **event completion reading** when it modifies a [+NEP]-predicate that denotes an event with an endpoint, such as an accomplishment, achievement, or inchoative state. This is illustrated in (49) and (50) below, respectively. Examples (49) and (50a-b) are taken from Kiyota (2008; P. 137 (16) and P. 138 (18a), P. 144(23c) with slight modifications), and (50c) is derived based on his aspectual classification of verbs in Japanese:

(49) a. John-ga **tui-ni** odotta (koto)
-nom finally danced fact
'(the fact that) John finally danced'

i) √John finally started dancing *Inceptive Reading*
ii) *John finally completed dancing *Completion Reading*

b. John-ga **tui-ni** waratta (koto)
-nom finally laughed fact
'(the fact that) John finally laughed'

i) √John finally started laughing *Inceptive Reading*
ii) *John finally completed laughing *Completion Reading*

c. John-ga **tui-ni** hataraita (koto)
-nom finally worked fact
'(the fact that) John finally worked'

i) √John finally started working *Inceptive Reading*
ii) *John finally completed working *Completion Reading*

(50) a. John-ga **tui-ni** ano kuruma-o naosita (koto)
-nom finally that car-acc fixed fact
'(the fact that) John finally fixed that car'

i) *John finally started fixing that car *Inceptive Reading*
ii) √John finally completed fixing that car *Completion Reading*

b. sono garasu-ga tui-ni wareta (koto)
that glass-nom finally broke$_{Intr}$ fact
'(the fact that) the glass finally broke'

i) *The glass finally started breaking *Inceptive Reading*
ii) √The glass finally completed breaking *Completion Reading*

c. sono baketsu-no mizu-ga tui-ni kootta (koto)
that bucket-gen water-nom finally froze$_{Intr}$ fact
'(the fact that) water in the bucket finally froze'

i) *The water in the bucket finally started freezing *Inceptive Reading*
ii) √The water in the bucket finally completed freezing *Completion Reading*

In (49), tui-ni 'finally' modifies predicates that describe an activity, and it induces only the event inceptive reading; what is understood to have finally happened is the commencement of the

event that the predicate describes. This is confirmed by the fact that the sentences in (49) can be felicitously followed by their respective counterparts in (51) below, which asserts that the event in question is still ongoing:

(51) a. sosite ima-mo odori-tuduke-te iru — cf. (49a)
and now-even dance-continue-*te iru*
'and [he] still continues dancing'

b. sosite ima-mo warai-tuduke-te iru — cf. (49b)
and now-even laugh-continue-*te iru*
'and [he] still continues laughing'

c. sosite ima-mo hataraki-tuduke-te iru — cf. (49c)
and now-even work-continue-*te iru*
'and [he] still continues working'

On the other hand, the examples in (51) show that tui-ni 'finally' induces the event completion reading when it co-occurs with a VP that denotes any of accomplishment (51a), achievement (51b), or inchoative state (51c); what is understood to have finally happened is the completion of the event described by the VP. Furthermore, unlike the sentences in (49), the sentences in (50) cannot be followed by their respective counterparts in (52) without resulting in a contradiction when the event described by the predicates in (50) is understood as one and the same event as the predicates in (50) describe. This indicates that tui-ni 'finally' does not have an option of inducing the event inceptive reading when it modifies a predicate that denotes an accomplishment, achievement, or inchoative state:[69]

[69] Note that (52a,c) are not contradictory to their respective counterparts (50a,c) under the irrelevant reading in which what is understood as continuing is a recurrence of the entire event described by the predicate (e.g. an iterative event reading/habitual reading). This reading is difficult to obtain in (52b) for pragmatic reasons since the event described by the predicate in (52b) describe a change in a state of an entity referred to by the NP which is usually perceived as irreversible; once the glass is broken, only ways by which the same glass can be understood as breaking again are to assume that it is fixed somehow every time it breaks (e.g. it gets glued back together), or the glass in question breaks into smaller pieces as the event is repeated. This contrast with (52a,c) in which a reversal of a change in a state that an entity referred to by the relevant NP is pragmatically natural; it is natural for the same car to have mechanic problems one after another, and the ice to melt as soon as temperature goes up. However, the sentences in (52) are equally contradictory to their respective counterparts in (50) when they are understood as asserting that it is a progress of one and the same event described by the VPs in (50) which is still ongoing in (52). This confirms that tui-ni 'finally' cannot induce an event inceptive reading when it co-occurs with a predicate that denotes an event with an endpoint.

(52) a. #sosite ima-mo (ano kuruma-o) naosi-tuduke-te iru cf. (50a)
and now-even that car-acc fix-continue-*te iru*
'and [he] still continues fixing it'

b. #sosite ima-mo (sono garasu-ga) ware-tuduke-te iru cf. (50b)
and now-even that glass-nom break$_{Intr}$-continue-*te iru*
'and [it] still continues breaking'

c. #sosite ima-mo (sono baketu-no mizu-ga) koori-tuduke-te iru cf. (50c)
and now-even that bucket-gen water-nom freeze$_{Intr}$-continue-*te iru*
'and [it] still continues freezing'

Under Kiyota's (2008) explanation, the different interpretations that tui-ni 'finally' induces in (49) and (50) follow straightforwardly from a particular difference in the internal structure of the event described by the predicate with which tui-ni 'finally' co-occurs. He claims that the event modifier tui-ni 'finally' is interpreted with respect to the right-most transition point available in the representation of an event described by the predicate it modifies, and therefore, tui-ni 'finally' is necessarily interpreted with respect to the initial point of the event when it co-occurs with a [-NEP]-predicate such as an activity which lacks a terminus in its event representation, giving rise to the event inceptive reading, but it is interpreted with respect to the final point/endpoint of an event when it co-occurs with a [+NEP]-predicate such as an accomplishment, achievement, or inchoative state, yielding the event completion reading, since the right-most transition point found in the representation of these events is the final point/endpoint.

Given that tui-ni 'finally' is interpreted with respect to the right-most transition point available in the representation of an event described by the predicate it modifies, tui-ni 'finally' can be used as a way of elucidating aspectual properties of TRE-S verbs and TRE-D verbs. As I have argued in previous subsection, TRE-S verbs and TRE-D verbs differ from each other in that the former have an ability to render a VP they project to be mapped onto a [+NEP]-predicate, whereas the latter lacks the relevant ability. Now, because tui-ni 'finally' is interpreted with respect to the right-most transition point available in the representation of an event described by the predicate it modifies, it is predicted to be possible for tui-ni 'finally' to be interpreted with respect to the endpoint of an event described by a predicate when it co-occurs with an internally

simplex VP that is projected by a TRE-S verb, inducing the event completion reading, though tui-ni 'finally' that co-occurs with an internally simplex VP that is projected by a TRE-D verb is predicted to be necessarily interpreted with respect to the initial point of an event described by the predicate. These predictions are in effect born out, as is discussed one by one below, providing support to the claim that TRE-S verbs and TRE-D verbs have different effect on the aspectual interpretation of the predicate that a VP they head to be mapped onto.

First, recall from the previous subsection that TRE-S verbs in Japanese have the ability to render a predicate that a VP they head to be mapped onto to be understood as describing an event with an endpoint. Given that a predicate derived with a TRE-S verb can be understood as describing an event with an endpoint, tui-ni 'finally' that co-occurs with the VP headed by a TRE-S verb is expected to be able to induce the event completion reading, minimally speaking. This prediction is born out, as is shown in (53) below:

(53) a. John-ga **tui-ni** sono taoru-o nurasita (koto)
-nom finally that towel-acc wetted fact
'(the fact that) John finally wetted that towel'

i) *John finally started wetting that towel *Inceptive Reading*
ii) √John finally completed wetting that towel *Completion Reading*

b. John-ga **tui-ni** sono kabin-o migaita (koto)
-nom finally that vase-acc polished fact
'(the fact that) John finally polished the vase

i) ?*John finally started polishing the vase *Inceptive Reading*
ii) √John finally completed polishing the vase *Completion Reading*

c. John-ga **tui-ni** sono baketu-no naka-no yuki-o katameta (koto)
-nom finally that bucket-gen inside-gen snow-acc hardened fact
'(the fact that) John finally hardened the snow in the bucket'

i) *John finally started hardening the snow in the bucket *Inceptive Reading*
ii) √John finally completed hardening the snow in the bucket *Completion Reading*

In (53), tui-ni 'finally' can unitarily be understood as inducing the event completion reading, rendering support for the claim that TRE-S verbs exclusively consist of verbs that have the ability to render a VP they head to be mapped onto a [+NEP]-predicate. That tui-ni 'finally'

is/can be understood as inducing the event completion reading in (53) is confirmed by the fact that these sentences cannot be followed by their respective counterparts in (54) without resulting in a contradiction:

(54) a. #sosite ima-mo (sono taoru-o) nurasi-tuduke-te iru (koto)
and now-even that towel-acc wetted-continue-*te iru* fact
'(the fact that) [he] still continues wetting it'

b. ??sosite ima-mo (sono kabin-o) migaki-tuduke-te iru (koto)[70]
and now-even that vase-acc polish-continue-*te iru* fact
'(the fact that) [he] still continues polishing it'

c. #sosite ima-mo (sono yuki-o) katame-tuduke-te iru (koto)
and now-even that snow-acc harden-continue-*te iru* fact
'(the fact that) [he] still continues hardening it'

Just like the pattern found in the sentences in (50) and their respective counterparts in (52) above, the sentences in (54) raise a contradiction when they are understood as asserting that a progress of one and the same event described by the predicate in their respective sentences in (53) is still ongoing, confirming that tui-ni 'finally' is understood as inducing the event completion reading in (53).[71] Since the availability of the event completion reading of tui-ni 'finally' indicates that the predicate with which tui-ni 'finally' co-occurs describes an event with an endpoint ((50) cf. (49)), the pattern observed in (53)-(54) points out that an internally simplex VP that is headed by a TRE-S verb can be understood as constituting a[+NEP]-predicate, which in turn suggests that TRE-S verbs generally have an ability to render a predicate that a VP they head is mapped onto to be understood as describing an event with an endpoint, which is contingent with the conclusion drawn from the result of the TSA test discussed earlier.

[70] It seems that (54b) is more easily tolerated than (54a,c) partly because a habitual/iterative-event reading is more readily available for it than in (54a,c) for pragmatic reasons; because (54b) describes an event that does not require its participant to undergo any change in its state, it can be repeated any number of times. Note, however, that it is very difficult, if it is ever possible, to interpret (54b) as asserting that it is the progress of one and the same event described by the VP in (53b) is what is still ongoing. This contrasts with the interpretation found in (51) in which what is understood as continuing is the progress of one and the same event described by the predicate in (49), justifying that the VP projected by migaku 'polish' is understood as constituting a predicate that describes an event with an endpoint.

[71] Again, the sentences in (34) can be understood as not contradicting their respective sentences in (33) under the irrelevant reading in which what is understood as still ongoing is a recurrence of the entire event described by the VP (e.g. an iterative event reading or a habitual event reading). However, just like in the case of (30) and (32), the sentences in (34) raise a contradiction with their respective sentences in (33) when what is understood as still ongoing is the progress of one and the same event described by the VP in (33).

Second, because TRE-D verbs lack the ability to render a predicate which a VP they head is mapped onto to be understood as describing an event with an endpoint, tui-ni ‘finally’ is predicted to be interpreted with respect to the initial point of an event described by the predicate when it co-occurs with an internally simplex VP that is headed by a TRE-D verb. Because tui-ni ‘finally’ induces the event inceptive reading when it is interpreted with respect to the initial point of the event described by a predicate (e.g. (49)), I expect that the event inceptive reading of tui-ni ‘finally’ to always be available when tui-ni ‘finally’ co-occurs with an internally simplex VP that is projected by a TRE-D verb. On the other hand, as I have discussed in previous subsection, because some TRE-D verbs project a VP that is understood as constituting a predicate that describes an event with a sub-event structure in which the initial point of the main event is simultaneously understood as the endpoint of its sub-event, the event completion reading of tui-ni ‘finally’ is also expected to be available in such an environment, though under the restricted interpretation that what is understood to be completed is only (the single token of) the sub-event of the event described by the predicate. These predictions are in effect born out, as is shown in (55) below:

(55) a. John-ga **tui-ni** sono kinzoku-o tataita (koto) cf. (54)
-nom finally that metal-acc pounded fact
'(the fact that) John finally pounded that metal'

i) √John finally started pounding that metal *Inceptive Reading*
ii) %John finally completed pounding that metal *Completion Reading*

b. kanozyo-ga **tui-ni** zibun-no musuko-o ketta (koto)
she-nom finally self-gen son-acc kicked fact
'(the fact that) she finally kicked her son'

i) √She finally started kicking her son *Inceptive Reading*
ii) %She finally completed kicking her son *Completion Reading*

c. karera-ga **tui-ni** sono otoko-o nagutta (koto)
they-nom finally that man-acc punched fact
'(the fact that) they finally started beating that man'

i) √They finally started beating that man *Inceptive Reading*
ii) %They finally completed beating that man *Completion Reading*

d. John-ga **tui-ni** sono ki-o yusutta (koto)
-nom finally that tree-acc shook fact
'(the fact that) John finally shook the tree'

i) √John finally started shaking the tree *Inceptive Reading*
ii) *John finally completed shaking the tree *Completion Reading*

e. John-ga **tui-ni** sono kabin-o kosutta (koto)
-nom finally that vase-acc scrubbed fact
'(the fact that) John finally rubbed the vase'
i) √John finally started rubbing the vase *Inceptive Reading*
ii) *John finally completed rubbing the vase *Completion Reading*

Just like the result of the TSA test discussed in previous subsection (46), the interpretational possibility of tui-ni 'finally' varies across (55a-c) and (55d-e); while tui-ni 'finally' can be understood as inducing either the event inceptive reading or the event completion reading in the former, it can only be understood as inducing the event inceptive reading in the latter. Furthermore, as is indicated by '%', the event completion reading is possible in (55a-c) only under the restricted interpretation that what is understood to be finally completed is a single instance of the particular action/process that minimally brings about the event described by the predicate. The restricted interpretation of predicates found in (55a-c) in the presence of tui-ni

'finally' that induces the event completion reading renders a support to the conclusion drawn from results of TSA test discussed earlier; these predicate are compatible with the event completion reading of tui-ni 'finally' not because they can be understood as denoting an event with an endpoint, but rather, it is because they denote an event with a sub-event structure in which an initial point of the main event is defined in terms of a final point of its sub-event. The event completion reading of tui-ni 'finally' is available only under the restricted interpretation of a predicate in (55a-c) because tui-ni 'finally' must be interpreted with respect to an initial point of the event, implying that the event denoted by predicates in (55a-c) lacks a final transitional point in their representation; because tui-ni 'finally' must be interpreted with respect to an initial point of the event denoted by these predicates, it can induce the event completion reading only due to the fact that the initial point of an event these predicate denote is defined in terms of culmination of (the first token of) its sub-event. Thus, the results of the tui-ni 'finally' test provide further support to the claim that an internally simplex VP that is projected by a TRE-D verb is generally understood as constituting a [-NEP]-predicate. Furthermore, the restricted interpretation found in (55a-c) suggests that an internally simplex VP that is projected by a TRE-D verb constitutes a predicate which is not only generally understood as not describing an event with an endpoint, but also, it generally cannot be understood as describing an event with an endpoint.[72] The conclusion that an internally simplex VP that is projected by a TRE-D verb

[72] It is worth mentioning here that the interpretations of tui-ni 'finally' found in (55a-c) provide another piece of evidence to reject the possibility that the predicates in these sentences are understood as describing an event with an endpoint.

First, recall the pattern observed in (50) and (52) above. As is argued in Kiyota (2008), tui-ni 'finally' is generally interpreted with respect to the right-most transition point available in the representation of an event described by the predicate with which it co-occurs, and thus it is generally interpreted with respect to the endpoint of the event described by the predicate whenever the predicate it modifies describes an event with an endpoint, resulting in inducing the event completion reading, and it usually does not have the freedom to be interpreted with respect to the initial point of the event described by the predicate in such an environment even when the event inceptive reading is contextually forced (e.g. (50), (52)). Hence, it usually cannot induce the event inceptive reading in such an environment. However, in (53a-c), tui-ni 'finally' **can** induce the event inceptive reading or the event completion reading rather freely. Since tui-ni 'finally' can induce the event inceptive reading only when it is interpreted with respect to the initial point of an event described by the predicate, and since tui-ni 'finally' can usually be interpreted with respect to the initial point of an event described by the predicate **only** when the predicate describes an event with no endpoint, the fact that the event inceptive reading and the event completion reading are equally available in (55a-c) minimally suggests that the predicates in (55a-c) are unlikely to be understood as describing an event with an endpoint, at least not consistently.

Second, even if the predicates in (55a-c) are assumed to be aspectually variable, in that they can describe either an event with or without an endpoint, this still undermines the fact that the event completion reading of tui-ni 'finally' is possible only under a restricted interpretation; (55a) cannot mean John finally completed a repeated action/process of making something to have a momentous surface contact with the metal, for example. As I discussed in the previous subsection, the predicates in (55a-c) are usually understood as describing a situation in

generally is understood as constituting a predicate that describes an event with no endpoint is confirmed by the fact that sentences in (55) can be followed by their respective sentences in (56) without incurring any contradiction, even when the event described by the predicate in (56) is understood as one and the same event described by the predicate in (55):

(56) a. sosite ima-mo (sono kinzoku-o) tataki-tuduke-te iru
and now-even that metal-acc pound-continue-*te iru*
'and [he] still continues pounding (it)'

b. sosite ima-mo (zibun-no musuko-o) keri-tuduke-te iru
and now-even self-gen son-acc kick-continue-*te iru*
'and [she] still continues kicking (him)'

c. sosite ima-mo (sono otoko-o) naguri-tuduke-te iru
and now-even that man-acc beat-continue-*te iru*
'and [they] still continue beating (him)'

d. sosite ima-mo (sono ki-o) yusur-tuduke-te iru
and now-even that tree-acc shake-continue-*te iru*
'and [he] still continue shaking (it)'

e. sosite ima-mo (sono kabin-o) kosuri-tuduke-te iru
and now-even that vase-acc scrub-continue-*te iru*
'and [he] still continue rubbing it'

In sum, the interpretation of tui-ni 'finally' that co-occurs with an internally simplex VP that is projected by a TRE-S verb confirms that the VP in question is understood as constituting a [+NEP]-predicate, that it describes an event with an endpoint, whereas the interpretation of tui-ni 'finally' that co-occurs with an internally simplex VP that is projected by a TRE-D verb indicates that the VP in question cannot be understood as constituting a [+NEP]-predicate, that it

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which a particular action/process takes place an unspecified number of time, and so it is expected for the event completion reading of tui-ni 'finally' to be available even when the predicate in question is understood as describing a situation in which the relevant action/process takes place repetitively. Now, if these predicates are simply aspectually variable, there seems to be no reason why they can only be understood as describing a situation in which the relevant action/process takes place only once when they co-occur with tui-ni 'finally' that usually induces the event completion reading.

Since the assumption that the VPs in (55a-c) describe an event with an endpoint does not help explain why the event completion reading of tui-ni 'finally' is possible **only** under the restricted interpretation, and furthermore, since this explanation requires an extra stipulation to account for the fact that tui-ni 'finally' can be understood as inducing the event inceptive reading in the same environment, it seems reasonable to reject the possibility that the predicates in (55a-c) describe an event which is ambiguously understood as having or not having an endpoint.

is obligatorily understood as describing an event without an endpoint, providing further evidence that TRE-S verbs and TRE-D verbs in Japanese have different influences on the aspectual interpretation of a predicate they derive.

3.3.3 Interim Summary and Discussion

Thus far, I have observed that an internally simplex VP that is projected by a TRE-S verbs and one projected by a TRE-D verb generally show different behaviors when they co-occur with event modifiers such as a TSA and tui-ni 'finally'. The results of the TSA test discussed in section 3.3.1 and the interpretational possibilities of tui-ni 'finally' discussed in section 3.3.2 above are summarized in (57a) below. (57b) provides a summary of the general pattern discussed in Kiyota (2008) for different aspectual classes of verbs to be compared with the pattern shown in (57a):

(57) a. Behavior of an internally simplex VP

	Headed by a TRE-S verb	Headed by a TRE-D verb
Compatibility with the end-time reading of a TSA	Yes	a) Possible only under a restricted interpretation b) No
Event inceptive reading of tui-ni 'finally'	No	Yes
Event completion reading of tui-ni 'finally'	Yes	a) Possible only under a restricted interpretation b) No

b. General Pattern

	An event with an endpoint (i.e. accomplishments, achievements, and inchoative states)	An event with no endpoint (i.e. activities)
Compatibility with the end-time reading of a TSA	Yes	No
Event inceptive reading of tui-ni 'finally'	No	Yes
Event completion reading of tui-ni 'finally'	Yes	No

As is summarized in (57) above, predicates derived with an internally simplex VP that is projected by a TRE-S verb generally behave like [+NEP]-predicates that denote an event with an endpoint, such as accomplishments, achievements, and inchoative states, in the environments under consideration, shown in the left-hand side columns in (57a) and (57b). In contrast, predicates derived with an internally simplex VP projected by a TRE-D verb generally behave like [-NEP]-predicates that denote an event with no endpoint, such as activities, in the relevant environment, shown in the right-hand side column in (57a) and (57b). Based on the results of the TSA test and the tui-ni 'finally' test, I have concluded that an internally simplex VP that is projected by a TRE-S verb can generally be understood as constituting a [+NEP]-predicate, whereas the one projected by a TRE-D verb is generally fails to be understood as constituting a [+NEP]-predicate and is obligatorily understood as constituting a [-NEP]-predicate.

An implication of this conclusion is that TRE-S verbs and TRE-D verbs contrast with each other in how they affect an aspectual interpretation of a predicate they derive. While TRE-S verbs involve an aspectual property that enables the VP they head to be understood as constituting a [+NEP]-predicate, TRE-D verbs lack the relevant aspectual property, and thus an

internally simplex VP shows different aspectual behavior when it is headed by a TRE-S verb and TRE-D verb. For the sake of simpler representation, let me hereafter call this intrinsic property of a verb that bears on an aspectual interpretation of a predicate it derives as **<γ>-feature**.[73] Given that TRE-S verbs and TRE-D verbs are distinguished from each other by the presence / absence of a single feature <γ>, the different well-formedness found between TREs in Japanese that are derived with a TRE-S verb and TRE-D verb can be attributed to this difference in their property that affects an aspectual interpretation of a derived predicate; a TRE in Japanese can be well-formed only if it is derived with a verb with the <γ>-feature (e.g. (4) vs. (2)). Examples (2) and (4) are repeated as (58) and (59) below:

[73] What I refer to as <γ>-feature here corresponds roughly to <fe>-feature of a verb proposed in MacDonald (2006) which is a syntactic counterpart of [+SQA] (Specific Quantity of *A*) in Verkuyl (1993). For a moment, I take the <γ>-feature of a verb as a syntactic reflex of (a part of) an aspectual information that the verb lexical semantically encodes, without any discussion. The nature of the <γ>-property of a verb will be discussed in Chapter 5, and it will be argued to be a syntactic feature (the interpretable feature <γ>) that contributes to a selection of a functional element that merges with a VP.

(58) TREs that are derived with a V^0 that lacks the <γ>-feature

a. *kanozyo-wa musuko-o azadarake-ni ketta = (2)
she-top son-acc black.and.blue-*ni* kicked
'She kicked her son black and blue'

b. *karera-wa sono otoko-o timamire-ni nagutta
they-top that man-acc bloody-*ni* bashed
'they beat the man bloody'

c. *zisin-ga hurui ie.ie-o barabara-ni yusutta
eartyquake-nom old house.house-acc pieces-*ni* shook
'The earthquake shook the old houses to pieces'

(59) TREs that are derived with a V^0 that has the <γ>-feature

a. kottoo.mono-no kabin-ga kona.mizin-ni kowareta = (4)
antique.thing-gen vase-nom powder.miniscule-*ni* broke
'The antique vase broke into pieces'

b. kare-wa fensu-o siro-ku nutta
he-top fensu-acc white-*ku* painted
'He painted the fence white'

c. kanozyo-wa kutu-o pikapika-ni migaita
she-top shoes-acc shiny-*ni* polished
'She polished the shoes shiny'

Then, it seems natural to think that a particular difference in the lexical semantics of TRE-S verbs and TRE-D verbs discussed earlier, namely, that TRE-S verbs lexico-semantically either entail or imply a certain direction of change that their argument undergoes, whereas TRE-D verbs don't, may be correlated with this difference in how TRE-S verbs and TRE-D verbs can affect an aspectual interpretation of a derived predicate. In effect, if I consider what it means for a verb to have the <γ>-feature, the reason why TRE-S verbs are generally understood as lexico-semantically either entailing or implying a certain direction of change their argument undergo becomes rather obvious. Essentially, for a predicate to be understood as describing an event with an endpoint, the representation of the event denoted by the predicate must involve some description about the final transition point of the event. Then, for a verb to be able to render a VP it heads to be understood as constituting a [+NEP]-predicate, the lexical semantics of that verb

must involve some description about the final transition point of the event denoted by a predicate which the VP it heads gets mapped onto. However, this does not restrict the group of <γ>-feature bearing verbs to be necessarily a change-of-state verb such as waru 'break (Tr.)' which names an action/process whose natural endpoint coincide with the particular state that its undergoer acquires, and so verbs like migaku 'polish' that names an action/process whose natural endpoint can be defined either on the particular state its undergoer acquires or on the quantity of its undergoer (e.g. polishing the vase can be understood as completed either when the vase becomes clean/shiny or when the action/process covers through the entire surface of the vase) are also included.

Now, if it is in effect the case that Japanese can derive the RC only with a verb that has the <γ>-feature, I expect that a class of intransitive verbs that are found in well-formed TREs in Japanese to consists exclusively of verbs that have the <γ>-feature just like TRE-S verbs are, since intransitive TREs and transitive TREs are equally supposed to be derived with the RC. This prediction is born out, rendering a support to the claim that Japanese can derive the RC with only a verb that encodes the <γ>-feature. A partial list of intransitive verbs that are found in well-formed TREs in Japanese is provided in (60) below, which is derived from Kageyama (2001, P. 158) with gloss added:

(60) A partial list of intransitive verbs that are found in well-formed TRE in Japanese

kowareru 'break'	*tubureru* 'flatten'	*kudakeru* 'get smashed'
wareru 'crack'	*sakeru* 'split'	*kuzureru* 'get dissolved / deformed'
tigireru 'get torn (apart)'	*magaru* 'bend'	*oreru* 'break'
somaru 'get dyed'	*agaru* 'get fried'	*atatamaru* 'get warmed'
yakeru 'get cooked'	*kooru* 'freeze'	*kawaku* 'get dry'
hi.agaru 'get dehydrated'	*nureru* 'get wet'	*katamaru* 'harden'
yurumu 'loosen'	*areru* 'roughen'	*yaseru* ' lose weight'
tokeru 'melt'		

koppu$_{j}$-ga [$_{XP}$ mapputatu]$_{j}$-ni wareta (koto)
cup -nom two.pieces-*ni* broke$_{Intr.}$ fact
'(the fact that) the cup broke into halves'

booru$_{j}$-ga [$_{XP}$ petyanko]$_{j}$-ni tubureta (koto)
ball-nom flat-*ni* flattened fact
'(lit.)(the fact that) the ball flattened very flat'

ame$_{j}$-ga [$_{XP}$ konagona]$_{j}$-ni kudaketa (koto)
candy-nom pouderly-*ni* got.smashed fact
'(the fact that) the candy got smashed into pieces'

(61) and (62) below apply the TSA test and tui-ni 'finally' test to internally simplex VPs projected by the intransitive verbs that are found in well-formed TREs in Japanese. Recall that these tests elucidate if a verb in question encodes/does not encode the <γ>-feature through an availability / unavailability of a particular interpretation of the event modifier; the end-time reading of a TSA as well as the event completion reading of tui-ni 'finally' are available only when they co-occurs with an [NEP]-predicate which denote an event that involves a final transition point as a proper part of its representation. Now, observe that the relevant interpretation of event modifiers is available whenever these modifiers co-occur with an internally simplex VP that is projected by a class of intransitive verb that are found in well-formed TREs:

(61) a. sono konpyuutaa-ga **1 ssyuukan-de** kowareta (koto)
that computer -nom 1 week-in broke$_{Intr.}$ Fact
'(the fact that) the computer broke in 1 week'

b. sono sara-ga **3 pun-de** wareta (koto)
that plate -nom 3 minute-in cracked fact
'(the fact that) the plate cracked in 3 minutes'

c. ano kaban-no moti.te-ga **1 ssyuukan-de** tigireta (koto)
that bag-gen hold.hand-nom 1 week-in torn fact
'(the fact that) the handle of the bag got detached in 1 week'

(62) a. konpyuutaa-ga tui-ni kowareta (koto)
computer-nom finally broke$_{Intr.}$ fact
'(the fact that) the computer finally broke'
i) *the computer finally started breaking *Inceptive Reading*
ii) √the computer finally completed breaking *Completion Reading*

b. sara-ga tui-ni wareta (koto)
plate-nom finally cracked fact
'(the fact that) the plate finally cracked'
i) *the plate finally started cracking *Inceptive Reading*
ii) √the plate finally completed cracking *Completion Reading*

c. kaban-no moti.te-ga tui-ni tigireta (koto)
bag-gen hold.hand-nom finally torn fact
'(the fact that) the handle of the bag is finally detached'
i) *the handle of the bag finally started tearing *Inceptive Reading*
ii) √the handle of the bag finally completed tearing *Completion Reading*

As is indicated by the compatibility with the end-time reading of a TSA in (60)[74] as well as the availability of the event completion reading of tui-ni 'finally' in (62), an internally simplex VP

[74] Note that sentences in (61) are somewhat awkward in an absence of a contextually salient temporal reference point. However, the reason for this seems to be because predicates in these sentences describe an event with no duration, and not because they describe an event with no endpoint. As is discussed in Kiyota (2008), unaccusative verbs in Japanese usually derive a punctual/non-durative predicate such as ACHIEVEMENTS and INCHOATIVE STATES. Since the RC rejects Unergative verbs (see chapter 2) for a construction-specific reason, the fact that the verbs listed in (60) are found in well-formed TREs suggests that they are Unaccusative verbs. This implies that the predicates in (61) describe an event that has no duration, which in turn implies that these predicates describe an event which either involves an endpoint as the sole transition point in its event representation, or it involves both an initial point and an endpoint in its event representation, though the initial point and the endpoint would be understood as referring to the same temporal point. Now, as I discussed in footnote 24 concerning the unavailability of the start-time reading of a TSA in the environment in which an event described by a predicate is understood to take place in a past time, a TSA generally fails to be interpreted properly when it cannot find two temporal reference points, be it a combination of a contextually salient temporal reference point (e.g. either through providing context or a speech time) and a particular transition point in the representation of the event described by the VP with which it co-occurs,

that is projected by an intransitive verb found in well-formed TRE is generally understood as describing an event with an endpoint. This lends support for the proposal that well-formed intransitive TREs in Japanese **exclusively** involve a verb that has the ability to render a VO they project to be understood as constituting a [+NEP]-predicate, just like well-formed transitive TREs do, confirming that well-formed TREs in Japanese generally involve a verb that encodes the <γ>-feature, irrespective of their transitivity. Then, the language-specific pattern found among TREs in Japanese may be generalized in aspectual terms as in the following:

(63) **Generalization I**: TREs in Japanese
In Japanese, the RC can be derived with only a verb that encodes the <γ>-feature

The generalization given in (63) implies that whether or not a verb in question encodes the <γ>-feature plays a crucial role in the derivation of the RC in Japanese. That is, the derivation of the RC may converge when a verb that has the <γ>-feature appears as its V^0, but the derivation crashes whenever a verb that does not encode the <γ>-feature appears in its place. If this is in effect the case, there remain two possibilities why English has a wider range of TREs than Japanese has: (a) unlike in Japanese, the English counterpart of TRE-S verbs and TRE-D verbs equally involve the <γ>-feature, or, (b) unlike in Japanese, the derivation of the RC is not sensitive to the <γ>-feature of the verb that appears as its V^0 in English. In the following subsection, I discuss each of these possibilities, and show that the cross-linguistic difference in the range of TREs found in English and Japanese cannot be reduced to some mismatch in the lexicon of these languages, and thus it must be explained by some difference in language-specific properti(es) of English and Japanese that makes the derivation of the RC sensitive/not sensitive to the relevant property of a verb that appears as its V^0.

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or two transition points (e.g. an initial point and an endpoint) in the representation of the event described by the predicate it modifies. Then, for a TSA to be properly interpreted in (61) in which transition point(s) in a representation of the event denoted by the predicate provides only a single temporal referent point, there must be a certain contextually salient temporal reference point available, which makes these sentences to be somewhat awkward in the out-of-the-blue context.

3.4 Aspectual Properties of Verbs in English TREs

Recall from (1)-(4) that TREs in English involve a wider range of verbs than TREs in Japanese involve. Examples (1)-(4) are repeated below as (64) and (65):[75]

(64) a. The antique vase shattered into a million pieces } TRE-S = (1) & (3)
b. He painted the fence white
c. She polished the shoes to a brilliant shine
d. She kicked the dog black and blue } TRE-D
e. They beat the man bloody
f. The earthquake shook the old houses to pieces

(65) a. kottoo.mono-no kabin-ga kona.mizin-ni kowareta } TRE-S = (2) & (4)
antique.thing-gen vase-nom powder.miniscule-*ni* broke
'The antique vase broke into pieces'

b. kare-wa fensu-o siro-ku nutta
he-top fensu-acc white-*ku* painted
'He painted the fence white'

c. kanozyo-wa kutu-o pikapika-ni migaita
she-top shoes-acc shiny-*ni* polished
'She polished the shoes shiny'

d. *kanozyo-wa musuko-o azadarake-ni ketta } TRE-D
she-top son-acc black.and.blue-*ni* kicked
'She kicked her son black and blue'

e. *karera-wa sono otoko-o timamire-ni nagutta
they-top that man-acc bloody-*ni* bashed
'they beat the man bloody'

f. *zisin-ga hurui ie.ie-o barabara-ni yusutta
eartyquake-nom old house.house-acc pieces-*ni* shook
'The earthquake shook the old houses to pieces'

As is suggested by the different patterns observed in (64) and (65), the verbs that appear in a well-formed TRE in English are not restricted to those that lexico-semantically entail/imply a particular direction of change its argument can undergo ((64a-c) vs. (64d-g), cf. (65a-c) vs. (65d-

[75] Although (64a-c) and (64d-g) are equally considered grammatical, it appears that the latter show more speaker variations in acceptability than the former. This seems to be correlated with some difference in an aspectual property of a verb involved in these sentences.

g)). Given that the difference in well-formedness found between (65a-c) and (65d-g) comes from a difference in a particular property of the verb that affects an aspectual interpretation of a derived predicate, namely, if the verb in question encodes/does not encode the <γ>-feature, the fact that their English counterparts ((64a-c) and (64d-g)) **are** well-formed suggests that either the English counterparts of TRE-S verbs and TRE-D verbs are undistinguished from each other with respect to the <γ>-feature, or the fact that a verb which appears in a V^0 position of the RC has/does not have the <γ>-feature does not play a crucial role in the derivation of the RC in English.

The first possibility is that well-formed TREs in English and Japanese involve a different range of verbs simply due to some mismatch in the lexicons of these languages. Because what determines whether a particular verb encodes/does not encode the <γ>-feature may be lexically determined, the fact that a particular verb in one language expresses a similar meaning to a verb in another language does not necessarily mean that these verbs also have the same influence to an aspectual interpretation of a predicate they derive. Thus, because a verb is lexically assigned as encoding/not encoding the <γ>-feature, it could be a language-specific idiosyncratic lexical property that causes TREs in English and Japanese to involve a different ranges of verbs. If this is the case, the well-formedness of (64d-g) in contrast to the ill-formedness of (65d-g) does not raise any question about the RC; TRE-D verbs in English **does** encode the <γ>-feature, and therefore, they can derive the RC. In other words, a derivation of the RC can converge iff a verb that appears in its V^0 position has the <γ>-feature, and TREs in English and Japanese involve different ranges of verbs simply because a range of verbs that are lexically determined to have the <γ>-feature in these languages are different. However, as I will discuss shortly below, this possibility can be rejected on the grounds that not all verbs that are found in well-formed TREs in English have an ability to render a predicate they derive to be understood as describing an event with an endpoint, which suggests that they do not always have the <γ>-feature.

In what follows, I examine the aspectual properties of verbs that are found in well-formed TREs in English through concrete linguistic tests, namely, the Time-Span Adverbial Test and the Durative Phrase test, and show that not all verbs that are found in well-formed TREs in English has the <γ>-feature. Based on this finding, I argue that the cross-linguistic difference in the range

of TREs observed in English (64) and Japanese (65) is irreducible to some mismatch in the lexicon of these languages, and argue that different sensitivities to the <γ>-feature of the verb that the derivation of the RC shows in English and Japanese calls for a principled explanation.

3.4.1 A Time-Span Adverbial Test

As has been discussed in the literature (Dowty 1979, Tenny 1987, 1994, MacDonald 2006, among many others), Time-Span Adverbials (TSAs) in English such as in 3 minutes show similar behavior to the TSAs in Japanese discussed earlier, in that they can co-occur with a VP to yield the end-time reading when the VP in question is understood as constituting a telic predicate, though they fail to elicit the end-time reading when the VP in question is understood as constituting an atelic predicate.[76] This is demonstrated in (66) below:

(66) a. #John carried the raccoon **in 3 minutes**	activity
b. John caught the raccoon **in 3 minutes**	achievement
c. John tamed the raccoon **in 3 minutes**	accomplishment

Following the generally held view that activities are distinguished from achievements and accomplishments by the absence of a terminus in their event representation (Vendler 1967, Smith 1991, Dowty 1979, Verkuyl 1993, MacDonald 2006 et seq., among others)[77], a predicate derived with an internally simplex VP that involves a Det-N^0 internal argument (i.e. (62a)) is understood as atelic when it is [-NEP] such as ones denoting an activity, but it is understood as telic when it is [+NEP] such as ones denoting an accomplishment or achievement. As can be suggested by the infelicity of (66a) in contrast to the felicity of (66b,c), a TSA can elicit the end-time reading when it co-occurs with a predicate which is understood to be telic (66b,c), but not when it co-

[76] MacDonald (2006) notes that TSAs in English can elicit the start-time reading when they co-occur with a VP that describes an event with no endpoint. However, similar to the pattern observed in Japanese, the start-time reading of a TSA may be available only when the VP in question appears under the scope of a non-past tense/modal (i.e. future, present, generic, etc.). Furthermore, he also suggests the choice between the start-time reading and the end-time reading of the TSA in English is more a matter of preference, rather than categorial, when the TSA co-occurs with a predicate that describes an event with an endpoint. However, again, this seems to be true only when the VP in question appears under the scope of a non-past tense/modal.

[77] As I have introduced in section 3.2., the eventuality described by a predicate is generally discussed in terms of two or more aspectual properties such dynamicity, durativity, as well as telicity (i.e. Vendler 1967,Verkuyl 1989, Tenny 1997, among others). However, since the main focus of this study is not to provide a fine-grained characterization of different eventualities, I content myself with a rather broad characterization, such as the one mentioned here. See Verkuyl (1989, 1993) for a summary and discussion of the different aspectual classifications proposed in the literature.

occurs with a predicate which is understood to be atelic (66a). Thus, in the environment in which the predicate in question is syntactically represented as an internally simplex VP that involves a Det-N^0 internal argument, the availability of the end-time reading of a TSA suggests that the predicate in question describes an event with an endpoint (i.e. [+NEP]-predicates), and the unavailability of the end-time reading of a TSA indicates that the predicate in question describes an event with no endpoint (i.e. [-NEP]-predicates).[78] Keeping this pattern in mind, let me consider the felicity of the following sentences:

(67) a. ??The antique vase shattered **in 3 minutes**
b. He painted the fence **in 3 minutes**
c. She polished the shoes **in 3 minutes**
d. ??She kicked the dog **in 3 minutes** ???START/*end
e. ??They beat the man **in 3 minutes** ???Start/*end
f. #The earthquake shook the old houses **in 3 minutes**

In (67), TSAs co-occur with internally simplex VPs which are headed by verbs that are found in a well-formed TRE (64), and while the sentences in (67b-c) can be felicitous under the end-time reading of a TSA, the sentences in (67f) cannot. Furthermore, the sentences in (67a, d, e) are only marginally acceptable under the reading in which the time expressed by the TSA is the time spent for the event described by the predicate to be completed/finished, and they require the presence of a contextually salient temporal reference point from which the time expressed by the TSA can be measured.[79] The pattern observed in (61) indicates that a TSA has no way to elicit

[78] Note that I take the unavailability of the end-time reading of a TSA as evidence for the predicate in question describing an event with no endpoint, but I take the availability of the end-time reading of a TSA as only suggestive of the VP in question describing an event with an endpoint. This is so because, as I discussed in section 3.3.1 concerning the interpretation of a TSA in Japanese, the end-time reading of a TSA may be available even when the predicate it modifies describes an event with no endpoint, so far as the predicate describes an event with a sub-event structure thereby making the initial point of the entire event it describes to be simultaneously understood as a temporal point at which (the first occurrence of) its sub-event culminates. Since it is beyond the scope of this study to provide a full account of TSAs in English, and since the only thing that I am trying to show here is that not every verb that is found in well-formed TREs in English can render a VP they project to be understood as constituting a predicate describes an event with an endpoint, it is sufficient to know that the failure of a TSA to elicit the end-time reading indicates that the predicate it modifies is a [-NEP]-predicate, that an event it denotes cannot involve an endpoint description as a proper part of its representation.

[79] The fact that the sentences in (67a,d,e) can have any interpretation only in a presence of a contextually salient temporal reference point suggests that a TSA in English may be properly interpreted only in the presence of two temporal reference points in a way similar to a TSA in Japanese; they are marginal in the out-of-blue-context because the speech time cannot be used as a proper temporal reference point for the interpretation of the TSA when the VP in question appears in the scope of past tense. Furthermore, this suggests that the predicates in (67a,d,e) describe an event that involves only a single transition point in its event representation; a TSA cannot be properly

the end-time reading in (67f), which in turn implies that at least this predicate, possibly along with some others in (67), fail to be understood as describing an event with an endpoint. Thus, the infelicity of (67f) shows that at least some verbs that are found in well-formed TREs in English do not encode the <γ>-feature, which provides evidence that the cross-linguistic difference in the range of TREs observed in English and Japanese (64)-(65) cannot be reduced to some mismatch in the lexicon of these languages.

3.4.2 The Durative Phrase Test

The conclusion that not every verb found in well-formed TREs in English has the <γ>-feature is confirmed by the results of the Durative Phrase test. As has been discussed in the literature, Durative Phrases in English, such as for 3 minutes, are generally compatible with an atelic predicate, though not with a telic one (Borer 2005, Dowty 1979, Pustejovsky 1991, Tenny 1987, among others). To be more precise, while a Durative Phrase can co-occur with either a telic predicate or an atelic predicate to yield a felicitous sentence, it is compatible with a single-event reading of the predicate only when the predicate in question denotes an event with no endpoint (Verkuyl 1993, see also MacDonald 2006 for detailed descriptions of each of the different interpretations that Durative Phrases in English may induce). This is illustrated in (68) below:

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interpreted because only one temporal reference point is provided by the internal temporal constitution of the event described by the predicate. Notice, however, although (67a) and (67d,e) may be equally marginal because the predicate in question cannot provide two temporal reference points for the interpretation of the TSA, there seems to be some difference in the internal structure of the event described by the predicate in these sentences. Similar to the case discussed in Japanese, what can be understood as completing/finishing within the time expressed by the TSA in (67d,e) is the minimal action/process that can bring about the event denoted by the predicate, though not a repetition of the action/process in question, although the predicate in (67d,e) can be understood as describing a situation in which the relevant action/process takes place repeatedly in the absence of the TSA. This suggests that the end-time reading of a TSA may be made available in (67d,e) because these predicates describe an event which its initial transition point is defined in terms of a culmination of (the first occurrence of) its subevent; the TSA can be interpreted with respect to the initial point of the event described by the predicate, yet it can elicit the end-time reading because the initial point of the event described by the predicate is simultaneously understood as the endpoint of its sub-event. On the other hand, the interpretation of the predicate in (67a) does not change in the presence/absence of a TSA, suggesting that the predicate in (67a) describes an event in which either the sole transition point in the representation of the event is an endpoint/final point, or, the initial point and the endpoint of the event it describes refers to the same point in time (e.g. no duration involved). Since it is beyond the scope of this study to provide a full explanation of the behavior of TSAs in English, I do not discuss it further here.

(68) a. #John ate a sandwich for an hour *Telic predicate*
b. John wanted a sandwich for an hour *Atelic predicate*

While the sentence (68a) can be given either a forced repetition or forced stretching reading (e.g. John repeatedly ate a sandwich over a period of one hour or John ate from one sandwich over a period of one hour), it does not have the single-event reading in which John ate and consumed one sandwich over a period of one hour (Verkuyl 1993), contrasting with (68b) in which John's wanting of a sandwich lasted over a period of one hour. Taking this fact into consideration, observe the availability of the single-event reading of a predicate in the following sentences:

(69) a. #The antique vase shattered **for 3 minutes**[80]
b. He painted the fence **for 3 minutes**
c. She polished the shoes **for 3 minutes**
d. %She kicked the dog **for 3 minutes**[81]
e. They beat the man **for 3 minutes**
f. The earthquake shook the old houses **for 3 minutes**

As is indicated by the varied felicity found across the sentences in (69), the single-event reading of the predicate is available in (69b,c,e,f), though not in (69a).[82] Since the single-event reading of a predicate is available only if the predicate in question can be understood as atelic (68), this

[80] (69a) is infelicitous under any interpretation that the Durative Phrase may elicit; it disallows a 'forced stretching' reading due to the punctual nature of the event it describes, and it disallows a 'forced repetition' reading since it describes an event whose resultant state is irreversible.

[81] Note that (69d) can be felicitous only under the interpretation in which the particular action/process that minimally brings about the event described by the predicate takes place repeatedly over the period of time expressed by the Durative Phrase. Since (69b,c,e,f) are also understood as describing a situation in which the certain action/process that minimally brings about the event takes place repeatedly over the period of time expressed by the Durative Phrase, one may consider the particular reading of (69d) may be the single-event reading. However, consider the following sentences (p.c. Marlin Tayler):

(i) a. John kicked the dog three times
b. John shook the tree three times

In (i-a), what John repeated three times can be understood only as the particular action/process that makes his foot to have momentum surface contact with the dog, whereas in (i-b), what John repeated three times can be understood as the minimal action/process that makes some part of the tree to move (e.g. a single pushing/pulling) or a sequence of actions/processes that makes some part of the tree to move (e.g. multiple pushings/pullings).

[82] Notice that a predicate which is compatible with the end-time reading of a TSA does not always fail to yield the single-event reading in the presence of a Durative Phrase, and vice versa (e.g. (67b,c) and (69b,c)). This suggests minimally that the telicity of some predicates, though not necessarily the internal temporal constitution of the event it describes, may be affected by the presence of certain event modifiers and/or by some contextual information, and so some caution seems to be needed in the interpretation of the result of traditional linguistic tests that are used to diagnose event telicity and/or event aspect.

shows that not every predicate which is derived with a VP projected by verbs that are found in well-formed TREs in English must be understood as telic, minimally speaking. Moreover, because an event described by a predicate which is syntactically represented as an internally simplex VP that involves a Det-N^0 internal argument can be understood as atelic only when it lacks an endpoint description as a proper part of its representation, the pattern observed in (69) shows that not every verb found in well-formed TREs in English obligatorily render a VP it projects to be understood as constituting a predicate that describes an event with an endpoint, minimally speaking. This implies that some verbs that are found in well-formed TREs in English either do not have the <γ>-feature or they have the <γ>-feature only optionally. Together with the results of TSA test discussed in previous subsection, it now seems reasonable to conclude that not every verb that is found in well-formed TREs in English necessarily encode the <γ>-feature. Thus, the results of the Durative Phrase test, too, suggest that the cross-linguistic difference in the range of TREs found in English and Japanese is difficult to be reduced to a mismatch in the lexicon of these languages whereby English and Japanese verbs of similar meanings simply differ in having/not having the <γ>-feature. Rather, the discussion in the preceding sections show that well-formedness of TREs in English is most likely not influenced by the fact that a verb in question has/does not have the <γ>-feature, contrasting with TREs in Japanese that are well-formed only if they involve a verb that have the <γ>-feature.

3.4.3 Interim Summary

In this section, I have examined the set of verbs that are found in well-formed TREs in English through the TSA test and the Durative Phrase test, and observed that some verbs have the effect of rendering a predicate derived with a VP they head to be understood as describing an event with an endpoint, whereas others seem to lack the relevant ability. Given that the set of verbs that are found in well-formed TREs in English do not consist exclusively of verbs that encode the <γ>-feature, I concluded that the cross-linguistic difference in the range of TREs found between English and Japanese cannot be reduced to some mismatch in the lexicon of these languages.

Based on the observation that the set of verbs that are found in well-formed TREs in English consists of verbs that can render a VP they head to be understood as constituting a predicate that describes an event with an endpoint, as well as verbs that lack the relevant

aspectual influence, the intra-linguistic pattern of the TREs in English can be generalized as the following:

(70) **Generalization II**: TREs in English cf. (63)
In English, the RC can be derived with either a verb that has the <β>-property or the one that lacks it

The generalization given in (70) implies that in English, unlike in Japanese, the derivation of the RC is not sensitive to the <γ>-feature of a verb that appears as its V^0 position. Now, since TREs in English and Japanese are equally derived with the RC, which implies that they should be subject to parallel syntactico-semantic restrictions, the different sensitivity to the <γ>-feature of the verb that the derivation of the RC shows in English (70) and Japanese (63) must be explained as some difference(s) in independently motivated language-specific properti(es) of English and Japanese interfering the derivation of the RC in these languages.

3.5 Summary and Conclusion

In this chapter, I have examined the aspectual properties of the verbs that are found in well-formed TREs in English and Japanese through concrete linguistic tests. In section 3.1, I went over some previous accounts of the cross-linguistic behavior of TREs in English and Japanese, and pointed out some questions that are left unanswered in these approaches. In section 3.2, I introduced and defined the aspectual terms used in this study in order to set up some background for to discuss aspectual properties of verbs that are found in well-formed TREs in English and Japanese. Section 3.3 showed that showed that the set of verbs that are found in well-formed TREs in Japanese consists exclusively of verbs that have the ability to render the VP they head to be understood as constituting a predicate that describes an event with an endpoint. Additionally, I showed that the set of verbs that cannot derive a well-formed TREs in Japanese, though their English counterparts can, generally do not have the relevant ability. Based on this observation, I concluded that the derivation of the RC is sensitive to the relevant ability of the verb in Japanese, and suggested two possible sources for the different range of TREs in English and Japanese; (a) some mismatch between the lexicon of English and Japanese, or (b) that the derivation of the RC shows different sensitivity to the relevant ability of the verb that appears as its V^0 in these

languages. Section 3.4 was dedicated to eliminating the first possibility in order to motivate the second. I examined the aspectual influence of verbs that are found in well-formed TREs in English, and showed that not every verb that is found in well-formed TREs in English has the ability to render the VP it heads to be understood as constituting a [+NEP]-predicate. Given this observation, I concluded that the cross-linguistic difference in the range of TREs found between English and Japanese cannot be reduced to some mismatch in the lexicon of these languages, and so it must be explained by some independently motivated difference(s) in language-particular properti(es) of English and Japanese that interacts with a derivation of the RC.

Chapter 4 Aspectual Properties of the RC

4.1 Introduction:

In the previous chapter, I observed that TRE-S verbs and TRE-D verbs in Japanese involve a different aspectual property, namely, the former has the <γ>-feature which enables a VP they head to be understood as constituting a [+NEP]-predicate, a predicate that denotes an event with an endpoint, contrasting with the latter that do not encode the <γ>-feature, and concluded that the derivation of the RC may be affected by this intrinsic property a verb in Japanese. On the other hand, I also observed that not all well-formed TREs in English involve a verb that encodes the <γ>-feature, which indicates that the cross-linguistic difference in the range of verbs found in well-formed TREs in English and Japanese cannot be reduced to some mismatch in the lexicon of these languages, but rather that the derivation of the RC in English is not affected by the verb that appears in its V^0 position encoding/not encoding the <γ>-feature:

(1) Cross-linguistic Difference in the Derivation of the RC
    a. In Japanese, the RC can be derived only with a verb that has the <γ>-feature
    b. In English, the RC can be derived not only with a verb that has the <γ>-feature but also with a verb that lacks the <γ>-feature

Since TREs in English and Japanese are both derived with the RC, it seems plausible to assume that a derived sentence is subject to the same set of restrictions that follows from general properties of the RC across English and Japanese. Then, the different sensitivities to the <γ>-feature of a verb that the derivation of the RC shows in English and Japanese are most naturally understood as arising from some difference in a language-particular property of English and Japanese interfering with the derivation of the RC. That is, the derivation of the RC shows different sensitivities to the <γ>-feature of a verb in English and Japanese not because the RC imposes different restrictions on the V^0 in these languages, but rather, because English and Japanese employ different means to satisfy a certain requirement of the RC. Thus, I am now faced with the following questions:

(2) a. What is the general property of the RC that causes Japanese, though not English, to require the verb that appears in the V^0 position to have the <γ>-feature?

b. What difference between English and Japanese causes the derivation of the RC to be/not to be sensitive to the relevant contrast in the aspectual property of the verb that appears in the V^0-position?

The main goal of this chapter is hence two-fold. One is to show that the derivation of the RC is subject to the same aspectual restriction across English and Japanese[83], and another is to examine some differences between TREs in English and Japanese other than the aforementioned verbal restriction and argue that the different sensitivity that the derivation of the RC shows in English and Japanese can be most naturally explained if the ResP in English and Japanese (or the presence of the ResP therein) has different influence on the aspectual interpretation of the derived predicate. Specifically, I argue that the RC generally requires a VP in a derived sentence to have a certain property in order for it to be mapped onto a [+NEP]-predicate, and while the ResP in English contributes to satisfying this aspectual requirement of the RC, the ResP in Japanese does not, causing the latter, though not the former, to constrain the verb that appears in the V^0 position to have the <γ>-feature. In what follows, I first examine the aspectual properties of predicates in well-formed TREs in English and Japanese, and show that well-formed TREs in English and Japanese generally involve a VP that is understood as constituting a [+NEP]-predicate, despite the fact that not all well-formed TREs in English, unlike in Japanese, are derived with a verb that has the <γ>-feature. In section 4.3, I discuss the aspectual contribution of a ResP in English and Japanese, based primarily on observations from Wechsler (2005) and Beavers (2002) for English, and Tanaka (2008) and Uegaki (2009) for Japanese. Based on the distribution of AP-based ResPs discussed in Wechsler (2005) and ResPs formed by a to-PP discussed in Beavers (2002) in English compared to the distribution of ResPs in Japanese discussed in Tanaka (2008) and Uegaki (2009), I motivate the proposal that the ResPs in English and Japanese in effect make different contributions to the aspectual interpretation of a derived predicate. Section 4.4 is a chapter summary.

[83] While I call the particular aspectual property which is generally shared by predicates in well-formed TREs a product of the aspectual requirement of the RC for ease of presentation, it is more accurately described as a (by)product of the particular syntactic environment that the RC creates for a VP. See chapter 5 for more discussion.

4.2 An Aspectual Requirement of the RC: A Preliminary Hypothesis

First, recall that the derivation of the RC is sensitive to the <γ>-feature of the verb that appears in the V^0 position in Japanese:

(3) a. kanozyo-ga 3pun-de sono kutu-o **migaita** (koto) $V^0_{<\gamma>}$
she-nom 3minutes-in that shoes-acc polished fact
'(the fact that) she polished the shoes in 3 minutes'

b. #kanozyo-ga 3pun-de sono yakan-o **kosutta** (koto) V^0
she-nom 3minutes-in that kettle-acc rubbed fact
'(the fact that) she scrubbed the kettle in 3 minutes'

(4) a. kanozyo-ga sono kutu-o pikapika-ni **migaita** (koto) $V^0_{<\gamma>}$
she-nom that shoes-acc shiny-*ni* polished fact
'(the fact that) she polished the shoes shiny'

b. *kanozyo-ga sono yakan-o pikapika-ni **kosutta** (koto) V^0
she-nom that kettle-acc shiny-*ni* rubbed fact
'(the fact that) she scrubbed the kettle shiny'

As is demonstrated in (3) and (4), Japanese can derive the RC with a verb that is able to make a VP it heads be understood as constituting a [+NEP]-predicate ((3a)-(4a)), but not with a verb that lacks the relevant ability ((3b)-(4b)). Given that the derivation of the RC is affected by an intrinsic property of the verb that affects the aspectual interpretation of the derived predicate in Japanese ((4a) vs. (4b)), I can conclude minimally that the derivation of the RC is subject to a certain aspectual constraint. On the other hand, recall that the derivation of the RC is not affected by a verb having/not having the <γ>-feature in English:

(5) a. John **broke** the vase {in 3 minutes / #for 3 minutes}
b. John **hammered** the metal {#in 3 minutes / for 3 minutes}

(6) a. John **broke** the vase into pieces
b. John **hammered** the metal flat

As is indicated by the different compatibilities with the end-time reading of a Time-Span Adverbial as well as the availability/unavailability of the single-event reading of a predicate in the presence of a Durative Phrase, break (5a) is able to render a VP it heads be understood as

constituting a predicate describing an event with an endpoint, whereas hammer (5b) lacks the relevant ability. Despite this difference in their influence on the aspectual interpretation of a derived predicate, these verbs can equally appear in well-formed TREs, as is shown in (6). This indicates minimally that the RC does not require that its V^0 position be filled by a verb that has the <γ>-feature. Now, if the RC does not constrain the relevant intrinsic property of the verb that appears in its V^0 position, what makes the derivation of the RC sensitive to the <γ>-feature of a verb in Japanese?

Following the recent tradition that the aspectual interpretation of a predicate is determined by the properties of the entire VP, rather than just of the V^0 alone (e.g. Verkuyl 1972, et seq., Tenny 1987, 1994, MacDonald 2006 et seq., among others), and given that the <γ>-feature of a verb affects the [NEP]-property of a predicate that is derived with the VP it heads, the apparent verbal restriction found in the derivation of the RC in Japanese is most naturally understood as only a consequence of a certain aspectual restriction that the RC imposes on the VP in a derived sentence. Since the <γ>-feature of a verb is what enables the VP headed by the verb in question to be understood as constituting a [+NEP]-predicate, the observed fact that the derivation of the RC converges only when the verb that appears in the V^0 position has the <γ>-feature in Japanese ((4a) vs. (4b)) suggests that the RC may require its VP to be mapped onto a [+NEP]-predicate:

(7) **Aspectual Requirement of the RC** (preliminary hypothesis: to be revised)[84]
A VP in the RC must involve a property with which it can be understood as constituting a [+NEP]-predicate (i.e. a predicate that denotes an event with an endpoint).

Now, if the apparent verbal restriction found in TREs in Japanese in effect follows from a general property of the RC as is proposed in (7), the same restriction must be effective in the derivation of the RC in English as well. This predicts that well-formed TREs in English generally involve a VP that can be understood as constituting a [+NEP]-predicate, irrespective of whether the verb that heads the VP encodes/does not encode the <γ>-feature. This prediction is born out, as is demonstrated in (8) and (9) below:

[84] At this point, we are only concerned with aspectual properties of the RC that are relevant for explaining the cross-linguistic difference observed between English and Japanese.

(8) a. She kicked the dog {??in 3 minutes / %for 3 minutes}[85]
b. They beat the man {??in 3 minutes / for 3 minutes}
c. The earthquake shook the old houses {#in 3 minutes / for 3 minutes}
d. The antique vase shattered {??in 3 minutes / #for 3 minutes}
e. He painted the fence {in 3 minutes / for 3 minutes}
f. She polished the shoes {in 3 minutes / for 3 minutes}
g. John wiped the table {in 3 minutes / for 3 minutes}
h. John broke the vase {in 3 minutes / #for 3 minutes}
i. John hammered the metal {#in 3 minutes / for 3 minutes}

(9) a. She kicked the dog black and blue {in 3 minutes / %for 3 minutes}
b. They beat the man bloody {in 3 minutes / #for 3 minutes}
c. The earthquake shook the old houses to pieces {in 3 minutes / #for 3 minutes}
d. The antique vase shattered into a million pieces {in 3 minutes / #for 3 minutes}
e. He painted the fence white {in 3 minutes / #for 3 minutes}
f. She polished the shoes to a brilliant shine {in 3 minutes / #for 3 minutes}
g. John wiped the table dry {in 3 minutes / #for 3 minutes}
h. John broke the vase into pieces {in 3 minutes / #for 3 minutes}
i. John hammered the metal flat {in 3 minutes / #for 3 minutes}

Th sentences in (8) and (9) are derived with the same set of verbs, yet the main predicate in the paired-sentences in (8) and (9) do not always show the same aspectual behavior. As is suggested by the variable results in (8) with respect to the end-time reading of a Time-Span Adverbial (e.g. in 3 minutes), as well as the availability of the single-event reading of the predicate in the presence of a Durative Phrase (e.g. for 3 minutes), some verbs are able to render the VP they head to be understood as constituting a [+NEP]-predicate (8a,b,d,e-h), whereas others lack the relevant ability (8c,i). Interestingly, however, the sentences in (9) are equally felicitous in the presence of a TSA that elicits the end-time reading, and they equally disallow the single-event reading of the predicate in the presence of a Durative Phrase, both of which indicate that these sentences equally involve a VP that is understood as constituting a [+NEP]-predicate. The observed fact that a VP in well-formed TREs in English is understood as constituting a [+NEP]-

[85] '%' is used specifically to indicate that one of the two possible interpretations that are intrinsic to the VP in question is unavailable in the presence of a Durative Phrase. Recall that a VP headed by kick (ker(u) 'kick', nagur(u) 'punch', etc. for Japanese) is generally understood as describing a situation in which a particular action/process that minimally brings about an event in question takes place an unspecified number of times. Thus, the entire event it describes can be understood as consisting of a single instance of the relevant action/process, or repetition of the relevant action/process. However, the former reading of a predicate becomes unavailable in the presence of a Durative Phrase. While a presence of a Durative Phrase forces a repetitive reading in (8a), (8a) is marked as '%' rather than '#' for to indicate the availability/unavailability of the single-event reading of the predicate because the repetitive reading in question is available even in the absence of a Durative Phrase, indicating that it is an intrinsic meaning of the VP, rather than a reading derived as a repair strategy as in the case in which a Durative Phrase co-occurs with a telic predicate (e.g. 'forced repetition reading' in John ate a sandwich discussed in Chapter 3).

predicate irrespective of the verb that appears as its head having/not having the <γ>-feature (9), thus, provides evidence in favor of a view that the apparent verbal restriction that the derivation of the RC shows in Japanese may be a byproduct of the aspectual restriction that the RC imposes on the VP; in both English and Japanese, the derivation of the RC is subject to the same aspectual requirement that constrains the VP in the derived sentence to be understood as constituting a [+NEP]-predicate, and Japanese satisfies this requirement through restricting the verb that appears as the head of VP, English does so in an alternative way.

An implication of the conclusion that the derivation of the RC is subject to the same aspectual requirement across English and Japanese is that what is employed as a Result Phrase (ResP) in English and Japanese may make different contributions to the aspectual interpretation of the predicate which is derived with the VP in which it is base-generated. Specifically, a ResP in English has the ability to render the VP in which it is base-generated to be understood as constituting a [+NEP]-predicate, satisfying the aspectual requirement of the RC and thereby making it invisible in derivational procedures, whereas a ResP in Japanese is unable to render the VP in which it is base-generated to be understood as constituting a [+NEP]-predicate, causing the derivation of the RC to be sensitive to the <γ>-feature of the verb that appears in the V^0 position. In what follows, I turn to discuss the aspectual contribution of ResPs in English and Japanese from the perspective of the ResP itself.

4.3 Aspectual Contribution of ResP in English and Japanese

In this section, I discuss the semantic interaction between the aspectual property of the verb and the scalar/path structure of a ResP observed in TREs in English and the apparent absence of a correlation between the two in TREs in Japanese, and motivate the suggestion that the ResP in English and Japanese has different abilities to affect the aspectual interpretation of the predicate which is derived with the VP in which it is base-generated. Based on the distribution of adjective-based ResPs discussed in Wechsler (2005) and the distribution of ResPs formed by a to-PP discussed in Beavers (2002), I show that the scalar structure of an adjectival element that heads a ResP/path structure of a ResP formed by a to-PP affect the derivation of the RC in English. In section 4.3.3, I turn to discuss the distribution of the ResP in Japanese mainly based on observations from Tanaka (2008) and Uegaki (2009), and show that the derivation of the RC

in Japanese is not affected by the scalar structure of the adjectival element that appears as the head of a ResP. Section 4.3.4 is a summary and discussion.

4.3.1 Distribution of an Adjective-Based ResP in English: Wechsler (2005)

Wechsler (2005) discusses the distribution of an adjective-based ResP in English from the perspective of the lexical semantics of the adjectival element, and argues that the distribution of an adjective-based ResP in English is correlated with the durativity of the verb. To discuss the correlation between the lexical semantics of an adjectival element and its distributional pattern found in English TREs, let me first briefly go over the classification of adjectival elements discussed in Wechsler (2005).

First, adjectival elements are classified into two major groups based on their lexical semantics, namely, **gradable adjectives** and **non-gradable adjectives**. Gradable adjectives differ from non-gradable ones in that they are interpreted with respect to a **standard** (Kennedy and McNally 1999, among others); for instance, John is tall means that John's height exceeds some contextually determined standard, such as 'for a 5 year old boy', or 'for people in general. Gradable adjectives and non-gradable adjectives show different behavior with respect to degree modification and in the formation of a comparative (cf. Klein 1980, McConnell-Ginet 1973). As is illustrated in (10), taken from Wechsler (2005: (15)), while gradable adjectives are compatible with degree modifiers, and they can form a comparative, non-gradable adjectives reject degree modifiers and fail to form a comparative:

(10) a. Gradable Adjectives
very / quite / extremely {long / flat / expensive / straight / full / dull}
longer, flatter, more expensive, straighter, fuller, duller

b. Non-Gradable Adjectives
??very / quite / extremely {dead / triangular / invited / sold}
??more dead / triangular / invited / sold

Furthermore, gradable adjectives are subdivided into two groups, namely, **closed-scale adjectives** and **open-scale adjectives**. The former supply an inherent lexical standard that serves as a default, contrasting with the latter that do not supply an inherent lexical standard so that they must rely on context for their standard (Kennedy and McNally 1999, Hay et al 1999). Example

(11) below illustrates that closed-scale adjectives and open-scale adjectives show different compatibilities with modifiers such as totally and completely[86] (Wechsler 2005: (16) with slight modifications):

(11) a. Closed-Scale Adjectives
completely full / empty / straight / dry

b. Open-Scale Adjectives
??completely long / wide / short / tall

Closed-scale adjectives are further divided into two subclasses based on how their standard is defined; **maximal endpoint adjectives** such as dry supply an inherent lexical standard which is the maximal endpoint of a continuum (e.g. something is dry when it reached to the point where it cannot get any dryer), whereas **minimal endpoint adjectives** such as dirty supply an inherent lexical standard which is a minimal endpoint of a continuum (e.g. something is dirty as soon as it is not clean).

Second, while both maximal endpoint adjectives and minimal endpoint adjectives provide an inherent lexical standard, the latter behave more like open-scale adjectives because the minimal inherent standard that these adjectives supply is normally overridden by a more reasonable contextual standard. This classification is motivated by the different aspectual properti(es) of de-adjectival verbs formed by a maximal endpoint adjective and a minimal endpoint adjective, due originally to Hay et al (1999), discussed in Wechsler (2005: (17)):

(12) a. They are straightening the rope	≠>	they have straightened the rope	*max. endpoint*
b. They are cooling the soup	=>	they cooled the soup	*open-scale*
c. John is wetting the towel	=>	John has wetted the towel	*min. endpoint*

It is standardly assumed that the perfective entailment follows for an atelic sentence, though not for a telic sentence. Given this pattern, the failure of a perfective entailment in (12a) indicates

[86] Kennedy and McNally (1999: footnote 1) cautions that completely can sometime appear with open-scale adjectives, though it means 'very' in such context. They point out that the two instances of completely can still be discriminated by their entailment pattern, making (i-a) in which it co-occurs with a closed-scale adjective contradictory, but not (i-b) in which it co-occurs with an open scale-adjective contradictory. Examples in (i) are taken from Wechsler (2005:ftnt1):
(i) a. #The line is completely straight, but it could be straighter.
b. I'm completely uninterested in finances, but Bob is even less interested

that a de-adjectival verb which is formed by a closed-scale maximal endpoint adjective projects a VP that is understood as constituting a telic predicate, and the presence of the perfective entailment in (12b) and (12c) indicates that a de-adjectival verb that is formed by a closed-scale minimal endpoint adjectives behaves on a par with the one formed by an open-scale adjective in that it projects a VP that cannot be understood as constituting a telic predicate. Thus, adjectival elements can be subdivided into three major groups based on their lexical semantics; non-gradable adjectives, gradable closed-scale maximal endpoint adjectives, and the third group consisting of gradable open-scale adjectives and (closed-scale) minimal endpoint adjectives.

Based on the classification of adjectival elements discussed above, Wechsler (2005) makes two interesting observations about the distribution of an adjective-based ResP in TREs in English. First, in response to the long-standing mystery of the distribution of an adjective-based ResP illustrated in (13) below, he points out that the class of adjectives that fail to form a legitimate ResP are those that belong to the class of adjectives that consists of gradable open-scale adjectives and (closed-scale) minimal endpoint adjectives:[87]

(13) He wiped the table clean / dry / smooth / *damp / *dirty / *stained / *wet
(Green 1972;(6b)-(7b), cited in Wechsler *to appear*; (19) with some modification)

Although there is nothing contextually wrong about the wiping of the table resulting in the table becoming wet or dirty (e.g. the wiping cloth is damp/dirty), they are still rejected as a legitimate ResP as oppose to clean/dry/smooth. Because adjectives such as damp, dirty, stained, wet are (gradable closed-scale) minimal endpoint adjectives, as opposed to clean, dry, smooth that are (gradable closed-scale) maximal endpoint adjectives, Wechsler (2005) attributes the observed difference in the legitimacy to serve as a ResP to the lexical semantics of the adjectival element.

Second, he observes that the distribution of a ResP which is derived with a non-gradable adjective is correlated with the durativity of the verb. Based on corpus data provided by Boas (2000) who collected thousands of resultative sentences from the British National Corpus and other sources (COBUILD Bank of English, dictionaries, use-net groups, and websites), Wechsler (2005) examined the occurrence of non-gradable adjectives such as dead, and found that they

[87] Ignoring some issues of 'contextual selection'

almost always occur with a verb that denotes a punctual event (e.g. Achievement verbs). Below is the distribution of dead that is used as an instance of a ResP found in the corpus data:

(14) Occurrence of resultative dead: total 429, distributed among verbs as follows:
shoot (408), cut (11), kill (9), strike (8), stop (6), knock (3), flatten, kick, smite (1 each)
Wechsler (2005: (20), (24))

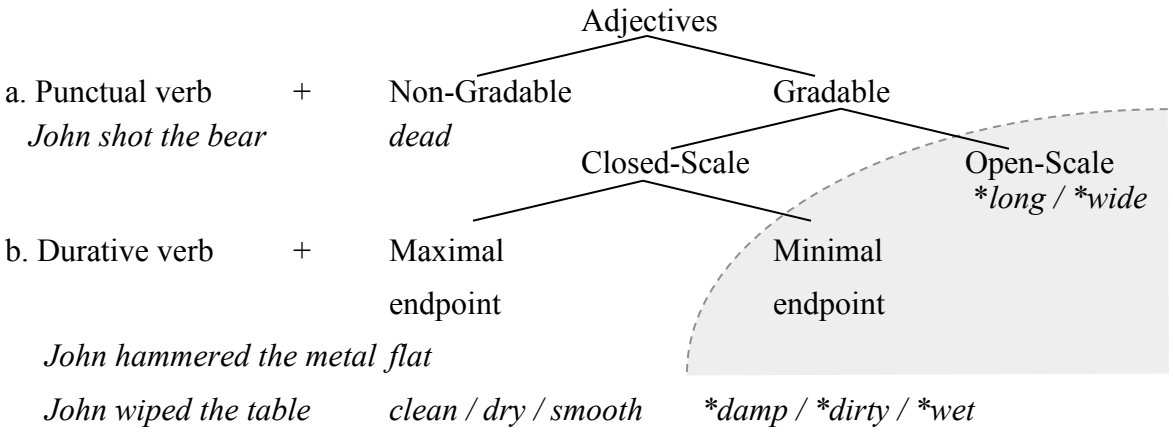
Because the interpretation of non-gradable adjectives is not determined by any standard, they provide no scalar structure/an inherent lexical scale with no internal structure. Furthermore, since punctual verbs are those that derive a predicate denoting an instantaneous event, that is, there is virtually no duration between the initial point and the endpoint of the event, he argues that the distribution of an adjective-based ResP is correlated with the durativity of the predicate, which is determined by an intrinsic property of the verb deriving the predicate; a ResP which is headed by a non-gradable adjective generally co-occurs with a verb that derives a punctual-predicate because of a homomorphism between the scalar structure it provides and the internal temporal constitution of an event denoted by the predicate derived by the verb.

The above discussed findings from Wechsler (2005) suggest that the scalar structure of an adjectival element that appears as the head of a ResP may be visible to the derivation of the RC in English. The first observation that (gradable) open-scale adjectives and closed-scale minimal endpoint adjectives fail to serve as a legitimate ResPs, as opposed to (gradable) closed-scale maximal endpoint adjectives and non-gradable adjectives, suggests that whether the property scale of an adjectival element is/is not understood as having an endpoint plays some role in determining if the adjectival element in question can form a legitimate ResP; open-scale adjectives lack an inherent lexical standard and the inherent lexical standard of (closed-scale) minimal endpoint adjectives is normally overridden by a more reasonable contextual standard, hence, the property scale of these adjectives is understood as open-ended, contrasting with the property scale of non-gradable adjectives and (closed-scale) maximal endpoint adjectives that have lexically defined endpoints, and while the latter can form a legitimate ResP, the former cannot.

The second observation that a ResP formed by a non-gradable adjective generally co-occurs with a punctual verb suggests that the gradability/non-gradability of the scalar structure of

an adjectival element plays some role in determining the distribution of an adjective-based ResP with respect to the verb that appears as the head of a VP in a derived sentence; as opposed to the property scale of a gradable (closed-scale maximal endpoint) adjective in which the transition between states is gradual, the transition between states in the property scale of a non-gradable adjective is virtually instantaneous, and a ResP that is headed by a non-gradable adjective is found to generally co-occur with a verb deriving a punctual predicate which names an action/process that also is virtually instantaneous (i.e. it has no subparts), though not with a verb deriving a durative predicate (e.g. Activity verbs/Accomplishment verbs), contrasting with a ResP that is headed by a gradable (closed-scale maximal endpoint) adjective that co-occurs with a durative verb (e.g. John hammered the metal flat / John wiped the table clean).[88] The correlation between the scalar structure of an adjectival element and the distribution of an adjective-based ResP discussed in Wechsler (2005) is summarized in the diagram in (15) below:

(15) Distribution of an adjective-based ResP in English (Based on Wechsler (2005))



[88] Wechsler (2005) makes a strong claim that gradable closed-scale maximal endpoint adjectives can form a legitimate ResP for a durative verb (e.g. Activity verbs and Accomplishment verbs), though not for a punctual verb, as opposed to non-gradable adjectives that can form a legitimate ResP for a punctual verb, though not for a durative verb. While he does not provide evidence in support of the claim that a ResP formed by a gradable closed-scale maximal endpoint adjective cannot co-occur with a punctual verb, I assume that a correlation between the scalar structure of an adjectival element and the durativity of a verb holds in general, since a similar correlation has been reported for the distribution of to-PP result phrase in English (Beavers 2002), which I discuss shortly below.

Given the correlation between the scalar structure of an adjectival element and the distribution of an adjective-based ResP, it seems plausible to make the minimal conclusion that the scalar structure of an adjectival element that appears as the head of an adjective-based ResP is visible to the derivation of the RC in English. In what follows, I discuss a similar correlation observed in the distribution of the to-PP result phrase, suggesting that it may be a general property of ResP in English that makes the internal structure of a scale/path that is denoted by the lexical element(s) that appear in a ResP to be visible to the derivation of the RC in English.

4.3.2 Distribution of to-PP Result Phrases in English: Beavers (2002)

Beavers (2002) examines the distribution of the to-XP that is used as either an instance of a ResP or the goal phrase of a Motion Event, and reports that a to-XP in English is compatible with durative verbs (e.g. Activity verbs and Accomplishment verbs), though generally not with a punctual verb (e.g. Achievement verbs) (cf. Wechsler 2005). For the sake of a simpler representation, I will discuss only the distribution of to-PPs that are understood as the ResP of a TRE here.[89]

The distribution of to-PPs in ResPs is illustrated in (16)-(18), taken from Beavers (2002: (22i,iii,iv)) with slight modification:

[89] Although sentences that express a Motion Event and TREs share a number of general properties with each other, they show some differences in their syntactic behavior as well as in their aspectual interpretation that suggest that Motion Event sentences and TREs may not be derived with the same construction, though the Motion Event construction and the RC may share many fundamental properties with each other. For this reason, I will not be concerned with the distribution of to-PP in the Motion Event construction here.

(16) a. ??Georgiana was surprised to cordiality
b. Georgiana was surprised into cordiality

(17) a. ?? Nobody wanted to be startled to a higher level of awareness
b. Nobody wanted to be startled into a higher level of awareness

(18) a. *The balloon suddenly burst to useless shreds
b. The balloon suddenly burst into useless shreds

The sentences in (16)-(17) are derived with an achievement verb, and they are either degraded or ill-formed when a to-PP appears as the ResP ((a)-sentences in (16)-(18)). Since the (b)-sentences minimally differ from the (a)-sentences in the particular preposition that appears as the head of a ResP, and they are all well-formed as an instance of a TRE, the ill-formedness/degraded status of the (a) sentences cannot be explained as these verbs being incompatible with the RC. Rather, the ill-formedness/degraded status of the (a) sentences in (16)-(18) is most naturally understood as a problem of a to-PP co-occurring with a punctual verb.

The claim that a to-PP that is used as a ResP cannot co-occur with a verb deriving a punctual predicate is also supported by the interpretation of a predicate that is headed by the class of verb that Beavers (2002) terms as 'semelfactive' verbs. So-called 'semelfactive verbs' in Beavers (2002) correspond to verbs such as kick that I have discussed earlier; a VP headed by these verbs can be understood as describing a situation in which the particular action/process that minimally brings about an event takes place an unspecified number of times, and thus they can be understood as describing either a single instance of the action/process in question, or an iteration of the relevant action/process. As Beavers (2002) points out, a predicate derived by these verbs is forced to be understood as describing a situation in which the relevant action/process takes place repeatedly when to-PP appears as the ResP, and so the presence of a to-PP result phrase causes a sentence to be ill-formed when the iterative reading of the predicate is explicitly disallowed via context, for example. This is demonstrated in (19) and (20), taken from Beavers (2002: (a)-sentences in (19) and (b) sentences in (21), respectively):

(19) a. She kissed it to calmness in a few minutes
b. Mark Pisciotta pitched his team to the 1983 title in five weeks
c. The generator coughed to life in five minutes

(20) a. ??With one quick peck, she kissed it to calmness
b. *With one mighty pitch, Marc Pisciotta pitched his team to the 1983 title
c. ??With a sudden noise, the generator coughed to life

Since the iterative reading of a predicate is not forced in the presence of a ResP per se, shown in (21) and (22) below in which into-PP appears in place of the to-PP, taken from Beavers (2002: (a)-sentences in (20) and (b) sentences in (21), respectively), the observed fact that the presence of a to-PP forces an iterative reading of the predicate provides further evidence that a to-PP used as a ResP can co-occur with a verb deriving a durative predicate, though not with a verb deriving a punctual predicate:

(21) a. She kissed it into calmness in a few minutes cf. (19)
b. Marc Pisciotta pitched his team into the 1983 title in five weeks
c. ?The generator coughed into life in five minutes

(22) a. With one quick peck, she kissed it into calmness cf. (20)
b. With one mighty pitch, Marc Pisciotta pitched his tem into the 1983 title
c. With a sudden noise, the generator coughed into life

Lastly, Beavers (2002) examines occurrences of to-PPs that are used as a ResP in the corpus data provided in Boas (2000), and found that to-PPs usually occur with verbs that are compatible with a durative reading (excluding non-resultative and idiomatic uses), confirming that to-PPs used as ResPs usually co-occur with a durative verb, but not with a punctual verb. The list in (23) below, taken from (Beavers 2002: (65)) illustrates the environment in which 492 occurrences of to death as a ResP were found in Boas' (2000) data:[90]

[90] Beavers (2002) notes that although to pieces used as a ResP usually occurs with verbs deriving a predicate that has a durative reading just like other to-PPs that are used as a ResP, there are few purely punctual verbs with which to pieces is found to co-occur. According to Beavers (2002), since the distribution of to-PPs used as a ResP generally conform to the pattern discussed above, I take the somewhat idiosyncratic behavior of to pieces as an exception for the moment, and leave it for future study.

(23) To death

Verb	No. of Occurrence
Stab	114
Beat	74
Put	44
Batter	39
Frighten	34
Crush	25
Scare	24
Burn	18
Torture	16
Drink, Starve	15
Bludgeon, hack	12
Shoot, kick	11
Club	9
Bore, knife, choke	8
Blast, trample, work, worry	7
Love	6
Strangle	4
Dash, poison, kiss	3
Ax, bayonet, boil, bring, clap, suffocate, kick, freeze, spear, spray, stone, suck, gun, hammer, hug, knock, nag, peck, play, rape, shag, string	2
Annoy, eat, bleed, blend, bug, stab, flog, frit, cudgel, curse, dance, feed, gas, flog, job, stab, laugh, pitchfork, pound, run, schmaltz, scortch, seduce, shock, sing, smother, squash, squeeze, stamp, strike, suffocate, sweat, whip	1

(Boas, 2000, p. 619)

By examining the distribution of to-PPs used as ResPs (and as the goal phrase of a Motion Event) comparatively with the distribution of their into-PP counterparts, Beaver (2002) argues

that a to-PP denotes a path that is Non-Trivial (i.e. a path that has a source, a destination, and intermediate locations in between), and therefore, a to-PP generally co-occurs with verbs deriving a durative predicate (e.g. Activity verbs and Accomplishment verbs), though not with verbs deriving a predicate which has a purely punctual interpretation, since the path denoted by a to-PP can be coextensive with an event described by the former, but not with the latter.

Summing up so far, similar to the distribution of an adjective-based ResP, the distribution of a ResP that is formed by a to-PP is also affected by the durativity of the verb in TREs in English. If Beavers' (2002) proposal that the co-occurrence of to-PPs with verbs deriving a predicate that has a durative reading and the non-co-occurrence of to-PPs with verbs deriving a predicate that lacks a durative reading follows from the to-PP denoting a Non-Trivial Path is on the right track, the distribution of to-PPs used as a ResP suggests that the internal structure of a path provided by the PP that appears as a ResP may be visible to the derivation of the RC just like the scalar structure of the adjectival element that appears as the head of a ResP, as discussed in the previous subsection. As will be seen below, unlike in English, the internal structure of the property scale of an adjectival element/path provided by the P^0 that heads a ResP does not seem to play a role in the derivation of the RC in Japanese, motivating further the proposal that the ResP in English and Japanese makes different contributions to the aspectual interpretation of a predicate derived by the VP in which it is base-generated.

4.3.3 Distribution of a ResP in Japanese: Tanaka (2008) and Uegaki (2009)

Tanaka (2008) as well as Uegaki (2009) examine the correlation between the scalar structure of the adjectival element that appears as the head of a ResP and the durativity of the verb deriving the predicate in TREs in Japanese, and found that the scalar structure of the adjectival element does not necessarily play a crucial role in determining whether the adjectival element in question can/cannot form a legitimate ResP in Japanese.

Recall first that Japanese has two morpho-syntactically different classes of adjectival elements, namely, Nominal Adjectives (NAs; aka Adjectival Nouns) and Canonical Adjectives (CAs; aka Verbal Adjectives/Adjectives), and they appear with different inflectional morphology, as is illustrated in (24) below:

(24) a. Canonical Adjectives (*-i* / *-ku*)

Mary-ga utukushi-i
-nom beautiful-*i*
'Mary is beautiful'

utukusi-i hana-o moratta
beautiful-*i* flower-acc received
'(I) received beautiful flowers'

hana-ga utukusi-ku saita
flower-nom beautiful-*ni* blossomed
'the flower bloomed beautifully'

b. Nominal Adjectives (*-ni* / *-na* / *-da*)

Mary-ga kirei-da
-nom good.looking-*da*
'Mary is good looking'

kirei-na hana-o moratta
good.looking-*na* flower-acc received
'(I) received good looking flowers'

hana-ga kirei-ni saita
flower-nom good.looking blossomed
'the flower bloomed beautifully'

Despite the difference in their morpho-syntactic properties, CAs and NAsthey can equally serve as the head of a ResP, as is demonstrated in (25):

(25) a. John-ga fensu-o {aka-ku / makka-ni} nutta (koto)
-nom fence-acc red-*ku* / true.red-*ni* painted fact
'(the fact that) John painted the fence red'

b. John-ga pan.kizi-o {hirata-ku / taira-ni} nobasita (koto)
-nom bread.dough-acc flat-*ku* / flat-*ni* stretched fact
'John rolled dough flat'

Furthermore, CAs and NAs are equally adjectival in that both classes of lexical items denote a property scale, and so the gradable/non-gradable distinction is found among lexical items in either morpho-syntactic classes of lexical items, as is demonstrated by the compatibility with a modifier totemo 'very' in (26) below, taken from Tanaka (2008: (14)-(15)) with slight modifications:[91,92]

[91] It appears that the judgment is not crystal-clear in Japanese, and I find some lexical items that are classified as Non-Gradable adjectives in Tanaka (2008) to be compatible with the modifier totemo 'very' so far as some context is provided. However, this variation in speaker judgment arises regardless of whether the adjectival element in question is a CA or an NP, thus, what may be the problem is the particular diagnostic test used here (= compatibility with the modifier totemo 'very'), and so it does not raise the issue for the point of the current discussion that CAs and NAs equally denote a property scale.

[92] Tanaka (2008) as well as Uegaki (2009) use compatibility with a modifier kanzen-ni 'completely' to distinguish CAs and NAs that are gradable open-scale from gradable closed-scale. However, the alleged difference in compatibility with a modifier kanzen-ni 'completely' seems questionable, that the judgment varies across speakers to the extent that it does not seem to serve as a reliable diagnostic test. The variability in speaker judgment may well come from kanzen-ni 'completely' being able to be interpreted as 'very' when it co-occurs with Non-gradable adjectives as in the case found in English (= footnote 4). If it is the case, results of kanzen-ni test can be taken as evidence for a gradability/angradability of adjectival element in Japanese only if there is a reliable secondary

(26) a. Gradable Adjectives:

i) totemo {naga-i / mizika-i / kata-i / taka-i / usu-i / atu-i …}
very long / short / solid / expensive / thin / thick …}

ii) totemo {taira-da / nameraka-da / kirei-da / sinsen-da …}
very {flat / smooth / clean / fresh …}

b. Non-Gradable Adjectives:

i) totemo {*sikaku-i / ??maru-i / ??aka-i / ??ao-i …}
very squire / round / red / blue …}

ii) totemo {*makka-da / ??hetoheto-da / *petyanko-da / konagona-da …}
red / tired / flat / fragmented into pieces …}

Now, as is pointed out in Tanaka (2008) as well as in Uegaki (2009), correctly in my opinion, the scalar structure of an adjectival element, be it a CA or NA, does not seem to affect the derivation of the RC in Japanese:[93]

diagnostic test with which kanzen-ni used in a sense of 'very' can be discriminated from the one used in its intended meaning. Otherwise, an alternative way to test out the distinction between open-scale adjectives and closed-scale adjectives is needed to clarify the data. Since I am not aware of a concrete linguistic test(s) that can be used for either purpose, I will leave this problem for future research.

[93] As is discussed in Todoroki (2004), the adjectival element that appears as a head of a ResP is generally required to denote an 'absolute' state. While many NAs can satisfy this requirement with the addition of a prefix such as ma- 'truly' as in aka 'red' vs. mak-ka 'true red', such a strategy is absent for CAs, and thus it is more difficult to form a ResP based on CAs. For this reason, I am unable to provide a fully parallel set of examples here.

(27) a. *John-ga pan.kizi-o {taira-ni / hirata-ku}tataita (koto) Activity V
-nom bread.dough- acc flat-*ni* / flat-*ku* pounded fact
'(the fact that) John pounded dough flat'

b. John-ga pan.kizi-o {taira-ni / hirata-ku} nobasita (koto) Accomplishment V
-nom bread.dough- acc flat-*ni* / flat-*ku* stretched fact
'(the fact that) John rolled dough flat'

(28) a. John-ga kaban-o petyanko-ni tubusita (koto) Accomplishment V
-nom bag-acc flat-*ni* flattened$_{Tr}$ fact
'(the fact that) John smashed a bag flat'

b. kaban-ga petyanko-ni tubureta (koto) Achievement V
bag-nom flat-*ni* flattened$_{Intr}$ fact
'(the fact that) the bag got smashed flat'

The sentences in (27) demonstrate that the ill-formedness of (27a) is not due to the scalar structure of the adjectival element that heads a ResP, but rather, it is due to an aspectual property of a verb; (27b) minimally differs from (27a) in that an Accomplishment verb appears in place of an Activity verb, and it is well-formed. Similarly, the well-formedness of (28a) and (28b) indicates that the scalar structure of the adjectival element that heads a ResP does not play a role in a derivation of the RC; a ResP headed by petyanko 'flat' can co-occur with either an Accomplishment verb or Achievement verb to yield a well-formed TRE, indicating that the scalar structure of the adjectival element does not have to match with the durativity of the verb in Japanese[94]. Given these facts, it seems possible to tentatively to conclude that the scalar structure of an adjectival element that heads a ResP does not play a role in the derivation of the RC in Japanese, unlike in English.

[94] As was pointed out to me by John Beavers (p.c), the adjective taira 'flat' could be ambiguous or vague between a gradable and non-gradable reading, which may be why it can co-occur with either a punctual predicate or a durative predicate. In order to be fully confident about the non-interaction between the scalar structure of a ResP-forming adjectival element and the aspectual properties of a predicate-forming verb in Japanese, future study is needed to to find (a) an adjectival element which is unambiguously non-gradable, and (b) a verb that derives an unambiguously durative predicate, and see if they can derive well-formed TREs together. To do so, however, it is first necessary to find a more reliable diagnostic test(s) to determine the gradability of an adjectival element in Japanese, since the putative diagnostics tests for the gradability of an adjectival element in Japanese which I could find in the literature so far do not seem to be very reliable, as I mentioned in footnotes 9 and 10 above. For this reason, I will take Tanaka's (2008) and Uegaki's (2009) claim as tentative evidence in support of my current proposal, and leave the question of the validity of their claim for a future research topic.

4.3.4 Interim Summary and Discussion

In sections 4.3.1 and 4.3.2, I observed that the scalar structure of an adjectival element as well as the path structure of a to-PP that form a ResP in English plays some role in the derivation of the RC; the legitimacy of a ResP headed by an adjectival element is correlated with the presence/absence of an endpoint in the property scale of the adjectival element, and the distribution of an adjective-based ResP and a ResP formed by a to-PP are correlated with the durativity of a verb in a way that matches with the scalar structure of an adjectival element/the path structure of a to-PP. On the other hand, I observed in section 4.3.3 that the scalar structure of an adjectival element does not play a role in the derivation of the RC in Japanese; even a ResP that can co-occur with an Accomplishment verb, which derives a durative predicate, fails to co-occur with an Activity verb, which also derives a durative predicate, and a ResP that co-occurs with Accomplishment verb has no problem co-occurring with an Achievement verb, the former derives a durative predicate whereas the latter derives a punctual predicate.

Based on the cross-linguistic difference with respect to the interaction/non-interaction between the scalar/path structure of a ResP and the durativity of the verb deriving a predicate observed between TREs in English and Japanese, it seems possible to tentatively conclude that the ResP in English and Japanese have different contributions for the aspectual interpretation of a predicate derived with the VP in which they are base-generated. The fact that the distribution of an adjective-based ResP and a ResP formed by a to-PP in English is correlated with the durativity of a verb suggests that the ResP in this language contributes to the aspectual interpretation of the event described by the VP; the scalar structure provided by an adjective-based ResP and the path structure provided by a ResP formed by a to-PP are generally correlated with the durativity of a verb because the scalar structure/path structure of a ResP may need to be mapped onto the event structure of a VP. On the other hand, the fact that the distribution of ResP is not necessarily correlated with the durativity of a verb deriving predicate in Japanese seems to be suggestive of a non-contribution of a ResP to the aspectual interpretation of a predicate derived with its VP in TREs in Japanese; because a ResP does not contribute to determining the aspectual interpretation of the event described by the VP, whether the ResP denotes a property scale that has an endpoint or not is not critical for the derivation of the RC, and there is no need for the scalar structure provided by the ResP to match (/be coextensive) with the durativity of the

verb. While further study, especially on the scalar structure of the adjectival elements in Japanese (see footnote 12), is surely needed to make any conclusive argument, I take the putative cross-linguistic contrasts in the interaction/non-interaction of the scalar/path structure of a ResP and the durativity of a verb deriving predicate observed between TREs in English and Japanese as evidence in favor of the current claim that a ResP in English and Japanese have different contributions for the aspectual interpretation of a predicate which is derived with the VP in which they are base-generated.

4.4 Chapter Summary

In this chapter, I have observed that well-formed TREs in English and Japanese both describe an event with an endpoint despite the fact that some TREs in English are derived with a verb that lacks the <γ>-feature, and proposed that the apparent difference in sensitivity to the <γ>-feature of a verb that the derivation of the RC shows in English in comparison to Japanese may follow from some language-particular property of English and Japanese that interferes with the general aspectual requirement that the RC imposes on the VP. Specifically, I proposed that the construction-specific properties of the RC require the VP in a derived sentence to have a property that enables the VP to be understood as constituting a [+NEP]-predicate (i.e. a predicate that denotes an event with an endpoint), and while a ResP in English contributes to satisfying this aspectual requirement of the RC, a ResP in Japanese does not, causing the derivation of the RC to show different sensitivities to the <γ>-feature of the verb in these languages. In section 4.2, I discussed the distribution of a ResP in English and Japanese from the perspective of the scalar/path structure of the ResP. Based on observations from Wechsler (2005) and Beavers (2002) for English, and Tanaka (2008) and Uegaki (2009) for Japanese, I have shown that the scalar structure of an adjectival element that heads a ResP as well as the path structure of a ResP formed by a to-PP in English are closely correlated with the durativity of the predicate that the verb with which it co-occurs derives, though the scalar structure of the adjectival element that heads a ResP in Japanese does not seem to be correlated with the durativity of the predicate that the verb with which it co-occurs derives. I have argued that the cross-linguistic contrast with respect to the interaction/non-interaction of the scalar/path structure of the ResP and the durativity of the verb deriving the predicate suggests the different contributions of a ResP in

English and Japanese to the aspectual interpretation of the predicate derived with the VP in which the ResPs are base-generated, in a way similar to the different sensitivities to the <γ>-feature of the verb that the derivation of the RC shows in English and Japanese suggests. Because an adjectival element that heads a ResP in Japanese appear to provide the scalar structure just like an adjectival element that heads a ResP in English does, the observed fact that the derivation of the RC is/is not affected by the scalar structure of an adjectival element that heads a ResP (or the path structure of a ResP formed by a to-PP) provides yet another motivation for the claim that a ResP in English contributes to the aspectual interpretation of a derived predicate, as opposed to a ResP in Japanese that does not.

Chapter 5 Aspectual Explanation to a Productivity of the RC

5.1 Introduction:

Thus far, I have examined well-formed TREs in English and Japanese from both intra- and cross-linguistic perspectives, and motivated the following generalizations:

(1) Well-formed TREs in English and Japanese share a fundamentally identical syntactic configuration.

(2) a. Well-formed TREs in Japanese are exclusively derived from verbs that intrinsically have the ability to render a VP they head to be understood as constituting a [+NEP]-predicate (i.e. a predicate that denotes an event with an endpoint), namely, $V^0_{<\gamma>}$, whereas well-formed TREs in English may be derived with either a verb that has ($V^0_{<\gamma>}$) or does not have (V^0) the relevant ability.

b. Well-formed TREs in English may describe an event with an endpoint irrespective of their being derived from a verb that intrinsically has, or does not have, the ability to render a VP it heads to be understood as constituting a [+NEP]-predicate.

Based on the observation stated in (1), I have concluded that TREs in English and Japanese are derived via the same syntactic procedure, namely, the Resultative Construction (chapter 2). Furthermore, based on the observations in (2), I have concluded that sentences derived with the RC may be subject to the same aspectual requirement in English and Japanese, and that different productivities of the RC found in English and Japanese finds its source in the different contributions that the presence of a ResP has to the aspectual interpretation of a predicate in these languages (chapters 3 and 4).

One implication of the conclusions drawn above is that the RC imposes a certain aspectual restriction on a derived sentence. Another is that the productivity of an RC may be affected in part by how the aspectual interpretation of a predicate is calculated in a particular language. Now, these implications immediately raise the following questions:

(3) a. How does the RC constrain an aspectual interpretation of a predicate in a derived sentence?
b. How do English and Japanese, or ResP in English and Japanese, differ from each other such that the presence of ResP contributes to the aspectual interpretation of a predicate in the former, though not in the latter (at least not in a way relevant to the aspectual requirement of the RC)?

In this chapter, I propose a formal syntactic analysis of the RC that attempts to provide an answer these questions.

Because both questions (3a) and (3b) boil down to a question of the syntax-semantics mapping of event aspects, that is, how a particular syntactic configuration is associated with a certain aspectual interpretation of a predicate and/or how particular aspectual information can be syntactically expressed in a language, the major part of this chapter is devoted to discussing algorithms that express the syntax-semantics mapping of event aspects. For ease of presentation, section 5.2 provides an overall picture of the formal analysis of the RC developed in this chapter. In section 5.3, I develop algorisms of syntax-semantics mapping of event aspects that serves as a foundation to the analysis of the RC. Following recent trends in literature (Kratzer 1994, MacDonald 2006 et seq., Fukuda 2006, 2008, among many other), I propose that a v^0, or a spine of functional structures projected by a VP, serves as the syntactic locus for the calculation of the aspectual interpretation of a predicate. Section 5.4 proposes a structure for the RC that captures the aspectual restriction of the RC. I propose that the RC involves a particular flavor of v^0 for a formal licensing of a ResP, and the aspectual requirement of the RC follows from this need of a particular flavor of v^0. I further propose that the cross-linguistic behavior of TREs in English and Japanese arises from different contributions that a ResP in English and Japanese has with respect to the selection of a v^0 that merges with a VP. Based on the proposal that a ResP in English and Japanese have different contributions with respect to the selection of the v^0 that merges with VP, different sensitivities to a certain aspectual property of the verb in the derivation of the RC in English and Japanese is explained as a consequence of the aspectual requirement of the RC, which in turn is a consequence of a formal licensing of ResP itself. Section 5.5 discusses implications of the study and addresses remaining issues for future studies. Section 5.6 summarizes and concludes the chapter.

5.2 Overview of Proposal:

The analysis of the RC developed in this chapter evolves from the Aspectual Interface Hypothesis proposed in Tenny (1994), shown in (4) below, segmented into 3 parts:

(4) **Aspectual Interface Hypothesis** (Tenny 1994: P.2)

a. The universal principles of mapping between thematic structure and syntactic argument structure are governed by aspectual properties

b. Constraints on the aspectual properties associated with direct internal argument, indirect internal arguments, and external arguments in syntactic structure constrain the kinds of event participants that can occupy these positions.

c. Only the aspectual part of thematic structure is visible to the universal linking principles.

Following the Aspectual Interface Hypothesis (AIH) of Tenny (1994), I assume that one point where syntax and lexical semantics intersect is manifested in the aspectual properties of the predicate. Departing from Tenny (1994), however, I propose that aspectual interpretation of a predicate is syntactically determined by the nature of a functional element that merges with a VP, rather than by a particular configuration that a VP in question involves.[95] That is, aspectual properties of lexical items that constitute a predicate in question contribute to determine an aspectual interpretation of the predicate only with the mediation of the syntactic derivation. Consequently, positional linking constraints (4b) are reduced to general requirements of syntax.

The current study discusses the role(s) of syntax in the aspectual interpretation of a predicate within the framework of Phase theory (Chomsky, 1999). Following basic insights of MacDonald (2006 et seq.), I assume that the aspectual interpretation of a predicate is determined

[95] Tenny (1994) proposes linking constraints that restrict syntactic configurations with what a particular aspectual information can be expressed; a syntactic entity that plays a particular role in an aspectual interpretation of a predicate is required to be base-generated in a particular syntactic position and not others. This suggests that there is a one-to-one correspondence between syntactic position and aspectual role, which implies that an aspectual interpretation of a predicate is configurationally expressed at syntactic level of computations. While I am contented with her proposal that possible contributions of a syntactic entity to an aspectual interpretation of a predicate is constrained according to a particular position in which it is base-generated, I find it somewhat less appealing to attribute such restrictions to linking constraints, since it raises a question about what determines the particular aspectual role that a syntactic entity is to bear. This problem is properly avoided under the current approach whereby syntactic entities contribute to the aspectual interpretation of a predicate only through interacting / not interacting with a functional element that merges with VP. See section 5.4.2.2 for related discussion and 5.3 for how the current proposal supplements some of the constraints proposed in Tenny (1994).

by information available at the point of a phase where a predicative XP participates in syntax (e.g. *v*P).[96] Departing from MacDonald (2006) in technical details, however, I argue that an aspectual interpretation of a predicate is determined by properties of the functional element(s) that merge(s) with a VP.[97] Specifically, I argue that stative predicates (e.g. predicates that describe a state) and eventive predicates (e.g. dynamic predicates; predicates that describe an activity, achievement, or accomplishment) are syntactically realized as a VP merging with a v^0 with different feature makeups, namely, a v^0_{st} and a v^0_{eve}, respectively. Furthermore, I propose that there are at least two syntactically different flavors of a v^0_{eve}, one that is associated with an uninterpretable feature [*u*β] which comes along with an unvalued feature [Valα] and another v^0 which is not associated with the relevant feature set: [98]

(5) if a v^0_{eve} is associated with an uninterpretable feature [*u*β], it is also associated with an unvalued feature [Valα], and vice versa.

The two flavors of a v^0_{eve} proposed above will be motivated in section 5.3 through discussing correlations between the aspectual contribution/non-contribution of a nominal element and a syntactico-semantic environment in which a nominal element in question appears. Schematic pictures in (6) illustrate how certain syntactico-semantic properties of a VP (or a compositional part of a VP) affect a flavor of a v^0_{eve} with which a VP in question may merge. The schematic picture in (7) illustrates how the flavor of a v^0 determines if the nature of a nominal element in a

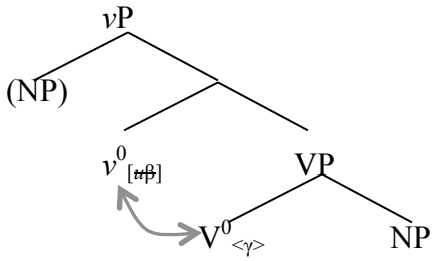
[96] Since the main focus of this study is to understand the properties of RC, I restrict my attention to the aspectual behavior of predicates that are derived from a syntactically verbal element.

[97] Under the cartographic view, a difference in the flavor of a functional head can be regarded as a difference in the spine of functional heads that merges with a VP. Since the current analysis does not hinge on a particular view of functional projections, I assume that the difference in question comes from different feature-makeups of the functional element in question, rather than different internal construct of a spine of functional elements, unless otherwise noted. Further study is needed to determine if the relevant difference is more appropriately captured by a cartographic approach or not. See Fukuda (2008) for 'split AspP'-approach.

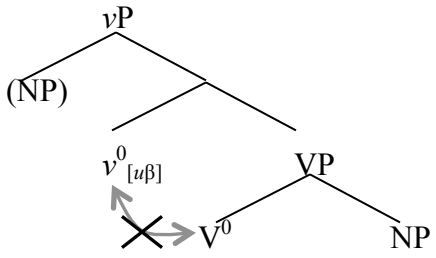
[98] The claim that a certain feature associated with a functional element comes along with another feature is nothing new. For instance, Chomsky (1999) proposes the Case-agreement system in which two flavors of a v^0 that have different Case-licensing ability plays a major role, and the different Case-licensing ability of these two flavors of a v^0 is closely tied to their being phi-complete or non-phi-complete. That is, a v^0 has a Case licensing ability when it involves an uninterpretable phi-feature, but it does not have a Case-licensing ability when it does not involve the relevant uninterpretable feature. As a consequence, a v^0 that has Case-licensing ability necessarily merges with a VP that involves an internal argument, contrasting with a v^0 that lacks the Case-licensing ability which can, in principle, merge with either a VP that involves an internal argument or a VP without it. The motivation behind the proposal stated in (5) is similar to how the Case-licensing ability of v^0 is thought to be associated with the presence/absence of an uninterpretable phi-feature in the Case-agreement system; it is needed to lighten the derivational burden.

particular syntactic position contributes (7a,b) or does not contribute (7c,d) to an aspectual interpretation of a predicate;

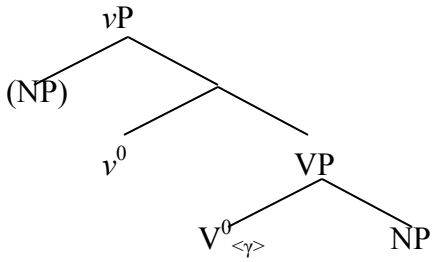
(6) a.



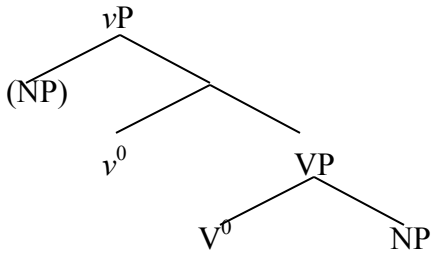
*b.



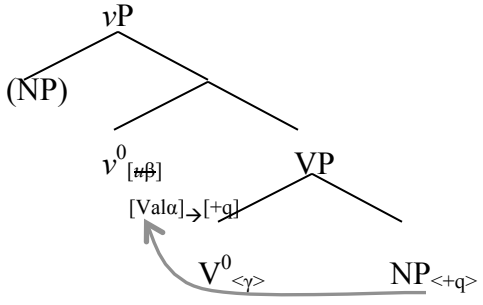
c.



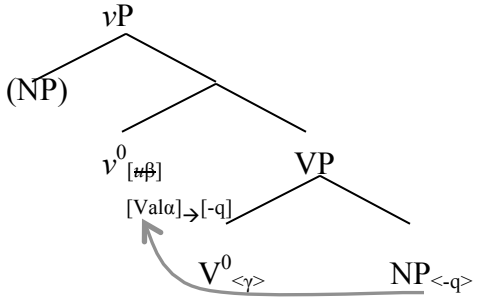
d.



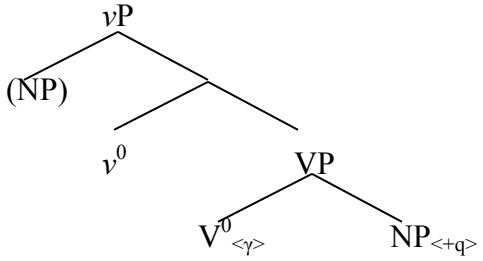
(7) a.



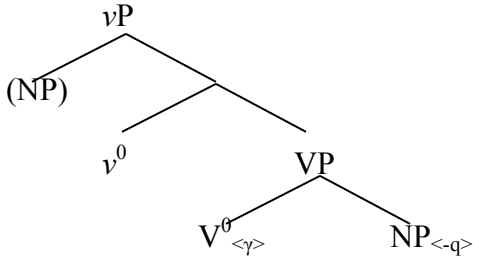
b.



c.



d.



Note that although schematic pictures in (6) illustrate only the case in which a flavor of a v^0 that merges with a VP is affected by a property of a V^0 that heads the VP, I will show in section 5.3 that a flavor of a v^0 that merges with a VP may also be affected by a certain property of a syntactic entity other than a V^0 that constitutes the VP. As for aspectual influence of the nominal

reference in syntax, I follow MacDonald (2006 et seq.) in that a distinction in a nominal reference (e.g. specific quantity of A or [+/-SQA] in Verkuyl 1993, quantized / cumulative in Krifka 1989, 1992) finds its expression in syntax in the form of an interpretable feature on an NP / DP[99]. Specifically, I assume that a syntactic nominal bears an interpretable <q>-feature (taken from MacDonald 2006, where 'q' stands for specific quantity) which is specified as either + or – for its value, and the <q>-feature specification of a syntactic nominal affects an aspectual interpretation of a predicate when the NP / DP in question provides a value to the [Valα] of a v^0_{eve} under AGREE (e.g. (7a,b) cf. (7c,d)).[100] Because the <q>-feature specification of a syntactic nominal is binary, a v^0_{eve} that involves the unvalued feature [Valα] may have either [+q] or [-q] as its value at the phase. Thus, as a result of syntactic derivation, I have three syntactico-semantically different types of v^0_{eve} out of two syntactically different flavors of v^0_{eve}; a $v^0_{[+q]}$, $v^0_{[-q]}$, and a v^0 with no [q]-feature specification. I argue that this three-way distinction in properties of a v^0_{eve} at the phase explains the attested range of aspectual interpretations of a predicate in the following manner:

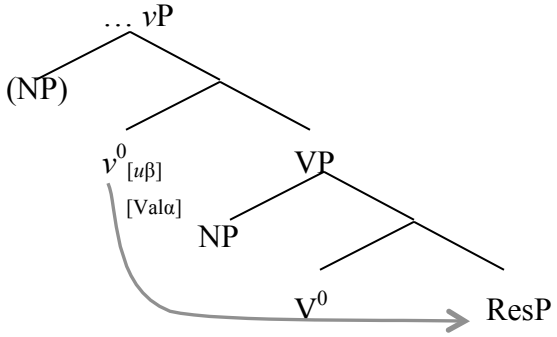
[99] Although an answer to the question of what syntactic mechanisms causes a difference in the nature of a nominal element to affect an aspectual interpretation of a predicate bears an important implication to the aspectual-syntactic explanation to the cross-linguistic difference in a productivity of the RC proposed in this study, a question of what makes a syntactic nominal to have the relevant interpretable feature (e.g. if it is the feature makeup of a D^0 or an N^0, etc.) is outside of the scope of the current study. For this reason, I do not make a distinction between NPs and DPs, unless otherwise noted.

[100] Because the <q>-feature specification of a syntactic nominal is reflected on a value of a v^0_{eve} only when the nominal element in question is a proper goal for a v^0_{eve}, the <q>-feature specification of a nominal element fails to affect an aspectual interpretation of a predicate not only when a v^0_{eve} that merges with a VP does not involve the [Valα] (7c,d) but also when the nominal element in question appears in a position from where it fails to establish an AGREE relation with a v^0_{eve}.

(8) A flavor of a v^0 at the Phase	Aspectual interpretation of a predicate[101]	
v^0_{eve}	[-NEP]-Atelic	(=no natural endpoint)
v^0_{eve} [$u\beta$][Valα]→[-q]	[+NEP]-Atelic	(=no culmination of an event)
v^0_{eve} [$u\beta$][Valα]→[+q]	[+NEP]-Telic	

Building on the hypothesis that there are syntactically at least two different flavors of a v^0_{eve}, I propose in section 5.4 that the RC requires a particular flavor of a v^0_{eve} for its derivational convergence. Specifically, I propose that a ResP is syntactically licensed by a $v^0_{[u\beta,\ Val\alpha]}$, though it cannot be licensed by a v^0_{eve} without the relevant feature set. This means that a derivation of RC may converge when a VP in which a ResP is base-generated merges with a $v^0_{[u\beta,\ Val\alpha]}$, though it crashes whenever the VP in question merges with a v^0_{eve} without the relevant feature set. In other words, the $v^0_{[u\beta,\ Val\alpha]}$ constitutes one of the fundamental properties of the RC; a syntactic representation of the RC is offered in (9) below:

(9) Syntactic Structure of the Resultative Construction (Revised)[102]



Under the current proposal, the aspectual requirement of the RC discussed in Chapter 4 is explained as a consequence of a particular flavor of a v^0_{eve} that the syntax of the RC requires; because an aspectual interpretation of a predicate is determined by certain syntactic/syntactico-

[101] Here, what I mean by a predicate to be telic/atelic is that the event it describes is understood to have/not to have a defined endpoint, and it should not be confused with the distinction between an event which is understood to be completed/not completed (e.g. perfective vs. imperfective). Note also that I treat the telicity of a predicate as a complex notion: a predicate is telic when an action/process involved in a situation it describes has a natural/inherent endpoint (e.g. it fails to continue taking places once a certain condition is met, i.e. [+NEP]-predicates) AND the situation it describes involves a point at which a natural/inherent endpoint of an action/process in question occurs. This means that there are two types of atelic predicates, ones that are atelic because a situation they describe is constituted by an action/process that does not have a natural/inherent endpoint, and others that are atelic because they describe a situation in which a certain action/process takes place without ever meeting a condition at which its continuation becomes impossible. See section 3.2 for more details.

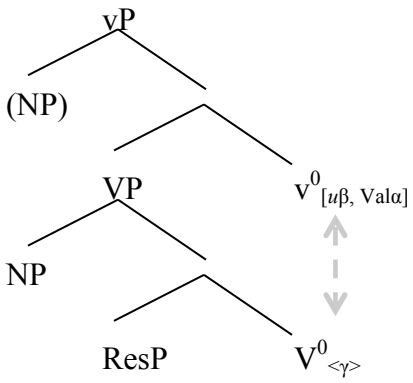
[102] I am not concerned with a word order here. As for English, I assume that V^0 to v^0 movement to take place prior to linearization.

semantic properties of a v^0 that merges with a VP (8), and because a derivation of the RC converges iff a VP merges with a particular flavor of a v^0, sentences derived with the RC are well-formed only when they involve a predicate with a particular aspectual properti(es). As I will show in section 5.4, the current proposal gains a support from a range of aspectual interpretation that predicates derived with an RC may have. Contrary to what is often assumed in the literature, the presence of a ResP does not always render a predicate telic. Through examining English data, I show that the telicity of a predicate in well-formed TREs is correlated with the <q>-feature specification of a nominal element that appears in a particular syntactic position, which in turn provides support for the claim that the RC necessarily involves a $v^0_{[u\beta,\ Val\alpha]}$.

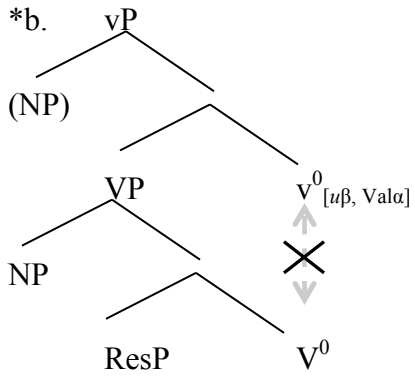
Finally, based on the claim that the RC involves a configuration in which a VP necessarily merges with a $v^0_{[u\beta,\ Val\alpha]}$, I argue that the cross-linguistic difference in a productivity of the RC found between English and Japanese arises from a difference in a certain syntactic property of a ResP. Specifically, I propose that a ResP in English bears the interpretable feature <γ>, contrasting with a ResP in Japanese which does not bear the relevant feature. Because the RC requires a $v^0_{[u\beta,\ Val\alpha]}$ for its derivational convergence (9), and because the <γ>-feature of a syntactic X^0/XP contributes to the flavor of the v^0_{eve} with which a VP can merge (e.g. (6a) vs. (6b)), the proposed difference in a ResP bearing/not bearing the <γ>-feature provides an explanation for the different degrees of verbal dependency that a derivation of the RC shows in English and Japanese. The trees in (10) and (11) illustrate the point:

(10) Japanese

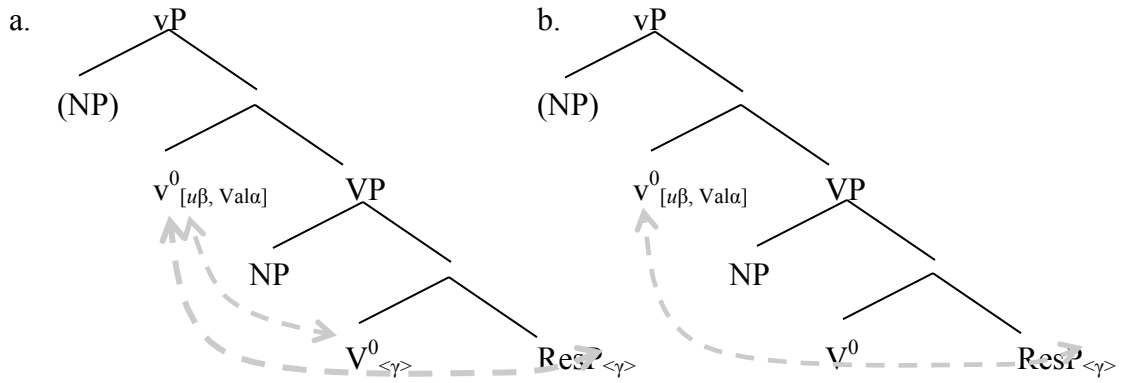
a.



*b.



(11) English



Under the current proposals, the different verbal dependencies that the derivation of the RC shows in English and Japanese is attributed to the availability/unavailability of a syntactic entity other than a V^0 with which a $v^0_{[u\beta,\ Val\alpha]}$ can establish an AGREE relation to deleted its uninterpretable feature. In Japanese in which a ResP does not bear the <γ>-feature (10), a derivation of the RC converges iff a verb that appears in a V^0 position bears the <γ>-feature. This is so because a VP that involves a ResP must merge with a $v^0_{[u\beta,\ Val\alpha]}$ in order for a ResP to be syntactically licensed (9), and a $v^0_{[u\beta,\ Val\alpha]}$ in turn requires a VP with which it merges to involve some syntactic entity with which it can establish an AGREE relation in order to delete its uninterpretable feature [*u*β] (e.g. (6a) vs. (6b)). Since a ResP in Japanese does not bear the <γ>-feature, V^0 is the only potential syntactic entity with which $v^0_{[u\beta,\ Val\alpha]}$ can establish an AGREE relation.[103] Therefore, a derivation of the RC may converge when a verb that appears in a V^0 position bears the <γ>-feature (10a), though it crashes whenever a verb that does not bear the <γ>-feature appears in its place (10b). In contrast, a derivation of the RC is not subject to such a verbal restriction in English in which a ResP bears the <γ>-feature (11). Because a ResP appears within a local domain of the $v^0_{[u\beta,\ Val\alpha]}$ (i.e. there is no phase boundary between the $v^0_{[u\beta,\ Val\alpha]}$ and

[103] For the time-being, I do not consider the possibility that syntactic nominals may bear the <γ>-feature. As I will discuss in section 5.3, while syntactic nominals may affect an aspectual interpretation of a predicate, they usually do so in a way different from how non-nominal X^0s / XPs do, indicating that the way in which syntactic nominals affect an aspectual interpretation of a predicate is NOT by contributing to determine the flavor of a v^0, which, in turn, suggests that syntactic nominals may not bear the <γ>-feature. A possible exception to this claim may be so-called 'Path-Object', though since path-objects are not compatible with the RC, it does not affect the point of the current discussion. See section 5.3 for a discussion of how aspectual contributions of syntactic nominals may differ from aspectual contributions of syntactically non-nominal elements.

a ResP), $v^0_{[u\beta,\ Val\alpha]}$ can, in principle, establish an AGREE relation with a ResP. Thus, in English, a VP that involves a ResP can successfully merge with the $v^0_{[u\beta,\ Val\alpha]}$ not only when it is headed by a verb that bears the <γ>-feature (11a), but also when it is headed by a verb that does not bear the <β>-feature (11b), since the uninterpretable feature of the $v^0_{[u\beta,\ Val\alpha]}$ can be properly deleted by AGREEing with ResP even when the $v^0_{[u\beta,\ Val\alpha]}$ cannot do so with a V^0 (11b).

5.3 Syntactic Expressions of Event Aspects

The main goal of this section is to develop general algorithms of syntactic representations and aspectual interpretation of predicates that serve as a foundation to provide an explicit account of aspectual properties of the RC. Building on basic insights of MacDonald (2006 et seq.) that an aspectual interpretation of a predicate is syntactically determined at the phase, I make the following main proposal with respect to predicates that are syntactically realized as a VP:

(12) An aspectual interpretation of a predicate that is realized as a VP in the syntactic component is determined based on properties of a functional element / spine of functional elements that merges with the VP.

I propose that a functional element that merges with a VP serves as a syntactic locus for calculating the aspectual interpretation of a predicate, and it is the properties that the functional element(s) in question have as a result of the syntactic derivation that determines how a VP in question is aspectually interpreted. In what follows, I provide arguments that a functional element that merges with a VP serves as the syntactic locus for calculating the aspectual interpretation of a predicate. Through examining aspectual phenomena from various languages that have syntactic/morpho-syntactic correlates, I show that certain differences in an aspectual interpretation of a predicate finds its source in some differences in properties of functional element(s) that merge with a VP. Because the sole purpose of this section is to set out the basic background for discussing the aspectual behavior of sentences that are derived with the RC, only a limited range of aspectual distinctions found in natural language expressions are highlighted. In Section 5.3.2, I discuss alternative approaches to syntax-semantics mappings of event aspects, and point out some problems therein.

5.3.1 Syntactic Realization of Event Aspects

This section is devoted to developing an algorithm of the syntax-semantics mappings of event aspects. Because the main purpose of discussing the correlations between the aspectual properties of predicates and their syntactic behavior is to set up a background for arriving at an explicit account of the RC, I restrict my attention to the question of how the situation aspects/inner aspects of a predicate may be affected by syntactic derivations, and discuss the effect of viewpoint aspects in syntax only in relation to the relevant question. In what follows, I argue that an aspectual interpretation of a predicate is compositionally determined through the mediation of syntax, and motivate that a v^0, or the spine of functional elements that merges with a VP, serves as a syntactic locus for determining the aspectual interpretation of a predicate. Specifically, I make the following proposals:

(13) a. Stasis/Dynamicity of a predicate is syntactically represented as a difference in the feature makeup of a functional element that merges with a VP

b. The Telicity of a predicate is determined through an interaction/non-interaction between the compositional part(s) of a VP and a functional element that merges with the VP in the syntax

i) the presence/absence of a natural endpoint in an action/ process involved in a situation described by a predicate is syntactically expressed by a VP being able to/unable to merge with a particular flavor of a functional element

ii) a nominal reference affects the aspectual interpretation of a predicate through its syntactic interaction with a functional element that merges with a VP

These proposals are discussed and motivated one by one in the following subsections. Because the algorithms of syntax-semantics mappings developed in this section are essentially a modification of the syntax-semantics mappings of event aspects proposed in MacDonald (2006 et seq.), please note that much of discussions found in this section are either a reproduction or a reinterpretation of points made in MacDonald (2006), though hopefully, each such point is strengthened by incorporating additional data into the discussion.

5.3.1.1 Stative-Eventive Dichotomy: Motivating a v^0 as the Locus of an Aspectual Calculation in Syntax

In this section, I motivate the proposal that a functional element that merges with a VP serves as a locus of an aspectual calculation at the syntactic level of computations. Specifically, I argue that the dynamicity of a predicate is determined by the flavor of the functional element with which a VP merges. Through examining the syntactic/morpho-syntactic behavior of stative predicates and eventive predicates that are syntactically realized as a VP, henceforth Stative VPs and Eventive VPs, respectively, I motivate the proposal that a functional element/the spine of functional elements that merges with a Stative VP and Eventive VP involve different feature makeups.[104]

First, it is well-recognized in the literature that the stative-eventive distinction, which is a distinction in an aspectual property of a predicate, finds its expression in syntax across various languages that are not necessarily genetically related with each other (Travis, 2010, Ramchand 1997, Phillips 2000, Arad 1998, Smith 1991, Tenny 1994, among many others). For instance, Stative VPs and Eventive VPs are known to participate in different case-marking patterns in languages such as Finnish (Arad 1998) and Japanese (Kuno 1973, Sugioka 1985, Tada 1992, Koizumi 1994b, among many others). Example (14) below, taken from Arad (1998:74), illustrates the case-marking pattern exhibited by Stative VPs in Finnish, and example (15) below, taken from Koizumi (1994:(3), (4)) with slight modifications, shows the contrasting case-marking patterns observed between Stative VPs and Eventive VPs in Japanese:

[104] Under the cartographic view, a difference in the syntactic realization of stative predicates and eventive predicates may be considered as different combinations of functional elements that constitute the functional projection with which a VP merges. For the sake of simpler presentation, the current study assumes that the relevant aspectual contrast is syntactically reflected in the feature makeup of a functional element that merges with a VP, namely, a v^0, though it does not hinge on that assumption, and so far as we can see, it is compatible with the cartographic approach as well.

(14) Finnish
Minä rakastan sinua / *sinut
I love-1sg you-part / you- acc
'I love you'

(15) Japanese
a. John-ga sono piza{-o / *-ga} taberu (koto) Eventive VP
-nom that pizza-acc/-nom eat fact
'(the fact that) John eats the pizza

b. John-ga huransu.go{*-o / -ga} dekiru (koto) Stative VP[105]
-nom French-acc / -nom capable fact
'(the fact that) John is capable of French (e.g. John understands French)'

In other languages, Stative VPs are rejected from certain syntactic constructions that Eventive VPs can appear. For instance, Stative VPs and Eventive VPs in English show different behavior in do so substitution contexts as well as in pseudo-cleft contexts (Hallman 2004, MacDonald 2006, Smith 1991, among others), as illustrated in (16)-(17) and (18) below, respectively. Example (16) and (17) are taken from MacDonald (2006:40 (44)-(45)), and (18) is taken from Hallman (2004: (6a), (11)), with emphasis added:

(16) a. John drove the car and Frank did so too Eventive VP
b. John ate a cake and Frank did so too
c. John caught a raccoon and Frank did so too

(17) *John knew a Spaniard and Frank did so too Stative VP

(18) a. What Max didn't do was study French Eventive VP
b. *What Max does is love studying French Stative VP

In S. Gaelic, Stative VPs and Eventive VPs show contrasting behavior in the simple tense construction. Unlike Eventive VPs (19), Stative VPs are generally incompatible with the simple tense construction, and they either undergo a meaning shift and yield a dynamic interpretation (20), or else cause a derived sentence to be ungrammatical if the meaning shift is not possible (21). Examples (36)-(38) below are taken from Ramchand (1997):

[105] Note that it is not always the case that the object of stative VPs rejects an accusative case marker –o as in (15b). According to Koizumi (1994), the object may surface with either –ga or –o when the stativity of the predicate is either on the borderline or ambiguous between stative and eventive, and the preference for –ga marking or –o marking is determined by discourse (cf. Sugioka 1985: Chapter 4).

(19) Chunnaic Calum a'chraobh — Eventive VP
see-past Calum the tree-dir
'Calum saw the tree' — (ibid.:37 (3))

(20) a. Bha e ag iarraidh not — meaning shift
Be-past he '*ag*' *'iarr*-vn pound
'He wanted a pound'

b. Dh'iàrr e not — Stative VP
'*iarr*'-past he-dir pound
'He got a pound' — (ibid.:47 (45),(46))

(21) *Choimhead e gòrach — Stative VP
look-past he-dir silly
'He looked silly' — (ibid.:44 (35))

These facts indicate that the dynamicity of a predicate, which is a semantic property, is visible to some syntactic/morpho-syntactic operations across languages, minimally speaking.

The observed facts that Stative VPs and Eventive VPs cross-linguistically show different syntactic/morpho-syntactic behavior is most naturally explained if a functional element that merges with Stative VPs involves different properties from the one that merges with Eventive VPs (i.e. Kratzer 1996, Hallman 2004, MacDonald 2006, Tada 1992, Fukuda 2006 et seq., among others). For instance, Hallman (2004) argues that the different behavior of Stative VPs and Eventive VPs in do so substitution contexts (16)-(17) and pseudo-clefting (18) can be unitarily explained if do in do so and the do that appears linearly preceding a copula in the pseudo-cleft construction is an overt realization of a particular functional element that licenses an external argument of Eventive VPs (i.e. *voice* in Kratzer 1996, *little-v* in Chomsky 1995); because it selects for an Eventive VP, Eventive VPs can, though Stative VPs cannot, be replaced by so in do so substitution contexts, or be elided under identity in pseudo-clefting.[106] If this

[106] Smith (1991) points out some potential difference between the do that appears in do so substitution contexts and pseudo-cleft contexts in English; while do that appears in pseudo-cleft contexts is associated with agency and control (Lee 1971, Ross 1972) and thus it is not compatible with Stative VPs, other instances of do may be compatible with Stative VPs, as in the case observed below (Smith 1991:68):
(i) John knows Greek and Mary does too.
While Hallman (2004) does not explicitly discuss the contrast between (i) and (17), one way to explain the contrast in question is to say that the presence of so makes an environment in which only a v^0 that selects for an Eventive VP is eligible as being overtly realized as do. That is, the reason why only Eventive VPs can be substituted by so in do so contexts and/or appear in pseudo-cleft contexts is because what can be overtly realized as do is restricted to a v^0 that selects for an Eventive VP in these environment. Then, the fact that Stative VPs are incompatible with the do so

analysis is on the right track, the fact that Stative VPs fail to participate to these morpho-syntactic operations implies that Eventive VPs and Stative VPs project different functional structure, be it some difference in the nature of a functional head with which they merge (e.g. *voice* vs. *holder* in Kratzer 1996) or some difference in the complexity of the functional structure they project (e.g. the presence/absence of an AspP within the functional projection of a VP, as in MacDonald 2006). In other words, the functional element that merges with Stative VPs and Eventive VPs involve distinct syntactic properties.

The case-marking pattern observed in Japanese (15) also suggests that the functional element that merges with a Stative VP and an Eventive VP has different syntactic properties. To begin with, observe the scope interactions of negation and –dake 'only' that attaches to an object in (22) below, taken from Koizumi (1994b:(27)) with slight modifications:

(22) a. Mary-ga niku-dake-o tabe-na-i (koto) — Only > Neg
-nom meat-only-acc eat-neg-pres fact — Neg > Only
'(the fact that) Mary does not eat only meat'

b. Mary-ga suugaku-dake-ga deki-na-i (koto) — Only > Neg
-nom math-only-nom capable-neg-pres fact — *Neg > Only
'(the fact that) Mary cannot do only math (i.e. she is not good at math)'

Since Tada (1992), it has been well recognized in the literature that a nominative case-marked object and an accusative case-marked object show different scope interaction possibilities. As is exemplified in (22), an accusative case-marked object can either scope over or under the negation (22a), a nominative case-marked object generally scopes over the negation (22b). Assuming that scope relations reflect hierarchical relations holding among scope-bearing elements at LF, the pattern observed in (22) suggests that an accusative case-marked object may be in either a position higher or lower than the negation at LF, whereas a nominative case-marked object must be in a position higher than the negation at LF (Koizumi 1994b). Because a

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substitution context (17), though compatible with a context such as (i) simply means that what is realized as do in do so and do that appears preceding an elided constituent as in (i) are not always identical functional elements, minimally speaking. Since the fact that what is morphologically realized as do does not always select for an Eventive VP itself does not disrupt the point of the current discussion, I leave open the question of why only a v^0 that selects for an Eventive VP can appear as do in the pseudo-cleft contexts and do so substitution contexts for future studies.

sentential negation is syntactically realized by a Negation Phrase (NegP) that appears somewhere above VP, the fact that a nominative object cannot take a lower scope than the negation (22b) suggests that a nominative object raises outside of a VP prior to LF (e.g. for case/Case-theoretic reasons, Tada 1992, Koizumi 1994b). This in turn suggests that a VP merges with a different functional structure when it involves a nominative case-marked object than when it involves an accusative case-marked object; an object NP must raise out of a VP in narrow syntax in order for it to appear with a nominative case-marking, but it can stay within a VP for it to appear with an accusative case-marking. Thus, the different case-marking patterns that Stative VPs and Eventive VPs show in Japanese also point to the conclusion that the functional element that merges with Stative VPs and Eventive VPs may involve different syntactic properties.

An implication of the conclusion that a functional element that merges with a Stative VPs and Eventive VPs may have different syntactic properti(es) is that a distinction in the dynamicity of a predicate, which is an aspectual property of a predicate, may be syntactically represented as some difference(s) in a properti(es) of a functional element that merges with a VP. That is, stative predicates are syntactically represented as a VP merging with a functional element that has a particular syntactic properti(es), and eventive predicates are syntactically represented as a VP merging with a functional element that has a distinct syntactic properti(es) from the one found in syntactic representation of stative predicates. Since the current study does not concern exactly how the properti(es) of a functional element/the spine of functional elements that merges with Stative VPs differ from the one that merges with Eventive VPs, I will simply call the former as a v^0_{st}, and the latter as a v^0_{eve} without any theoretical implications.

From the perspective of syntax, the conclusion reached above implies that a certain difference(s) in the properties of a functional element that merges with a VP is visible to an aspectual calculation of a predicate; VPs that merge with a v^0_{st} are understood as denoting a static eventuality, whereas VPs that merge with a v^0_{eve} are understood as denoting a dynamic eventuality. This in turn suggests that what it means for a predicate to describe a static eventuality and/or dynamic eventuality at the syntactic level of computations is that the VP in question has an ability to merge with a v^0_{st} and/or a v^0_{eve}, respectively. That is, the dynamicity of a predicate is syntactically represented as a selectional relation(s) that holds between a v^0 and a

VP. The current proposal gains supports from the case-marking patterns observed in the stative predicate construction in Japanese. As has been discussed in Sugioka (1985), many stative predicates in Japanese may take either –ga marked subject or –ni marked subject, as is illustrated in (23), taken from Sugioka (1985:156 (7)-(9)) with minor modifications, with her judgments:

(23) a. Taroo{-ga / -ni} hebi-ga kowai
-nom -dat snake-nom scared
'Taro is scared of snakes'

b.Taroo{-ga / -ni} eigo-ga dekiru
-nom -dat English-nom can.do
'Taro is capable of English (e.g. Taro can speak / understand English)'

cf. c. Taroo{-ga /*-ni} Hanako-ga suki-da
-nom -dat -nom like-cop
'Taro likes Hanako'

While the alternation possibility of the –ga marked subject and –ni marked subject is not completely general, as is shown by the contrast between (23a,b) and (23c), it appears reasonable to attribute the possibility of the –ga/-ni alternation of a subject to the stativity of a predicate, since such an alternation possibility seems to be generally unavailable for the subject of eventive predicates, as is demonstrated in (24):

(24) a. John{-ga / *-ni} Mary-ni atta (koto) '(the fact that) John met Mary'
-nom / -dat -dat meet fact

b. John{-ga / *-ni} Mary-o hometa (koto) '(the fact that) John praised Mary'
-nom -dat -acc praised fact

c. John{-ga / *-ni} Tokyo-e itta (koto) '(the fact that) John went to Tokyo'
-nom -dat -to went fact

d. John{-ga / *-ni} Mary kara nigeta (koto) '(the fact that) John escaped from Mary'
-nom -dat from escaped fact

e. sono kabin{-ga /*-ni} kowareta (koto) '(the fact that) the vase broke'
that vase-nom -dat $\text{broke}_{\text{Intr}}$ fact

The alternation possibility of the –ga marked subject and –ni marked subject in question is a property of a sub-class of stative predicates which is not restricted to those that are morpho-syntactically simplex like those illustrated in (23). In Japanese, there are some productive morpho-syntactic processes that can derive an internally complex stative predicate, namely, through suffixation of a potential morpheme –(rar)e 'can' or a desiderative morpheme –ta(i) 'want' to a morpho-syntactic verb, and the subject of the former type of complex predicate, though not the latter type of complex predicate, can surface with either –ga marking or –ni marking, similar to the pattern observed in (23):

(25) a. John{-ga /-ni} eigo-ga hanas-e-ru (koto)
-nom -dat English-nom speak-can-pres fact
'(the fact that) John can speak English'

b. John{-ga /-ni} tabako-ga ka-e-ru (koto)
-nom / -dat cigarettes-nom buy-can-pres fact
'(the fact that) John can buy cigarettes'

(26) a. John {-ga / *-ni} eigo-ga hanasi-ta-i (rasii)
-nom -dat English-nom speak-want-pres seem
'(I've heard that / it appears that) John wants to speak English'

b. John{-ga / *-ni} tabako-ga kai-ta-i (rasii)
-nom -dat cigarettes-nom buy-want-pres seem
'(I've heard that / it appears that) John wants to buy cigarrets'

Now, of particular interest to the point of the current discussion is the case-marking pattern exhibited by complex predicates that involve –(rar)e 'can' as in (25) above. To begin with, the stativity of complex predicates that are derived through the suffixation of –(rar)e 'can' to a morpho-syntactic verb is evidenced by the fact that an internal argument of a V^0 can appear with a nominative case marker –ga, which is characteristic of Stative VPs, as I discussed earlier:

(27) a. John-ga eigo{*-ga / -o} hanas-u (koto)
-nom English-nom / -acc speak-pres fact
'(the fact that) John speaks English'

b. John-ga tabako{*-ga / -o} ka-u (koto)
-nom cigarettes-nom / -acc buy-pres fact
'(the fact that) John buys cigarettes'

(28) a. John-ga eigo{-ga / -o} hanas-e-ru (koto)
-nom English-nom / -acc speak-can-pres fact
'(the fact that) John can speak English'

b. John-ga tabako{-ga /-o} ka-e-ru (koto)
-nom cigarette-nom / -acc buy-can-pres fact
'(the fact that) John can buy cigarettes'

Notice further that an internal argument of a V^0 can also appear with an accusative case-marker –o in the relevant environment, which differs from the majority of internally simplex Stative VPs in which the availability of an –o marked object depends on the properties of the individual lexical item that heads the VP. Because the complex predicate formation of the type illustrated in (45) takes place quite generally on lexical items that show thebehavior of morpho-syntactic verbs, they are generally considered to involve a syntactic structure in which –(rar)e 'can' constitutes a V^0 of its own, being independent from the main verb at syntactic level of computations (e.g. Tada 1992, Fukuhara 1993, Koizumi 1994, cf. Sugioka 1985). Furthermore, because an internal argument of a main V^0 can always surface with either a nominative case-marker –ga or an accusative case-marker –o in the relevant environment, the availability of a nominative case marked object is generally attributed to the properties of –(rar)e 'can', that it is a 'stative verb', and the availability of an accusative case marked object is generally attributed to

the properties of the main verb, that they are usually non-stative verbs (ibid.)[107]. Keeping these facts in mind, let us observe the following data, due originally to Sugioka (1985):

(29) a. John{-ga / *-ni} eigo-o hanas-e-ru (koto) cf. (25)
-nom -dat English-acc speak-can-pres fact
'(the fact that) John can speak English'

b. John{-ga / *-ni} tabako-o ka-e-ru (koto)
-nom -dat cigarette-acc buy-can-pres fact
'(the fact that) John can buy cigarettes'

Recall from (25) that complex predicates that are derived with the suffixation of –(rar)e 'can' can usually take either a –ga marked subject or –ni marked subject. However, unlike in (25) in which an internal argument of a main V^0 appears with the nominative case-marker –ga, the sentences in (29) involves an accusative case-marked object, and they are grammatical only when the subject of the complex predicate appears with a –ga marking. The observed correlation between the

[107] If the relevant type of complex predicate formation requires/does not require a non-stative verb is not clear to me. For instance, as is mentioned in footnote 2 above, the stativity of a predicate that is projected by some 'stative verbs' can be borderline or ambiguous, and an object of a VP projected by such a borderline/ambiguously stative verb can appear with either a nominative case marker –ga or an accusative case marker –o. The verb wakar(u) seems to be one such verb, and yet it cannot participate in the complex predicate formation of the type under consideration:

(i) a. John-ga Mary-no kimoti{-ga / -o} wakar-u (koto)
-NOM -GEN feeling-NOM / -ACC understand fact
'(the fact that) John understands Mary's feeling'

b. *?John-ga Mary-no kimoti{-ga / -o} wakar-e-ru (koto)
-NOM -GEN feeling-NOM / -ACC understand-potential-PRES fact
'(the fact that) John can understand Mary's feeling'

At first glance, this appears to suggest that stative verbs may be ruled out from the complex predicate formation of the type under consideration. However, the verb ir(u) 'exist (animate)', which is generally considered as an unambiguously stative verb, can participate in the relevant complex predicate formation:

(ii) John-ga (teenen.go mo) sono kaisya-ni ir-e-ru (koto)
-NOM retirement.after even that company-at exist-potential-PRES fact
'(the fact that) John can exist at the company even after his retirement
(e.g. John can stay [working] at the company even after his retirement period')

Since canonical stative verbs usually do not take an internal argument, and thus we cannot tell if an argument of such verbs exhibits an alternation in its case morphology in the presence/absence of –(rar)e 'can', we will not pursue this question here, and leave it as a future research question.

availability of a –ni marked subject and the case-marking pattern of an object seems to hold in another direction as well:

(30) a. John-ga eigo{-ga / -o} hanas-e-ru (koto)
-nom English-nom / -acc speak-can-pres fact
'(the fact that) John can speak English'

b. John-ga tabako{-ga / -o} ka-e-ru (koto)
-nom cigarette-nom / -acc buy-can-pres fact
'(the fact that) John can buy cigarettes'

(31) a. John-ni eigo{-ga / *-o} hanas-e-ru (koto)
-dat English-nom / -acc speak-can-pres fact
'(the fact that) John can speak English'

b. John-ni tabako{-ga / *-o} ka-e-ru (koto)[108]
-dat cigarette-nom / -acc buy-can-pres fact
'(the fact that) John can buy cigarettes'

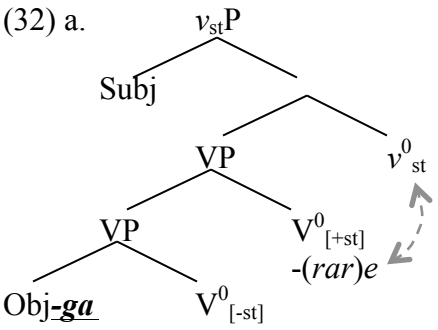
As is demonstrated by the contrast between (30) and (31), an accusative object is available when the subject of the complex predicate appears with –ga marking (30), but it becomes unavailable when the subject of the complex predicate appears with –ni marking (31).

The observed correlation between the case-marking of an internal argument of a main V^0 and the subject of a complex predicate can be straightforwardly understood if the dynamicity of a predicate is syntactically expressed by the type of v^0 that a VP merges with, and the type of a v^0 is in turn syntactically determined by the selectional relations that hold between a v^0 and a VP. Under the current proposal, the fact that complex predicates derived with –(rar)e 'can' can take either a nominative case-marked object or an accusative case-marked object suggests that an entire VP can merge with either a v^0_{st} or a v^0_{eve}; a v^0_{st} merges with the VP by establishing an AGREE relation with –(rar)e 'can', thereby the licensing the nominative case-marking on an internal argument of the main verb, and a v^0_{eve} merges with the VP by establishing an AGREE relation with a main verb, thereby licensing an accusative case-marking on an internal argument of the main verb. The schematic pictures in (32a) and (32b) below show a merge structure of

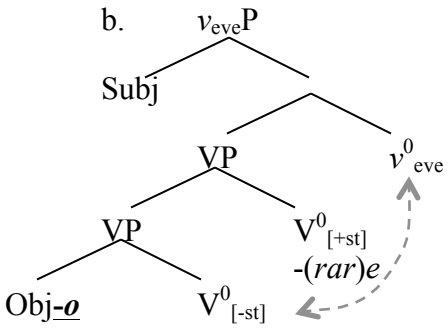
[108] (31b) is grammatical with an accusative case marked object under an irrelevant reading in which the subject of the complex predicate is understood to be a *pro* and John is understood to be a beneficiary, such as '(the fact that) [I] can buy cigarettes for John'. This irrelevant reading is also available with a nominative object in its place.

complex predicates that involve a nominative object and an accusative object, respectively. Some difference in the properties of theV^0 that contributes to the selection of the v^0 is informally indicated by [+/-st] on the V^0:[109]

(32) a.



b.



Given that complex predicates of the type under consideration involve a syntactic structure in which a higher VP merges with a v^0_{st} in the presence of a nominative object (32a) and with a v^0_{eve} in a presence of an accusative object (32b), the observed correlations between the case-marking of a subject and the case-marking of an object follows from the fact that a –ni marked subject and an accusative object require the presence of different functional elements. Recall from (23) and (24) that the availability of a –ni marked subject is preconditioned by the stativity of a predicate; while some stative predicates can take a –ni marked subject ((23a,b) vs. (23c)), eventive predicates consistently reject a –ni marked subject (24)). This implies that a –ni marked subject can be base-generated in a specifier position of a v^0_{st}, though it cannot be base-generated in a specifier position of a v^0_{eve}, minimally speaking. On the other hand, while the external argument position of the complex predicates of the type under consideration may be either a specifier position of a v^0_{st} (32a) or a v^0_{eve} (32a), the choice between the two has the consequence in case-morphology of the nominal element that appears as an internal argument of a lower V^0; in the former structure, an internal argument of a lower V^0 surfaces as a nominative object, though in the latter, it surfaces as an accusative object. In other words, an external argument position of the complex predicates of the type under consideration is the specifier position of a

[109] In (32b), because a $V^0_{[+st]}$ appears closer to a v^0 than a $V^0_{[-st]}$, it should not be possible for a $V^0_{[-st]}$ to establish an AGREE relation with a v^0 if it stays in situ. Since an internal argument of a $V^0_{[-st]}$ nevertheless appears with an accusative case marker –o, we assume that the $V^0_{[-st]}$ undergoes head movement and adjoins to a higher V^0 position. Alternatively, it seems possible that an AGREE relation takes place between the v^0 and the VP, and the [-st] feature of the main verb percolates all the way up to a higher VP-node in (32b).

v^0_{st} when they involve a nominative object (32a), though it is the specifier position of a v^0_{eve} when they involve an accusative object. Thus, because a -ni marked subject can appear in a specifier position of a v^0_{st}, though not in a specifier position of a v^0_{eve} ((23a,b) vs. (24)), complex predicates of the type under consideration can take either a –ni marked subject or a –ga marked subject when they involve a nominative object (28), though they reject a –ni marked subject when they involve an accusative object (29). For the same reason, the complex predicates that take a –ni marked subject reject an accusative object and surface with a nominative object ((30) vs. (31)); because the complex predicates in question must involve a configuration in which a higher VP merges with the v^0_{st} in order for its subject to appear with –ni marking, and because the case morphology of an internal argument of the lower V^0 is correlated with the type of v^0 with which the higher VP merges ((32a) vs. (32b)), an internal argument of a lower V^0 can surface with the nominative case-marker, –ga, when the complex predicates take a –ni marked subject, though it cannot surface with an accusative case-marker –o in the same environment. In short, the correlation between the morphological case of a subject and the morphological case of an object exhibited by the complex predicates of the type under consideration can be straightforwardly explained as a conflicting requirement that a –ni marked subject and an accusative object impose on derivational procedures; a -ni marked subject requires a VP to merge with a v^0_{st}, and an accusative object requires a VP to merge with a v^0_{eve}, and the two requirements in question cannot be satisfied simultaneously. Then, given that the distribution of a –ni marked subject is dependent on the stativity of a predicate ((23a,b) vs. (24)), the observed correlation between the distribution of a –ni marked subject and the distribution of an accusative object in the context of the complex predicates that are derived through the suffixation of –(rar)e 'can' provides evidence in support of the claim that the dynamicity of a predicate is syntactically represented by some difference in the properti(es) of the v^0 that merges with the VP, and the type of v^0 that merges with a VP is in turn determined by the selectional relations that holds between the v^0 and the VP.

The current claim is further supported by another piece of data in Japanese. As is observed in Sugioka (1985), a predicate derived with the verb wakar(u) 'understand' exhibits certain morpho-syntactic properties that are characteristic of stative predicates, though it is compatible with an imperative mood or with the V^0–oo to suru 'try to V^0' construction, while

both of these environments generally rule out stative predicates. These patterns are illustrated in (33) and (34) below, taken from Sugioka (1985:164 (29), (30)) with slight modifications:

(33) a. boku{-ga /-ni} kimi-no kimoti-ga wakaru (koto)
I-nom -dat you-gen feeling-nom understand fact
'(the fact that) I understand your feelings'

b. boku{-ga / *-ni} kimi-no kimoti-o wakaru (koto)
I-nom -dat you-gen feeling-acc understand fact
'(the fact that) I understand your feelings'

(34) a. boku-no kimoti{*-ga /-o} wakar-e (to wa iw-anai)
I-gen feeling-nom -acc understand-mood comp top say-neg
'(I'm not telling you to) understand my feelings'

b. kimi-wa boku-no kimoti{*-ga /-o} wakar-oo to si-nai
you-top I-gen feeling-nom / -acc understand-try.to do-neg
'You don't try to understand my feelings'

Example (33a) shows that a predicate derived with wakar(u) 'understand' can take not only a –ga marked subject, but also a –ni marked subject. Furthermore, it can involve either a nominative object (33a) or an accusative object (33b). As we have discussed earlier, since stative predicates can, though eventive predicates cannot, take a –ni marked subject and/or a nominative object, a predicate derived with wakar(u) 'understand' behaves like stative predicates in these respects. On the other hand, (34) shows that the relevant predicate is compatible with an imperative mood (34a) and/or it can appear in the V^0-oo to suru 'try to V^0' construction, neither of which are normally compatible with stative predicates.

The mixed behavior of a predicate derived with wakar(u) 'understand' can be straightforwardly understood if the verb wakar(u) is lexically specified as being compatible with either a v^0_{st} or a v^0_{eve}. That is, a VP projected by wakar(u) 'understand' can, in principle, merge with either type of v^0. Notice first that a predicate derived with the verb wakar(u) 'understand' patterns together with the –(rar)e-complex predicates discussed earlier with respect to the case-marking patterns of its subject and object; while it can take a –ni marked subject when it involves a nominative object (23a), it must take a –ga marked subject in the presence of an accusative object (23b), and when it takes a –ni marked subject, it rejects an accusative object

and obligatorily takes a nominative object (23a). This suggests that a VP headed by the verb wakar(u) 'understand' in effect has the choice of merging with either a v^0_{st} or a v^0_{eve} , similar to the way that the higher VP of the –(rar)e 'can'-complex predicates can (32). That is, the verb wakar(u) 'understand' is lexically specified as being compatible with either a v^0_{st} or a v^0_{eve}. If this is in effect the case, the observed fact that a predicate derived with wakar(u) 'understand' is compatible with an imperative mood (34a) and the V^0-oo to su(ru) 'try to V^0' construction (34b) is not surprising at all; since a VP projected by the verb wakar(u) 'understand' can, in principle, merge with either a v^0_{st} or a v^0_{eve}, it simply merges with a v^0_{eve} to derive an imperative sentence (34a) and/or to derive the V^0-oo to su(ru) 'try to V^0' construction. In effect, notice that a predicate derived with the verb wakar(u) 'understand' obligatorily involves an accusative object in the two environments under consideration; sentences (34a) and (35b) are both ungrammatical when a nominative object appears in its place. Since the availability of a nominative object is closely tied with the presence of a v^0_{st}, the fact that a predicate derived with the verb wakar(u) 'understand' cannot take a nominative object in these environments supports the claim that a VP projected by the verb wakar(u) 'understand' is in effect merged with a v^0_{eve} in these environments.

The observed correlation between the case morphology of an object and the syntactic/ syntactico-semantic environments in which a VP projected by the verb wakar(u) 'understand' thus provides another piece of evidence in support of the claim that a difference in the dynamicity of a predicate is syntactically expressed by some difference in the syntactic properti(es) of a functional element that merges with the VP; when a predicate derived with wakar(u) 'understand' appears in a syntactic/syntactico-semantic environment in which it must be understood as denoting a dynamic situation, the VP projected by the verb wakar(u) 'understand' obligatorily merges with a v^0_{eve}, wherein an internal argument of the V^0 can no longer surface as a nominative object.[110, 111, 112]

[110] A possible problem for the current explanation for the mixed behavior of wakar(u) 'understand' is that an internal argument of a V^0 wakar(u) 'understand' seems to be able to surface as a nominative object in the–te ir(u)-construction, which is also claimed to be incompatible with stative predicates (e.g. Kindaichi 1955, cited in Kiyota 2008) :

(i) John-ga Mary-no kimoti{?-ga / -o} (tyanto) wakat-te iru (koto)
-NOM -GEN feeling{-NOM / -ACC} properly understand-*te iru* fact

Summing up this section, we have observed that a difference in the dynamicity of a predicate affects the syntactic/morpho-syntactic behavior of a VP across languages that are not necessarily genetically related with each other. Through an examination of the syntactic/morpho-syntactic behavior of Stative VPs and Eventive VPs, we have motivated that the different syntactic/morpho-syntactic behavior exhibited by Stative VPs and Eventive VPs may be most naturally understood if Stative VPs and Eventive VPs merge with a functional head with different syntactic properties, a v^0_{st} and a v^0_{eve}, respectively, and have argued that the dynamicity of a predicate may be determined by the type of v^0 that merges with a VP; a situation described by a VP is understood as static when the VP merges with a v^0_{st}, but it is understood as dynamic when the VP merges with a v^0_{eve}. This claim was supported by the case-marking patterns of –(rar)e-complex predicates and a predicate derived with wakar(u) 'understand' in Japanese.

5.3.1.2 Aspectual Influence / Non-Influence of a Nominal Reference: Two Flavors of a v^0_{eve}

In this subsection, I motivate the proposal that the flavor of a v^0 determines not only the dynamicity of a predicate, but also the nature of the action/process involved in the situation described by a predicate. Specifically, we argue that there are two types of v^0_{eve}; one involves a cluster of an uninterpretable feature [*u*β] and an unvalued feature [Valα] and the other lacks the

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'(the fact that) John understands Mary's feeling properly'

Unlike in the case of the imperative mood and/or the V^0-oo to su(ru) construction, in which a nominative object and accusative object cause a robust contrast in the grammaticality of a sentence, a nominative object and an accusative object seems to cause only a subtle difference, if any, in the grammaticality of a sentence derived with the –te ir(u) construction. Because the –te ir(u) construction is known to have certain effect on the viewpoint aspect of a sentence (i.e. Shirai 1998, Kiyota 2008), and viewpoint aspects in turn interact with the situation aspects of a predicate (i.e. Smith 1991, Shirai 1998), it appears reasonable to think that the nominative object in the –te iru construction is made available as a result of a certain viewpoint aspect affecting the situation aspects of the predicate. Since it is beyond the scope of this study to provide a formal analysis of how a viewpoint aspect of a sentence affects the situation aspects of a predicate and/or how viewpoint aspects are expressed in syntax, I will leave this question open for future research.

[111] The scope fact discussed above holds for the case of complex predicate formation as well (e.g. in a presence of –(rar)e 'can'). However, judgments seems to vary across speaker more in the case of complex predicates, due possibly to the internal complexity of the predicate which enables a v^0_{eve} and v^0_{st} to enter into the derivation much more freely than the VP projected by an 'aspectually ambiguous' verb does.

[112] The claim that some VPs are compatible with either type of v^0, whereas other VPs may be specified as being compatible with only one or the other type of v^0 is by no means unnatural. In effect, a similar assumption seems to be needed for cases of transitivity alternation, particularly the one exhibited by unergative intransitive verbs that takes a cognate object (e.g. John sneezed a loud sneeze).

relevant cluster of features, and eventive predicates that denote a situation with an action/process which has a natural endpoint (i.e. accomplishments and achievements) involve a syntactic configuration in which a VP merges with the former type of v^0_{eve}, and those that denote a situation with an action/process that lacks a natural endpoint (i.e. activities) is syntactically represented as a VP merging with the latter type of v^0_{eve}. In what follows, I first briefly go over the aspectual influence of a nominal reference discussed in the literature, which serves as the main piece of data that will be discussed throughout this section. Following which, I discuss the conditions under which the reference type of a nominal element affects/does not affect the telicity of a predicate, and motivate the proposal that whether the reference type of a nominal element affects/does not affect the telicity of a predicate is syntactically determined. In section 5.3.1.2.3, we go-over the syntax-semantics mappings of event aspects proposed in MacDonald (2006), and propose some modifications to his account. Section 5.3.1.2.4 provides partial support for the proposed algorithms of the syntax-semantics mappings of event aspects.

5.3.1.2.1 Aspectual Influence of a Nominal Reference: Introduction to the Data

Since Verkuyl (1972), it has been well-recognized in literature that the telicity of predicates may be affected by the reference type of a nominal elements (Verkuyl 1972 et seq., Krifka 1989, et seq., Smith 1991, Tenny 1994, MacDonald 2006 et seq., among many others). The relevant examples are repeated below as (35):

(35) a. John ate <u>a pizza</u> in 5 minutes
b. #John ate <u>pizza</u> in 5 minutes

Although sentences (35a) and (35b) differ from each other minimally in the nature of the underlined nominal element, the situation described in the former is understood to be finite/telic, whereas the situation described in the latter is understood to be non-finite/atelic, as is indicated by the different availability of the end-time reading of the TSA.

The telicity alternation of the type illustrated in (35) is generally attributed to a difference in the reference type of the underlined nominal element; the Det-N^0 <u>a pizza</u> refers to an entity with a specific quantity (i.e. quantized in Krifka 1986 et seq., [+SQA] in Verkuyl 1972 et seq.,

[+q] in MacDonald 2006 et seq.), whereas the Mass Noun pizza refers to an entity with an unspecific/non-specific quantity (i.e. cumulative in Krifka 1992 et seq., [-SQA] in Verkuyl 1993, 1998, [-q] in MacDonald 2006 et seq.). For instance, Krifka (1992) provides a formal semantic explanation of the observed aspectual influence of a nominal element in which the type of nominal reference is understood to affect the aspectual interpretation of a predicate due to the mereological structure of the nominal element being understood to be co-extensive with the internal temporal constitution of the situation described by the predicate. To take a concrete example, the situation described in (35a) is/can be understood as telic because the denotation of a pizza has a quantized reference and its mereological structure is understood to be co-extensive with the internal temporal constitution of the predicate eat a pizza, which has the consequence of making the predicate have a quantized reference. Informally speaking, a part of the entity referred to by a pizza cannot also be referred to by a pizza, that is to say that a part of a pizza is understood to be distinct from a pizza itself, and thus a part of the situation described by eat a pizza is also understood to be distinct from the entire situation described by eat a pizza. In contrast, the predicate eat pizza in (35b) has a cumulative reference because the denotation of pizza has a cumulative reference; informally, the sum of the entity referred to by pizza is also understood as pizza, which makes a part of pizza to be non-distinct from pizza itself, and since this in turn makes the situation described by eat pizza to be homogeneous, that a part of the situation is understood to be non-distinct from the situation in its entirety, the predicate eat pizza has a cumulative reference. Since cumulative predicates differ from quantized predicates in that they do not involve the lowest upper bound in their denotation, cumulative predicates cannot describe a finite situation, unlike quantized predicates, giving rise to the contrast in telicity observed in (35).

As may be suggested by the above mentioned semantic explanation to the aspectual effect of a nominal element, the emergence/non-emergence of the aspectual effect of a nominal reference is closely tied with the type of situation that the predicate in question describes. In what follows, I turn to discuss the correlation between the emergence/non-emergence of the aspectual effect of a nominal reference and the type of a situation described by the predicate based mainly on discussions from Verkuyl (1993) and MacDonald (2006), and adopting basic insights of MacDonald (2006 et seq.), I motivate the proposal that eventive predicates that

describe a situation with an action/process that has a natural endpoint (i.e. accomplishments and achievements) and those that describe a situation with an action/process that lacks a natural endpoint (i.e. activities) are syntactically distinguished from each other by some difference in the properties of a functional element that merges with a VP. For the sake of simpler presentations, we will hereafter use [+q] to indicate that the nominal element in question has a quantized reference, and [-q] to indicate that the nominal element in question does not have a quantized reference (e.g. it has a cumulative reference), adopting the notation from MacDonald (2006 et seq.).

5.3.1.2.2 The Emergence/Non-Emergence of the Aspectual Effect of a Nominal Reference

The above introduced aspectual effect of a nominal reference serves as a critical piece of data in support of the current claim, that not only the dynamicity of a predicate but also the presence/absence of a natural endpoint in an action/process involved in the situation described by a predicate may be syntactically expressed by some difference in the properties of a functional element that merges with the VP.

To being with, the relevant aspectual phenomenon points out that the presence/absence of a natural endpoint in an action/process described by a predicate is a rigid distinction among different types of (dynamic) situations that predicates describe. Observe below that the emergence/non-emergence of the aspectual effect of a nominal reference is closely tied with the type of situation described by a predicate. Examples (36) and (37)-(39) are taken from MacDonald (2006:39 (41), 51 (25)-(26)) with a Durative Phrase substituted by a Time-Span Adverbial (TSA)[113]:

[113] The original examples involved a Durative Phrase in place of a Time-Span Adverbial. Although the two types of modifiers are compatible with predicates with different telicity, both types of modifiers can diagnose the telicity of a predicate. Since either type of event modifiers serve to show the main point of the current discussion, we employed TSAs for the sake of a simpler representation.

(36) states

a. John owned a T.V. / stereo equipment	#in a month
b. John knew the answer / game software	#in half a year
c. John loved a woman / peanut butter	#in a year

(37) activities

a. Jessica carried the bag	#in an hour
b. Jessica carried sand	#in an hour

(38) accomplishments

a. Jon drank a glass of wine	in ten minutes
b. John drank wine	#in ten minutes

(39) achievements

a. Curro caught the prawn	in an hour
b. Curro caught seafood	#in an hour

Recall that TSAs such as in 5 minutes can be understood as the (maximum) duration for which a situation described by a predicate lasted when they co-occur with telic predicates, though they cannot elicit such an end-time reading when they co-occur with atelic predicates. Given this property of a TSA, the different patterns exhibited by the sentences in (36)-(37) and (38)-(39) indicate that the reference type of the underlined nominal element affects the telicity of a predicate when the predicate in question denotes an accomplishment (38) or achievement (39), though not when the predicate describes a state (36) or activity (37); unlike in the former case, a predicate is understood to be atelic irrespective of whether the underlined nominal element is specified as [+q] (i.e. Det-N^0s) or [-q] (i.e. Mass Nouns). Because accomplishments and achievements differ from activities and states in that they involve an action/process that has a natural endpoint, the different patterns observed between (38)-(39) and (36)-(37) suggests that the emergence/non-emergence of the aspectual influence of a nominal reference is closely tied to the presence/absence of a natural endpoint in an action/process that is involved in the situation described by the predicate. Thus, the observed correlation between the emergence/ non-emergence of the aspectual effect of a nominal reference and the situation type of the predicate provides evidence in support of the claim that the presence/absence of a natural endpoint in an action/process involved in the situation described by the predicate is a rigid distinction in the internal temporal structure of the situation described by the predicate. For the sake of simpler

presentation, the relevant aspectual property of a predicate is hereafter referred to by [+/-NEP] as a shorthand.

The observed correlation between the emergence/non-emergence of the aspectual effect of a nominal reference and the [NEP]-property of a predicate suggests that the distinction in [NEP]-property of a predicate may find its source in some difference in their syntactic representations, in a way similar to the case of dynamicity. First of all, the [NEP]-property of a predicate is most naturally understood as a property available/visible at the level of compositional semantics, and it cannot always be predicted from the lexical semantics of the verb that heads a VP. To see the point, consider the aspectual interpretation of the predicate in (40) below in comparison to (37). Example (40) is taken from MacDonald (2006:51 (24)) with the substitution of a Durative Phrase with a TSA, and (37) is repeated below as (41) for convenience:

(40) a.	Jessica carried the bag into the room	in an hour	
b.	Jessica carried sand into the bedroom	#in an hour	
(41) a.	Jessica carried the bag	#in an hour	= (37)
b.	Jessica carried sand	#in an hour	

The sentences in (40) minimally differ from their corresponding sentences in (41) by the presence of a goal expression (e.g. into the room). As is indicated by the fact that the [q]-feature specification of an underlined nominal element affects the telicity of a predicate, the predicates in (40) are understood to be [+NEP], contrasting with the predicates in (41), which are understood to be [-NEP]. Given that the only difference between (40) and (41) is the presence/absence of a goal expression, the different patterns observed in (40) and (41) with respect to the aspectual influence of a nominal reference indicates that v [NEP]-property of a predicate cannot be predicted from the lexical semantics of the verb, minimally speaking. Furthermore, given that the predicates in (40) are understood to be [+NEP] only due to the presence of the goal expression (cf. (41)), contrasting with the case observed in (42)-(39) in which the [+NEP]-property of a predicate may be directly attributed to the lexical semantics of a verb, it seems plausible to conclude that the [NEP]-property of a predicate is compositionally determined.

Second, the emergence/non-emergence of the aspectual effect of a nominal reference seems to be strictly tied with the [NEP]-property of the predicate, and it is unlikely to be reduced to a thematic property of a nominal element in question. Because a certain difference in the aspectual property of a predicate may also be accompanied by some difference in the thematic role of a participating nominal element, it appears, at first glance, plausible to attribute the emergence/non-emergence of the aspectual effect of a nominal reference to a thematic property of the nominal element in question; the [q]-feature specification of a nominal element affects the telicity of a predicate when the nominal element in question bears a particular thematic role, but not others. Such thematic approach can provide a reasonable explanation to different patterns observed between (36)-(37) and (38)-(39) above, as well as between (42) and (43) below:

(42) a. John pounded the metal flat in 5 minutes
b. John pounded gold flat #in 5 minutes

(43) a. John pounded the metal #in 5 minutes
b. John pounded gold #in 5 minutes

Although (42) and (43) equally involve the verb pound, the thematic role of the underlined nominal element is arguably not identical in these cases; while the underlined nominal element in (42) is understood to be necessarily affected by the action/process in the course of the situation described by the predicate, the underlined nominal element in (43) is not required to be understood as being affected by the action/process in the course of the situation described by the predicate. Hence, while the former may be considered as a patient/affected-theme, the latter must be an (unaffected) theme. Then, the different patterns observed between (42) and (43) with respect to the aspectual effect of the nominal reference may be attributed to the difference in the thematic property of the nominal element in question.

However, such a thematic explanation seems to be difficult to sustain in the face of the contrast observed between (40) and (41). Because the [q]-feature specification of the underlined nominal element affects the telicity of the predicate in (40), though not in (41), the relevant nominal element must have different thematic properties in these environment if the thematic role of the nominal element is in effect what constrains the emergence/non-emergence of the aspectual effect of a nominal reference. Contrary to expectation, however, there appears to be no

a priori reason to believe that the entity referred to by the underlined nominal element plays different roles in the situation described by the predicate in (40) and (41); in both environments, it is understood as an entity that undergoes a change in its location (i.e. motion figure), and furthermore, the entity in question is understood to be no more affected by the action/process in the situation described in (40) than in (41), for instance. If what it means for a nominal element to have a certain thematic role is that the entity referred to by the nominal element has a particular way of participating in the situation described by the predicate, it appears somewhat dubious that the underlined nominal elements in (40) and (41) haves different thematic roles. Then, the fact that the [q]-feature specification of the nominal element affects the telicity of a predicate in (40), though not in (41), casts strong doubt that the emergence/non-emergence of the aspectual effect of a nominal reference is reducible to a difference in the thematic property of the nominal element in question.[114] This in turn renders support to the claim that the emergence/non-emergence of the aspectual effect of a nominal reference is tied with the [NEP]-property of the predicate, and not to the properti(es) of a single lexical item that appears as a compositional part of the predicate.

Third, although the emergence/non-emergence of the aspectual effect of a nominal reference is closely tied with the [NEP]-property of the predicate, the distinction between the [+NEP] and [-NEP] property of the predicate itself does not explain whether the [q]-feature specification of the nominal element affects/does not affect the telicity of the predicate. For instance, MacDonald (2006) observes that the [q]-feature specification of a nominal element does not affect the telicity of a predicate when the nominal element in question appears as a part of a goal expression. This is demonstrated by example (44) and (45) below, derived based on MacDonald (2006:29-30 (15), (17)):

[114] See also Tenny (1994:Ch 1.5.2) for related discussions.

(44) a. The farmer dragged a log into the barn in an hour
b. The kid pushed a stereo into the garage in an hour
c. The girl carried a bag into the store in an hour

(45) a. The farmer dragged a 10ft. 2x4 onto pavement in an hour
b. The kid pushed a sofa onto grass in an hour
c. The girl carried a ladder onto asphalt in an hour

While the sentences in (44) and (45) are equally derived with [+NEP]-predicates, the telicity of the predicates in these sentences is unaffected by the [q]-feature specification of the underlined nominal element. In both (44) and (45), the TSA can elicit an end-time reading, indicating that the sentences in (44) and (45) are equally understood as describing a telic situation despite the fact that the underlined nominal element is specified as [+q] in the former, though [-q] in the latter. For completeness, compare the aspectual interpretation of the predicates in (44)-(45) above with (46)-(47) below. Examples (46)-(47) are derived based on MacDonald (2006:29 (16)):

(46) a. #The farmer dragged kindling into the barn in an hour
b. #The kid pushed stereo equipment into the garage in an hour
c. #The girl carried sand into the store in an hour

(47) a. #The farmer dragged kindling onto pavement in an hour
b. #The kid pushed stereo equipment onto grass in an hour
c. #The girl carried sand onto asphalt in an hour

Similar to (44) and (45), the telicity of the predicate is unaffected by the [q]-feature specification of the underlined nominal element in (46) and (47); as is evidenced by the unavailability of an end-time reading of the TSA, the sentences in (46) and (47) are equally understood as describing an atelic situation, despite the fact that the underlined nominal element in the former is specified as [+q], unlike the one in the latter which is specified as [-q]. This minimally shows that the emergence/non-emergence of the aspectual effect of the nominal reference cannot be explained simply by the [NEP]-property of the predicate.

Now, notice that in (44)-(47), although the telicity of the predicate is unaffected by the [q]-feature specification of the nominal element that appears as a part of the goal expression, it is affected by the [q]-feature specification of the Object of the sentences; (44) and (45), which

involve a [+q] nominal element as their Objects, are understood as describing a telic situation, whereas (46) and (47), which involve a [-q] nominal element as their Objects, are understood as describing an atelic situation. This difference in the aspectual influence of the nominal element that appears as a part of a goal expression and the one that appears as an Object of a sentence, together with the facts discussed earlier, suggests that what constrains the [q]-feature specification of a nominal element to affect/to not affect the telicity of a predicate may be syntactic in character, and, the difference between [+NEP]-predicates and [-NEP] predicates is not only semantic but also syntactic. As we have observed earlier, the [q]-feature specification of the Object of a sentence affects the telicity of [+NEP]-predicates, though not of [-NEP]-predicates. This implies that the telicity of a predicate is not always affected by the [q]-feature specification of the Object. Furthermore, recall that the emergence/non-emergence of the aspectual effect of a nominal reference is unlikely to be reduced to the thematic property of the nominal element in question. Then, the fact that the [q]-feature specification of an Object affects the telicity of the predicate, unlike the nominal element that appears as a part of a goal expression, cannot be explained by simply attributing it to the 'Object-hood' of the nominal element. On the other hand, if the aspectual effect of the nominal reference comes from a particular role that the nominal element in question plays in the syntactic derivation, it is not surprising to see that a nominal element that appears as an Object of a sentence and the one that appears as a part of a goal expression have different influences on the telicity of a predicate; the former is base-generated as an internal argument of a V^0 whereas the latter is base-generated as a part of a goal PP. Hence, they are expected to show different syntactic behavior. If this is in effect the case, the fact that the Object of a sentence affects the telicity of [+NEP]-predicates, though not of [-NEP]-predicates, suggests that the difference between [+NEP]-predicates and [-NEP]-predicates is not only semantic but also syntactic; assuming that the [q]-feature specification of a nominal element affects the telicity of the predicate only when it undergoes a certain syntactic operation, the fact that a nominal element which appears as an internal argument of a V^0 affects the telicity of [+NEP]-predicates, though not [-NEP]-predicates, implies that the relevant syntactic operation takes place in the former, though not in the latter, environment. In the following subsection, we discuss the emergence/non-emergence of the aspectual effect of a nominal reference from the perspective of syntax, and argue that the distribution of nominal elements that affect the telicity of a predicate follows from general

constraints in the syntax, once we accept that a functional element that merges with a VP that constitutes an [+NEP]-predicate and a VP that constitutes an [-NEP]-predicate have different feature makeups.

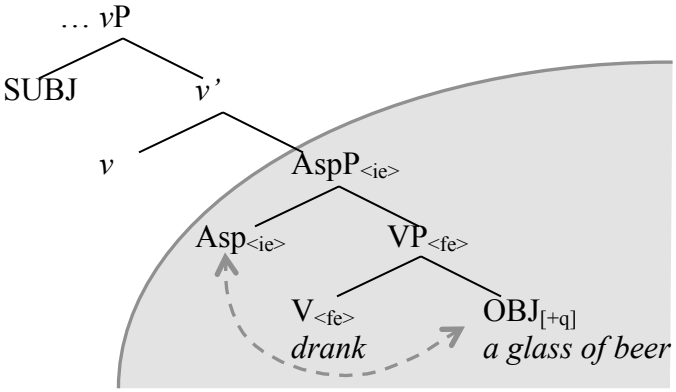
5.3.1.2.3 Deriving the Telicity of Predicates

As I have discussed above, the different behavior exhibited by [+NEP]-predicates and [-NEP]-predicates with respect to the aspectual effect of a nominal reference is most naturally understood to come from some difference in the syntactic properties of VPs that constitute [+NEP]-predicates and [-NEP]-predicates. In this section, I motivate the proposal that the relevant contrast between [+NEP]-predicates and [-NEP]-predicates comes from a certain difference in a property of the functional element that merges with a VP. Specifically, I argue that a v^0_{eve} that merges with a VP that constitutes a [+NEP]-predicate involves a particular syntactic property that the one that merges with a VP that constitutes a [-NEP]-predicate lacks, namely, an unvalued feature [Valα] which is valued as a consequence of an AGREE induced by matching between the v^0_{eve} and a nominal element. Before proceeding to discuss how the current proposal explains the distribution of nominal elements that affect the telicity of a predicate as following from general syntactic constraints, it is first in order to discuss an alternative approach proposed in MacDonald (2006 et seq.) which the current proposal builds on. While a syntactic explanation of the aspectual effect of a nominal reference proposed in MacDonald (2006 et seq.) has the advantage of explaining the distribution of nominal elements that affect the aspectual interpretation of a predicate by independently motivated syntactic constraints, it faces a difficult time explaining a certain difference observed between [+NEP]-predicates that are internally simplex (e.g. drink a beer) and those that are internally complex (e.g. carry a bag into the bedroom). I show that the relevant contrast can be straightforwardly explained by implementing Krifka's (1989 et seq.) view of the aspectual effect of a nominal reference into MacDonald's (2006 et seq.) account, thereby motivating the proposal that a v^0_{eve} that merges with a VP that constitutes a [+NEP]-predicate involves a certain syntactic property which is absent in a v^0_{eve} that merges with a VP that constitutes a [-NEP]-predicate.

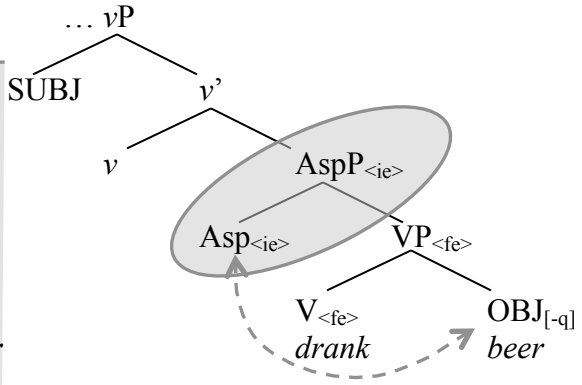
5.3.1.2.3.1 A Syntactic Explanation of the Aspectual Effect of a Nominal Reference: MacDonald (2006)

In response to the aspectual effect of a nominal reference introduced in the previous subsection, MacDonald (2006) provides a syntactic account in which the aspectual effect of the nominal reference is considered as a consequence of the nominal element contributing to determining the domain of aspectual interpretation in the syntax. Under his proposal, the telicity of a predicate is syntactically determined by the presence/absence of an X^0 that has an event feature <fe> (i.e. final point of the event) within the domain of aspectual interpretation[115], and the [q]-feature specification of the nominal element that appears in a certain syntactic environment affects the telicity of a predicate because it contributes to determining the domain of aspectual interpretation that causes an X^0 with the <fe>-feature to be included or excluded from the domain of aspectual interpretation. This is illustrated in (48), reconstructed from MacDonald (2006) with some irrelevant details omitted:

(48) a. John drank <u>a glass of beer</u>



b. John drank <u>beer</u>



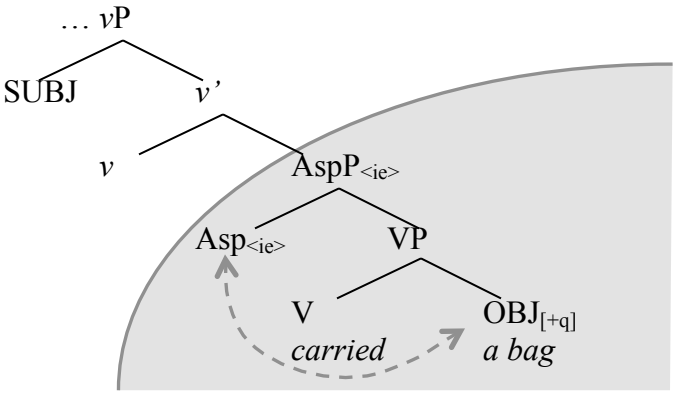
MacDonald (2006) proposes that the minimal domain of aspectual interpretation is an Aspectual phrase itself (e.g. Asp^0 and AspP), and an atelic interpretation of a predicate arises when the domain of aspectual interpretation stays minimal; the only event feature present within the domain of aspectual interpretation is an <ie>-feature (i.e. initial point of an event) associated with the Asp^0, and so the situation described by the predicate is understood to be not

[115] To be more accurate, what is referred to as a <fe>-feature may be an underspecified event feature such as <_e>, and the predicate is understood to be telic when an X^0 that has the <_e> feature appears within the domain of aspectual interpretation because the underspecified feature <_e> of the X^0 is understood to be <fe> in such an environment. For a simpler presentation, we will refer to the relevant feature as <fe> throughout.

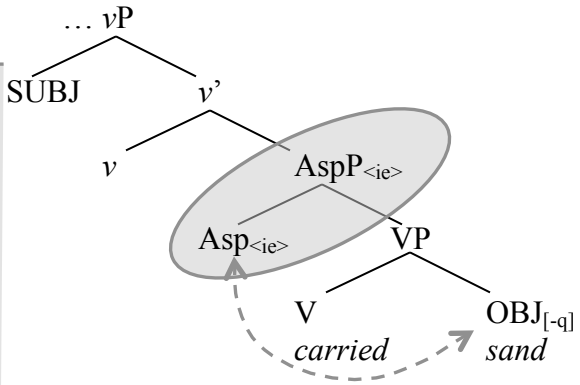
terminating/finishing. As is illustrated in (48a), however, the domain of aspectual interpretation extends to include everything dominated by the AspP when the Asp^0 is valued by a [+q]-nominal element under AGREE, contrasting with the case in which the Asp^0 is valued by a [-q]-nominal element, which results in the domain of aspectual interpretation staying minimal (48b). Because the domain of aspectual interpretation in (48a) includes not only the event feature <ie> but also the event feature <fe> which is associated with the V^0, a telic interpretation of the predicate results in (48a) unlike in (48b).[116]

Because the [q]-feature specification of a nominal element that AGREEs with an Asp^0 affects the telicity of a predicate only through contributing to determining the domain of aspectual interpretation, the [q]-feature specification of the relevant nominal element does not affect the telicity of a predicate when no X^0 that appears as a constituent part of the VP is associated with the event feature <fe>. This is illustrated in (49) below:

(49) a. John carried a bag



b. John carried sand



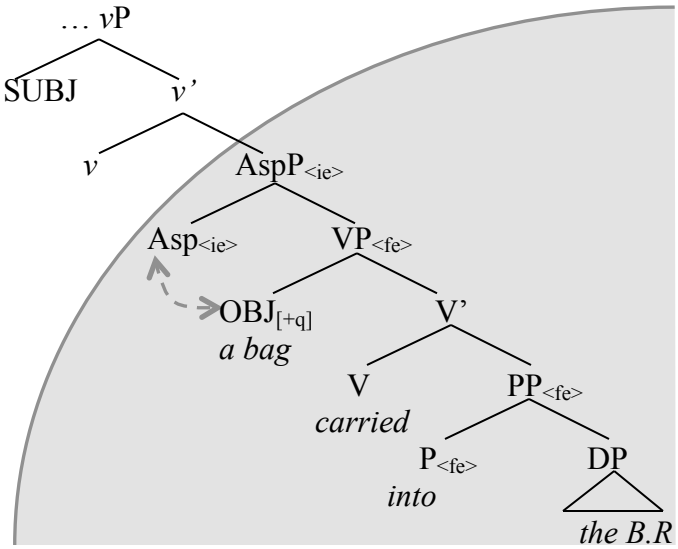
Unlike in (48), the sentences in (49) involve a verb that does not have the event feature <fe>. Because the telic interpretation of a predicate arises only when an X^0 with the event feature <fe> appears within the domain of aspectual interpretation, an atelic interpretation of the predicate results in (49a), in which a domain of aspectual interpretation is extended to include the VP, just like in (49b), in which the domain of aspectual interpretation stays minimal. Thus, although the

[116] MacDonald (2006) claims that the event feature associated with an X^0 percolates up to its maximal projection (e.g. the AspP-node/the VP-node), though it does not percolate up to the phrasal level when the X^0 in question is not a projecting head. However, since he defines the minimal domain of aspectual interpretation to be the Asp^0-AspP itself and the extended domain of aspectual interpretation to be everything dominated by the AspP, there seems to be no obvious theoretical/empirical consequence of assuming/not assuming the event feature percolation.

[q]-feature specification of a nominal element contributes to determining the domain of aspectual interpretation in (49) just like in (48), it does not result in affecting the telicity of the predicate in (49) unlike in (48), accounting for the empirical fact that the emergence/non-emergence of the aspectual effect of a nominal reference is correlated in part with the syntactic/syntactico-semantic properties of the V^0.

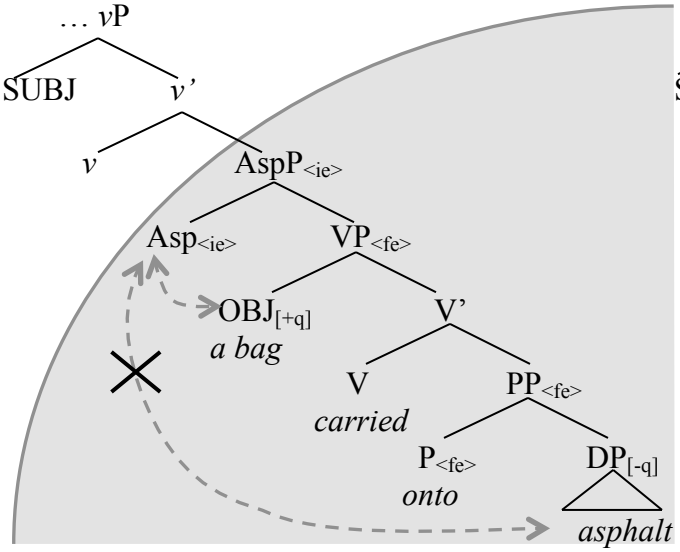
Notice that MacDonald's (2006 et seq.) account of the aspectual effect of a nominal reference has two main ingredients. One is that the telicity of a predicate is determined by the presence/absence of event features such as <ie> and <fe> within the domain of aspectual interpretation ((48a) vs. (49a)), and another is that the domain of aspectual interpretation is syntactically determined through an Asp^0 being valued by a nominal element under AGREE ((48a) vs. (48b)). The former is what is responsible for the alternation in the telicity of a predicate which is triggered by the presence/absence of a goal PP, and the latter provides an explanation of the different influence that a nominal element has on the telicity of a predicate when the nominal element in question appears as an internal argument of the V^0 and as a part of a goal PP. The schematic picture in (50) below in comparison to (49a) above illustrates how the correlation between the telicity of a predicate and the presence/absence of a goal PP is explained by the event features that appear within the domain of aspectual interpretation:

(50) John carried a bag into the bedroom

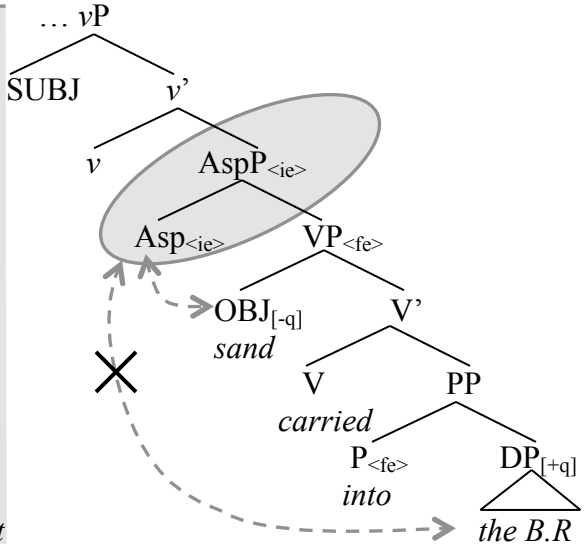


As is illustrated in (50), MacDonald (2006) proposes that a goal P^0 such as into has the event feature <fe> in a way similar to how a subset of V^0s do. Now, because the domain of aspectual interpretation is extended to include everything dominated by the AspP when the Asp^0 is valued by a [+q]-nominal element, the presence/absence of a goal PP affects the telicity of a predicate; in the absence of a goal PP (49a), there is no X^0 with the event feature <fe> present in the domain of aspectual interpretation, whereas in the presence of a goal PP (50), a P^0 that has the event feature <fe> appears within the domain of aspectual interpretation. Therefore, an atelic interpretation of the predicate results in the former, though a telic interpretation of the predicate results in the latter. The schematic pictures in (51) below illustrate how the different aspectual contribution of the nominal element that appears as an internal argument of a V^0 and the one that appears as a complement of a goal P^0 follows from this general syntactic constraint:

(51) a. John carried a bag onto asphalt



b. John carried sand into the bedroom



(Word order irrelevant)

Under MacDonald's (2006 et seq.) proposal, the [q]-feature specification of the nominal element contributes to determining the domain of aspectual interpretation when the nominal element in question values the Asp^0 through AGREE. As is illustrated in (51), because the nominal element that appears as an internal argument of the V^0 is closer to the Asp^0 than the one that appears as the complement of the goal P^0, the Asp^0 AGREEs with the former and not with the latter; since the nominal element that appears as an internal argument of the V^0 intervenes between the Asp^0 and the nominal element that appears as the complement of the goal P^0, the one that appears as

the complement of the goal P^0 cannot AGREE with the Asp^0, as is illustrated by the dashed arrows in (51).[117] Thus, while the [q]-feature specification of a nominal element that appears as an internal argument of a V^0 contributes to determining the domain of aspectual interpretation, the [q]-feature specification of a nominal element that appears as a complement of a goal P^0 does not. Given that a goal P^0 has the event feature <fe>, this difference consequently leads to a different effect on the telicity of the predicate; the telicity of a predicate is affected by the [q]-feature specification of a nominal element that appears as an internal argument of a V^0, though it is unaffected by the [q]-feature specification of a nominal element that appears as a complement of a goal P^0, providing an explanation to yet another fact about the aspectual effect of a nominal reference.

While we agree with MacDonald (2006 et seq.) that the distribution of a nominal element that affects the telicity of a predicate is most naturally explained if the nominal element in question must AGREE with a functional element that merges with the VP for it to affect the telicity of a predicate, we find the claim that the [q]-feature specification of a nominal element affects the telicity of a predicate by contributing to determining the domain of aspectual interpretation is not without problem.

Under the view that the aspectual interpretation of a predicate is determined by the presence/absence of the event features <ie> and <fe> in the domain of aspectual interpretation, MacDonald (2006) provides a unitary explanation of the atelic interpretation of predicates that involve no X^0 with the <fe>-feature as a compositional part (e.g. carry a bag) and those that are atelic due to the presence of a [-q]-nominal element (e.g. drink beer / carry sand into the bedroom); in both environments, no X^0 with the <fe>-feature appears in the domain of aspectual interpretation, and therefore, they are equally understood as denoting an event with no endpoint ((49), (48b)-(51b)). Furthermore, based on the observation that the presence of a goal PP does not render a predicate to be telic in environments in which a [-q]-nominal element appears as an

[117] Even when no nominal element appears intervening between an Asp^0 and a complement of a goal P^0, a nominal element that appears as a complement of a goal P^0 is expected not to be able to AGREE with an Asp^0 due to a locality condition.

(i) a. John ran into the bedroom in 5 minutes
b. John ran onto asphalt in 5 minutes

internal argument of a V^0 (e.g. #John carried sand into the bedroom), MacDonald (2006) makes the claim that a goal PP, which has the <fe>-feature, does not contribute to the subevent structure, and it is interpreted only as modifying the macro event (MacDonald 2006:60-61) when it appears outside the domain of aspectual interpretation. Intriguing implications of these claims are that predicates that are atelic due to the an absence of an X^0 with the <fe>-feature as its compositional part and those that are atelic due to an X^0 with the <fe>-feature appearing outside the domain of aspectual interpretation are undistinguished from each other at the level of subevent structure, and furthermore, atelic predicates that involve a V^0 with the <fe>-feature and those that involve a P^0 with the <fe>-feature are distinguished from each other only by the presence/absence of a modifier of the macro event.[118] To see how these implications may be problematic, observe first that the event modifier almost yields two different interpretations of a sentence when it co-occurs with telic predicates. Example (52) below is taken from MacDonald (2006:6 (12)):

(52) a. Phil **almost** drank the pitcher of beer
b. Sal **almost** ate the slice of pizza

The sentences in (52) are ambiguous between the so-called counterfactual interpretation (a.k.a event-cancellation reading) and the incompletive interpretation (a.k.a. event-incompletion reading). In the former reading, the event denoted by the predicate is understood to have not occurred at all; Phil never began to drink the pitcher of beer (52a) and Sal never began to eat the slice of pizza (52b). In contrast, the latter reading entails that the event in question began, though it was never completed; Phil began to drink the pitcher of beer, but never finished it (52a) and Sal began to eat the slice of pizza but never finished it (52b).[119] This ambiguity does not arise

[118] What is referred to as a subevent structure in MacDonald (2006) is equivalent to what we have been referring to as the basic situation type of a predicate, and it is distinguished from a macro event, which may be composed of a single instance or iteration of the situation described by the basic situation type of a predicate. For MacDonald (2006), this distinction is needed to discuss the aspectual effects of a nominal reference not limited to the contrast arising from a mass noun (e.g. pizza) and a count noun with an article (e.g. a pizza) but also from bare plurals (e.g. pizzas), in which the difference between the single-event reading and the iterative reading of the predicate plays an important role. However, since the current study examines the behavior of a predicate only in its single-event reading, the subevent structure and the macro event structure of a predicate should not be distinct from each other, and so the relevant distinction should not play an important role in the point of the current discussion.

[119] As is discussed in MacDonald (2006:48), the incompletive reading of almost is available only when the predicate in question is telic and durative (i.e. ACCOMPLISHMENTS), to be more accurate. This indicates minimally that **the**

when almost appears with a predicate that is atelic due to the absence of an X^0 with the <fe>-feature:

(53) a. John **almost** carried the bag
b. John **almost** pushed the sofa

Unlike in (52), the sentences in (53) have only the counterfactual reading; John never began to carry the bag (53a) and John never pushed the sofa (53b).

Now, as one of the supporting pieces of evidence for the claim that a goal P^0 that appears outside the domain of aspectual interpretation does not contribute to the subevent structure, MacDonald (2006) discusses the interpretation of the following sentences:

(54) a. The kid **almost** carried sand into the bedroom
b. The girl **almost** pushed furniture into the garage
MacDonald (2006:61 (61)) with emphasis added

According to MacDonald (2006), the incompletive reading of sentences in (54) is expected to be true when some part of the entity referred to by an internal argument of the V^0, though crucially not the entire part of it, is in a the location denoted by the goal PP. However, since the sentences in (54) are true only when no part of the entity referred to by the internal argument of the V^0 is in the location denoted by the goal PP, he concludes that the sentences in (54) lack the incompletive reading. Given that the incompletive reading of almost is available when the predicate in question is telic (52), though not when it is atelic (53), he takes the absence of the incompletive reading in (54) to be evidence in support of the claim that the goal PP does not contribute to the subevent structure of a predicate when it appears outside the domain of aspectual interpretation.

A problem of this conclusion is that the sentences in (54) are truth-conditionally different from the sentences in (53); while the sentences in (53) are false when even a part of a situation described by a predicate takes place, the sentences in (54) can be true so long as the entity referred to by the internal argument of the V^0 is not at the location denoted by the goal PP. For

unavailability of the incompletive reading does not always mean that a predicate in question is telic. See section 5.3.1.2.3.2 below for related discussion.

instance, (53a) is false when John carried the bag even just for one second and (53b) is false when John gave even just one push to the sofa, but (54a) can be truthfully uttered even when the kid carried sand for a while so long as no sand enters the bedroom as its consequence, and (54b) can also be truthfully uttered even when the girl gave several pushes to furniture so long as no (part of) furniture enters in the garage as their consequence. Furthermore, the truth-conditions of the sentences in (54) also diverge from the truth conditions of sentences that involve an atelic predicate in which the V^0 has the <fe>-feature:

(55) a. John **almost** drank wine
b. John **almost** ate pizza

Truth-conditionally, the sentences in (55) pattern with the sentences in (53), rather than with (54); (55a) is falsified as soon as John had even a sip of wine, and (55b) is falsified as soon as John has even a bite of pizza. Because the predicates in (53)-(55) are expected to have an identical subevent structure under MacDonald's (2006) account, the observed difference in the truth-conditions of the sentences in (54) and the sentences in (53) and (55) cannot be attributed to a difference in the aspectual properties of the predicate, at least not to their subevent structure/situation type. Furthermore, because the macro-event structure may possibly be different from the sub-event structure of the predicate only when the basic type of the situation described by the predicate is understood as iterating, the relevant contrast in the truth-conditions of the sentences is unlikely to be attributed to some difference in the macro-event structure of the predicate, either. Thus, while MacDonald's (2006) account properly captures the distribution of nominal elements that affect the telicity of a predicate, his way of capturing the telicity of a predicate via the presence/absence of the event features <ie> and <fe> within the domain of aspectual interpretation leaves the relevant contrast in the truth-conditions of these sentences unexplained. For this reason, while we agree with MacDonald (2006 et seq.) that the distribution of nominal elements that affect the telicity of a predicate is most naturally understood to follow from a syntactic constraint on AGREE, I reject the proposal that a consequence of such a syntactic procedure is to determine the domain of aspectual interpretation, which affects the telicity of the predicate by making the event feature <ie> and <fe> visible to the aspectual calculation of the predicate.

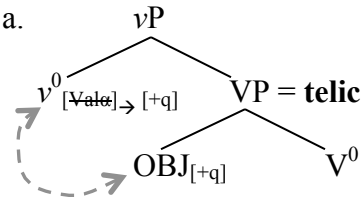
5.3.1.2.3.2 Contribution of a Nominal Element to the Aspectual Interpretation of a Predicate: Motivating Two Types of a v^0_{eve}

Because I reject the proposal that the contribution of a nominal element that AGREEs with a functional element which merges with a VP is to determine the domain of aspectual interpretation, we must explain how it is that the syntactic procedure AGREE that takes place between the nominal element and the functional element that merges with a the VP affects the telicity of a predicate. Furthermore, because the alternation in the telicity of a predicate which is triggered by the [q]-feature specification of a nominal element can no longer be explained by the syntactic position of an X^0 with the <fe>-feature with respect to the domain of aspectual interpretation, we must also explain why the relevant syntactic procedure has the consequence of affecting the telicity of the predicate when an X^0 with the <fe>-feature appears as a compositional part of the predicate, though not otherwise.

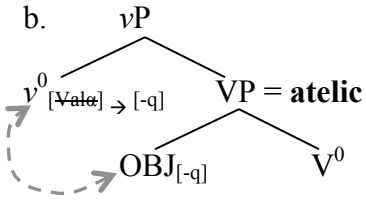
To explain the distribution of nominal elements that affect the telicity of the predicate, we adopt MacDonald's (2006 et seq.) proposal that the aspectual effect of a nominal reference emerges only as a consequence of an AGREE that takes place between a v^0_{eve} (= Asp^0 in MacDonald 2006 et seq.) and the nominal element. Diverging from MacDonald (2006 et seq.), however, we propose that there are two syntactically distinct types of a v^0_{eve}, the one that involves a cluster of the unvalued feature [Valα] and the uninterpretable feature [*u*β], and another without the relevant cluster of features, and that a nominal element contributes to the telicity of a predicate by providing a value for the unvalued feature [Valα] of the v^0_{eve} as a consequence of AGREE in case the v^0_{eve} has the unvalued feature [Valα]. While I assume that what determines whether the v^0_{eve} (or a v^0 more generally) AGREEs or doesn't AGREE with a nominal element is some other feature(s) that are associated with the v^0_{eve} (e.g. an uninterpretable phi-feature as in Chomsky 1999), and the v^0_{eve} either AGREEs or doesn't AGREE with a nominal element irrespective of its having/not having the relevant cluster of features in principle, we claim that the unvalued feature [Valα] of the v^0_{eve}, if the v^0_{eve} has this feature, is valued as a consequence of AGREE that takes place between the v^0_{eve} and a nominal element; the unvalued feature [Valα] is valued as [+q] when AGREE takes place between the v^0_{eve} and a [+q] nominal element, though it is valued as [-q] when AGREE takes place between the v^0_{eve} and a [-q] nominal element. Furthermore, I argue that what determines the telicity of the predicate is the value of the v^0_{eve} at

the point of phase; a telic interpretation of the predicate arises when the v^0_{eve} that merges with a VP is valued as [+q], though an atelic interpretation of the predicate arises either when the v^0_{eve} is valued as [-q] or when it is left unvalued (due either to the absence of the feature [Valα] on the v^0_{eve} or to the absence of a nominal element AGREEing with the v^0_{eve}). The schematic pictures in (56) and (57) below illustrate how an AGREE that takes place between a v^0_{eve} and a nominal element affects the telicity of a predicate as its consequence:

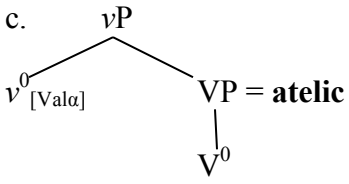
(56) a.



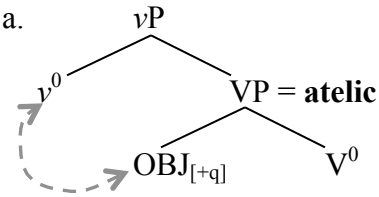
b.



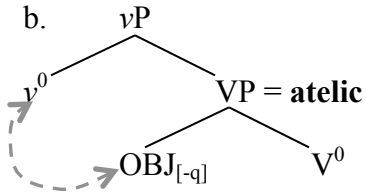
c.



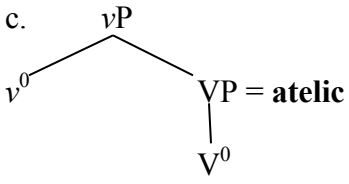
(57) a.



b.



c.

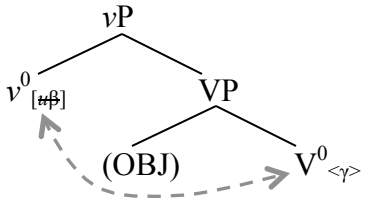


Furthermore, I propose that syntactic X^0s are lexically specified as having/not having an interpretable feature <γ>, and whether the v^0_{eve} that merges with the VP has/does not have the cluster of features [Valα] and [*u*β] is determined by the presence/absence of an X^0 with the <γ>-feature within the local domain of the v^0; the uninterpretable feature [*u*β] of a $v^0_{[Val\alpha,\ u\beta]}$ must be deleted by the <γ>-feature of an X^0 under AGREE, and so a v^0_{eve} that has the cluster of features [Valα, *u*β] can merge only with a VP that involves an X^0 with the <γ>-feature, unlike a v^0_{eve} that lacks the relevant cluster of features. This is schematically shown in (58):[120,]

[120] Under the current proposal, an X^0 that has the <γ>-feature can be in any syntactic category not limited to V^0 and P^0. This seems to be a plausible hypothesis since the <γ>-feature of an X^0 is correlated with the [NEP]-property of a predicate, and a distinction in [NEP]-property is observed among predicates that are derived with a non-verbal X^0 as a main lexical item. For instance, Sino-'verbs' in Japanese behave like morpho-syntactic V^0 when they form a morpho-phonological word with suru 'do' (i) though they behave like morpho-syntactic N^0 when they are morpho-phonologically independent words of their own (ii), indicated by different case-marking patterns in (i) and (ii) below, yet the [NEP]-property of the predicate remains alike irrespective of the morpho-syntactic behavior of the lexical item in question, shown by their compatibility/incompatibility with a Time-Span Adverbial and a Durative Phrase:

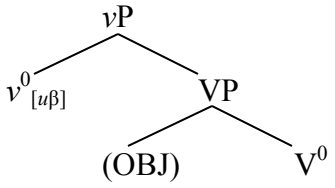
(i) a. John-ga {3ka-de / *3ka.kan} sono ronri-o saikoutiku-sita (koto)
-NOM 3day-in / 3day.for that argument-ACC reconstruction-did fact

(58) a.



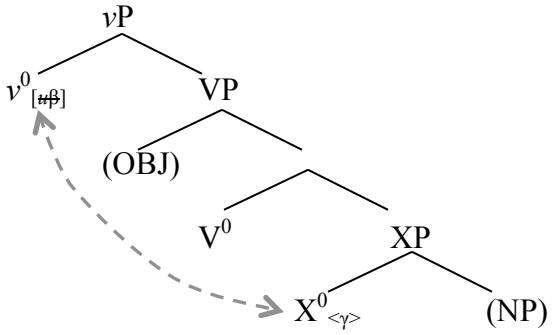
e.g. *John ate a pizza*

b. *



e.g. *John carried a bag*

c.



e.g. *John carried a bag into the bedroom*

Under the current proposal, the syntactic procedure AGREE that takes place between a v^0_{eve} and a nominal element is understood to have the consequence of affecting the telicity of a predicate because the [q]-feature specification of a nominal element may affect the value of the v^0_{eve}, and the value of a v^0_{eve} at the point of phase is what determines the telicity of a predicate (56)-(57). Furthermore, the fact that the relevant syntactic procedure has the consequence of affecting the

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'(the fact that) John reconstructed the argument {in 3 days / # for 3 days}'

b. John-ga {?3ka-de / 3ka.kan} sono ronri-o kentoo-sita (koto)
-NOM 3day-in / 3day.for that argument-ACC consider-did fact
'(the fact that) John considered the argument {#in 3 days / for 3 days}'

(ii) a. John-ga {3ka-de / *3ka.kan} sono ronri-no saikoutiku-o sita (koto)
-NOM 3day-in / 3day.for that argument-GEN reconstruction-ACC did fact
'(the fact that) John reconstructed the argument {in 3 days / # for 3 days}'

b. John-ga {??3ka-de / 3ka.kan} sono ronri-no kentoo-o sita (koto)
-NOM 3day-in / 3day.for that argument-GEN consider-ACC did fact
'(the fact that) John considered the argument {#in 3 days / for 3 days}'

Since further research is needed to be conclusive about the category independent nature of the <γ>-feature, I will only make a claim about non-nominal X^0s (V^0, P^0, and A^0) in this study, and leave open questions such as (a) whether any N^0 has the <γ>-feature and (b) if Ns do, how does an N^0 with the <γ>-feature interact with other the lexical items that constitute a predicate (e.g. what is its contribution to the aspectual interpretation of the predicate when it appears as an internal argument of a V^0).

telicity of a predicate only in the presence of an X^0 with the <γ>-feature within a compositional part of a VP is explained as the <γ>-feature of an X^0 contributing to determining the type of v^0_{eve} with which the VP merges (58); the aspectual effect of a nominal reference emerges only when the VP merges with a v^0_{eve} that has a cluster of the unvalued feature [Valα] and the uninterpretable feature [*u*β] ((56) vs. (57)), and since a $v^0_{[Val\alpha,\ u\beta]}$ can merge only with a VP that involves an X^0 with the <γ>-feature ((58a,c) vs. (58b)), an AGREE that takes place between the v^0_{eve} and a nominal element has the consequence of affecting the telicity of a predicate only when the VP involves an X^0 with the <γ>-feature.

The current proposal differs from the one proposed in MacDonald (2006 et seq.) in two main respects in its concept. One is that I take Krifka's (1989 et seq.) perspective of the distinction in nominal reference and implement it rather directly into the syntactic computations, and another is that we take the property of an X^0 which contributes to determining the emergence/non-emergence of the aspectual effect of a nominal reference to be a purely syntactic property of the X^0: that it contributes to determining the type of v^0 with which a VP merges. As a consequence, the distinction between [+NEP]-predicates and [-NEP]-predicates is viewed as following from a syntactic difference between VPs that merges with a v^0_{eve} with a cluster of the unvalued feature [Valα] and the uninterpretable feature [*u*β] and VPs that cannot merge with a v^0_{eve} with the relevant cluster of features.

A motivation behind the shift in view from MacDonald's (2006 et seq.) proposal with respect to the nominal contribution to the aspectual interpretation of a predicate comes from the interpretation of sentences that involve <u>almost</u>, which was discussed in the previous subsection. Recall first that <u>almost</u> yields either the counterfactual reading or the incompletive reading when it co-occurs with a telic (durative) predicate:

(59) a. Phil almost drank the pitcher of beer = (52)
b. Sal almost ate the slice of pizza

The observed ambiguity is straightforwardly understood if <u>almost</u> is interpreted with respect to either the entire situation described by a predicate or only the endpoint of the situation denoted by a predicate; the former results in the counterfactual reading and the latter results in the

incompletive reading. To take (59a) as a concrete example, when what almost happened is understood to be the entire situation of drink the pitcher of beer, it results in the counterfactual reading because it entails that the entire situation of drinking the pitcher of beer did not happen. On the other hand, when what almost happened is understood to be only the state of the pitcher of beer having been drunk (entirely) (as a consequence of Phil's drinking it), the incompletive reading results because what is entailed to have not happen is that the pitcher of beer has been drunk entirely , and since the pitcher of beer is understood to be entirely drunk only when the entire situation of drink the pitcher of beer takes place, this in turn entails that the situation of drink the pitcher of beer was not completed. With this understanding of how almost gives a rise to the counterfactual reading and incompletive reading, let us reconsider the interpretation of the sentences in (54), repeated below as (60), in comparison to the interpretation of their corresponding sentences in (61):

(60) a. The kid almost carried **sand** into the bedroom = (54)
b. The girl almost pushed **furniture** into the garage

(61) a. The kid almost carried **the bag** into the bedroom
b. The girl almost pushed **the car** into the garage

As I discussed in the previous subsection, MacDonald (2006) concludes that the sentences in (60) have only the counterfactual reading based on the observation that these sentences are falsified as soon as any part of the entity referred to by the internal argument of the V^0 reaches the location denoted by the goal PP. Because the sentences in (61) are not falsified even when a part of an entity referred to by the internal argument of the V^0 reaches the location denoted by the goal PP, that (78a) can be true even when a part of the bag reaches the bedroom and (61b) is true even when a part of the car enters the garage, the conclusion that the sentences in (60) lack the incompletive reading seems to be plausible at first glance. However, this conclusion is unnecessary since the relevant contrast can be explained purely in terms of a semantic difference between [+q]-nominal element and [-q]-nominal element without attributing it to the telicity of a predicate when we take Krifka's (1989 et seq.) conceptualization of [+q]-nominal element and [-q]-nominal element which I briefly introduced in Chapter 3.2; [+q]-nominal elements have a quantized reference and [-q]-nominal elements have a cumulative reference. Informally speaking, the truth-conditions of the sentences in (61) under the incompletive reading are not

affected by the fact that a part of the entity referred to by an internal argument of the V^0 is/is not at a location denoted by a goal PP because the nominal element in question has a quantized reference; under the incompletive reading, what is understood to have almost happened is the entity referred to by an internal argument of a V^0 being at the location denoted by the VP, and since a part of the entity referred to by the bag/the car is understood to be non-identical with the entity that the bag/the car refers to, the fact that a part of the bag/a part of the car being at the location denoted by the goal PP does not contradict with the truth-conditions of these sentences. In contrast, the sentences in (57) are falsified as soon as any part of the entity referred to by the internal argument of the V^0 is in the location denoted by the goal PP because the internal argument of the V^0 has a cumulative reference; a part of sand/furniture is also sand/furniture, therefore, no sand/furniture can be at the location denoted by the goal PP without incurring a contradiction when what almost happened is understood to be sand/furniture being at the location denoted by the goal PP. Then, despite the fact that the truth-conditions of the sentences in (60) differs from that of the sentences in (61), that no part of an entity referred to by an internal argument of the V^0 can be at the location denoted by the goal PP, it does not necessarily mean that the sentences in (60) do not have the incompletive reading.

Now, if the above explanation of the difference in the truth-conditions of the sentences in (60) and (61) is on the right track, the sentences in (60) may have both the counterfactual reading and the incompletive reading. This explains why the sentences in (60) allow an interpretation in which the situation described by the predicate has begun, while such a reading is completely absent in the sentences in (53), repeated below as (62):

(62) a. John **almost** carried the bag = (53)
b. John **almost** pushed the sofa

Recall that sentences in (62) are falsified as soon as the situation described by the predicate has started to take place, unlike the sentences in (60); (60a) is true even when the kid started carrying sand so long as no (part of) sand is in the bedroom as its consequence, and (60b) is true even when the girl has been pushing furniture so long as no (part of) furniture is in the garage as its

consequence. This contrast follows straightforwardly from the availability/unavailability of the incompletive reading; the sentences in (60) have both the counterfactual reading and the incompletive reading, whereas the sentences in (62) have only the counterfactual reading. Under the counterfactual reading, almost is interpreted with respect to the entire situation described by the predicate. Therefore, a sentence can be true only when no part of the situation described by the predicate takes place. On the other hand, almost is interpreted with respect to only the endpoint of the situation described by the predicate when the incompletive reading arises, hence, a sentence can be true even when the situation described by the predicate started to take place.

An implication of the conclusion that the sentences in (60) have the incompletive reading is that the availability/unavailability of the incompletive reading does not depend on the telicity of the predicate, contrary to what is assumed in MacDonald (2006); unlike in (61), the predicates in (60) are understood to be atelic, yet these sentences have the incompletive reading. Furthermore, given that the sentences in (60) involve a [+NEP]-predicate, whereas the sentences in (62) involve a [-NEP]-predicate, an availability/unavailability of the incompletive reading seems to be most naturally attributed to the [NEP]-property of a predicate with which almost co-occurs. At first glance, this claim appears to be problematic since not every sentence that is derived with a [+NEP]-predicate has the incompletive reading as we have observed in (55), repeated below as (63):

(63) a. John **almost** drank wine = (55)
b. John **almost** ate pizza

However, notice that the incompletive reading and the counterfactual reading of these sentences are truth-conditionally equivalent to each other; if what almost happened is understood to be wine being drank (63a) or pizza being eaten (63b), it results in a contradiction as soon as any portion of wine is drank/pizza is eaten, just like in the counterfactual reading of these sentences in which what almost happened is understood to be the entire situation of drinking wine (63a) or eating pizza (63b). Since an apparent absence of the incompletive reading in (63) can be explained on independent grounds, we can safely conclude that the availability of the incompletive reading is correlated with the [NEP]-property of a predicate.

The observed independence of the telicity of a predicate and the availability of the incompletive reading indicates that a nominal element that AGREEs with a v^0_{eve} contributes to the telicity of a predicate without affecting the internal temporal constitution of the situation described by a predicate; while the predicates in (60) are understood to be atelic, these sentences have the incompletive reading, indicating that the endpoint of the situation described by a predicate is visible to almost even when a predicate with which almost co-occurs is understood to be atelic. This provides evidence in support of the current proposal in which the telicity of a predicate is determined in part by the type of v^0_{eve} that merges with a VP, and in part by the result of the AGREE that takes place between a v^0_{eve} and a nominal element; the [q]-feature specification of a nominal element that AGREEs with a v^0_{eve} may affect the telicity of the predicate without affecting the [NEP]-property of the predicate, and the [NEP]-property of a predicate is independently determined by the type of v^0_{eve} that merges with a VP.

5.3.1.2.4 Interaction between Viewpoint Aspects and Situation Aspects: Supporting Evidence

The current claim that the distinction in the [NEP]-property of a predicate is syntactically expressed as a difference in the type of a v^0_{eve} that a VP merges with gains some indirect support from aspectual phenomena observed in languages other than English.

It has been well-recognized in the literature that the telicity of a predicate is often influenced by the perfectivity of a sentence (Travis 2010, Ramchand 1997, MacDonald and Malkova 2010, Smith 1991, among many others). Particularly, among languages in which the telicity of a predicate is not obviously affected by the form of a nominal element that appears as an internal argument of a V^0, sentences that are unambiguously perfective either due to the nature of a syntactic construction or due to the presence of a perfectivizing morpheme often show a particular restriction in the interpretation of the situation described by the predicate and/or the interpretation of a nominal element that appears as an internal argument of a V^0. One such case is found in S.Gaelic discussed in Ramchand (1997). Ramchand (1997) observes that sentences derived with a simple (past) tense construction in S.Gaelic exclusively express a perfective meaning, and the simple (past) tense construction excludes what we refer to [-NEP]-predicates. The example in (64) below, taken from Ramchand (1997:42 (27)), illustrate the point:

(64) Ruith e
run-past he-dir
'He ran'

In (64), what is usually understood to be [-NEP]-predicate appears in the simple past tense construction. According to Ramchand (1997), the sentence is reported to be infelicitous unless either some direct measure phrases such as 'to the store'/'away'/'past' are also expressed, or some specific running event is inferred from the context (Ramchand 1997:42-43). What this suggests is that [-NEP]-predicates are excluded from the simple tense construction in S.Gaelic, and so the only way in which what is canonically a [-NEP]-predicate appears in the simple tense construction is for the predicate to undergo a shift in its [NEP]-property, either through an addition of a certain type of XP or through the aid of contextual information. Under the current proposal in which the [NEP]-property of a predicate is syntactically expressed by a difference in the type of v^0_{eve} that merges with a VP, this implies that the simple tense construction in S.Gaelic necessarily involves a particular type of a v^0_{eve}, namely, a v^0_{eve} with a cluster of an unvalued feature [Valα] and an uninterpretable feature [*u*β]. Because a VP can merge with the relevant type of v^0_{eve} only when it involves an X^0 with the <γ>-feature, a VP projected by a V^0 without the <γ>-feature itself is expected to involve an X^0/XP with the <γ>-feature when it merges with the relevant type of v^0_{eve}, be it overt as in the case of a goal XP/a measure phrase, or covert as in the case of a specific running event being inferred from a context. If this is in effect how sentences of the type exemplified by (64) are constrained, what canonically behave like [-NEP]-predicates are expected to behave like [+NEP]-predicates in the simple tense construction. This seems to be in effect the case. Observe first that S.Gaelic contrasts with English in that the telicity of a predicate is not affected by the reference type of a nominal element that appears as an internal argument of the V^0 (Ramchand 1997: 42 (22), (23), emphasis added):

(65) a. *Dè cho fada ‘s a dh’òl thu leann?
How long rel dink-past you-dir beer
‘How long did you drink beer for?’

b. *Dè cho fada ‘s a dh’òl thu an cupa tì?
How long rel drink-past you-dir the cup of tea
‘How long did you drink the cup of tea for?

As is indicated by the ill-formedness of (65), the telicity of the predicate is unaffected by the reference type of the underlined nominal element; (65a) involves a bare N^0/ mass term and (65b) involves a Det-N^0/count term, yet the predicates in (65a) and (65b) are equally understood as telic, as is evidenced by their incompatibility with a question cleft ‘for how long’. Now, if the telicity of a predicate is unaffected by the reference type of the nominal element that appears as an internal argument of the V^0, we expect the telicity of a predicate to be a rather direct reflection of the [NEP]-property of the predicate.[121] Then, because [+NEP]-predicates are always understood to be telic in the simple tense construction in S.Gaelic, and so they are incompatible with a durational phrase, such as ‘how long’ (65), we expect a VP which is canonically understood as constituting a [-NEP]-predicate to be understood as telic when it appears in the past tense construction. This prediction seems to be born out. As is demonstrated in (66) below, taken from Ramchand (1997:43 (28)), a sentence derived with the simple tensed construction is incompatible with the question cleft even when it involves a VP which canonically constitutes a [-NEP] predicate:

(66) *Dè cho fada ‘s a ruith e?
How long rel run-past he-dir
‘How long did he run for?’

The observed fact that a VP which canonically constitutes a [-NEP]-predicate is understood to be telic when it appears in the simple tense construction renders support to the claim that the

[121] Whether the type of nominal reference affects/does not affect the telicity of a predicate seems to be correlated with how a language grammaticalizes the relevant distinction in nominal reference. First of all, not every language has an article/determiner system, and moreover, the range of nominal information expressed by an article/determiner does not seem to be identical across languages. For this reason, while we expect the telicity of [+NEP]-predicates to have a close correlation with the interpretation of the nominal element that appears as an internal argument of the V^0, it is not necessarily so surprising to find that the ‘default’ reference type of the nominal element that appears as an internal argument of a V^0 is not correlated with the telicity of the predicate. See discussion about the Bulgarian data below.

particular restriction imposed on the interpretation of the VP in (64) comes from a shift in the [NEP]-property of the predicate which the simple tense construction in S.Gaelic requires. This in turn provides indirect support for the current claim that the distinction in the [NEP]-property of a predicate is syntactically expressed by a difference in the a feature makeup of the v^0_{eve} that merges with a VP.

Another piece of support for the current claim comes from a particular interpretation pattern exhibited by an internal argument of a V^0 in Bulgarian. As is exemplified in (67) below, the perfectivity of a sentences is often morphologically marked by the presence of verbal affixes in Bulgarian just like in other Slavic languages. The examples in (67) are taken from MacDonald and Markova (2010: (1)):

(67) a. piša *Imperfective*
write.1sg.sg
'I write'

b. na-piša *Perfective*
na-write.1ps.sg
na-write.1ps.sg

Furthermore, the presence of a perfectivizing morpheme has the effect of making a telic interpretation of a predicate available (p.c. Markova) in a way similar to what we have observed in S. Gaelic. This is demonstrated in (68) below, provided by Markova (p.c.):

(68) a. Ivan chuka metal-a dva chasa / *za dva chasa
hammered metal-the for 2 hours / in 2 hours
'Ivan hammered the metal for / in 2 hours'

b. Ivan s-chuka **metal-a** *dva chasa / za dva chasa *Perfective*
PF-hammered metal-the for 2 hours / in 2 hours
'Ivan hammered the metal for / in 2 hours'

c. Ivan s-chuka **metal** *dva chasa / za dva chasa *Perfective*
PF-hammered metal-the for 2 hours / in 2 hours

Observe first that (68a) and (68b) differ from each other solely by the presence/absence of the perfective morpheme s- on the verb. Interestingly, however, while the former is understood as

describing a situation in some past time without entailing any change in a state of the metal, the latter necessarily entails that the metal has undergone some change in its state (e.g. it becomes flat). This suggests that the presence of a perfective morpheme has influence on the [NEP]-property of a predicate in Bulgarian in a similar way to the simple tense construction in S.Gaelic discussed above[122]; a VP that appears in an unambiguously perfective context is understood as constituting a [+NEP]-predicate, and a VP that intrinsically does not express a situation with a natural endpoint undergoes a shift in its [NEP]-property, causing the derived sentence to make a result-state entailment (68b) which is not predicted from the intrinsic properties of the (overtly expressed) constituent parts of the VP in question (68a). Now, notice further that the telicity of a predicate (68b,c) is unaffected by the morpho-syntactic shape of the nominal element that appears as an internal argument of a V^0, similar to the pattern observed in S.Gaelic; while (68b) involves a Det-N^0 internal argument and (68b) involves a bare noun as an internal argument of the V^0, (68c) can be understood as describing a finite situation just like (68b) is, as is shown by the compatibility with a Time-Span Adverbial and the incompatibility with a Durative Phrase. Although the telicity of a predicate is unaffected by the morpho-syntactic shape of the nominal element that appears as an internal argument of the V^0 (e.g. (68b)-(68c)), it seems that the reference type of the nominal element in question is still correlated with the telicity of a predicate. In (68c), in which the predicate is understood to be telic thanks to the presence of the perfective morpheme, the entity referred to by the underlined nominal element is understood to have a specific quantity despite the fact that it is realized as a bare noun (e.g. 'some N'/contextually salient quantity). This interpretation of a bare noun seems to be found quite generally when the predicate in question is understood to be telic; when a V^0 appears with a perfective morpheme, that is, when a predicate is understood to be telic, a Det-N^0 internal argument is usually preferred over a bare noun internal argument, though when a bare noun appears as an internal argument of the V^0 in such an environment, it is usually understood as referring to an entity with a specific quantity (e.g. a contextually salient amount or 'some'). The bare nominal element that appears as an internal argument of the V^0 in (69) below, taken from

[122] Since we are not aware of the full set of perfective morphemes in Bulgarian, it may be more accurate to say that some perfective morphemes in Bulgarian create an environment in which a VP can be understood as constituting a [+NEP]-predicate even when the VP in question cannot be understood as constituting a [+NEP]-predicate otherwise. Either way, this does not interfere with the point of the current discussion.

MacDonald and Markova (2010), is hence understood as referring to an entity with a specific quantity just like in the case of (68c) (p.c. Markova):

(69) a. s-mlja brašno za edin čas
s-ground flour in one hour
'He ground flour in an hour'

b. raz-brâka smes za edin čas
raz-stirred mixture in one hour
'He stirred a mixture in an hour'

The fact that a telic interpretation of a predicate makes an entity referred to by a bare noun internal argument understood to have a specific quantity can be straightforwardly explained under the current proposal if the formal difference between a Det-N^0 and a bare noun in Bulgarian does not correspond exactly to a difference between a nominal element that has a quantized reference and one that has a cumulative reference; because a telic interpretation of a predicate is available iff a v^0_{eve} that merges with a VP is valued as [+q], an internal argument of a V^0 is expected to be understood to have a quantized reference when the predicate in question is understood to be telic. In effect, based on the distribution of a Det-N^0s and bare nouns, MacDonald and Markova (2010) convincingly show that the distinction between a Det-N^0 and a bare noun in Bulgarian cannot be explained by assuming that they have different influences on the aspectual interpretation of a predicate. Thus, given that the formal distinction between a Det-N^0 and a bare noun in Bulgarian is unlikely to be a direct reflection of a distinction in the type of nominal reference under consideration, the particular interpretation that a bare noun internal argument has in an environment in which the predicate is understood to be telic provides another piece of support for the current proposal. Furthermore, note that while the situation described by the predicate in (68b), which involves a Det-N^0 internal argument, is necessarily understood as being completed, the situation described by the predicate in (68c), which involves a bare noun internal argument,t is not required to be understood as being completed although the entity referred to by the bare noun is still understood to be affected even in such circumstances. This fact is consistent with the current proposal in which the telicity of a predicate is calculated based on an interaction between a v^0_{eve} and a nominal element that undergo an AGREE relation. Assuming that a Det-N^0 is always understood as having a quantized reference due to the

presence of the Det^0, the fact that the situation described by the predicate must be understood as completed in (68b) follows from the v^0_{eve} being valued as [+q]; because the VP merges with a v^0_{eve} with an unvalued feature [Valα] in the relevant context, the v^0_{eve} is valued as [+q] when an internal argument of the V^0 is realized as a Det-N^0, giving rise to a telic interpretation of the predicate. In contrast, because a bare noun is understood as referring to an entity with either a specific quantity or unspecific quantity depending on the context, it seems plausible to assume that the reference type of a bare noun in Bulgarian is underspecified; it can have either a quantized reference or a cumulative reference, and the choice between the two may be constrained by grammatical context, and perhaps also by contextual information. Then, the fact that (68c) allows an interpretation in which the situation described by the predicate is either completed or terminated follows from the property of a bare noun; because a bare noun in Bulgarian can, in principle, be [+q] or [-q], a v^0_{eve} that merges with a VP can be valued as [+q] or [-q] depending on the interpretation of the bare noun that appears as an internal argument of the V^0, and since the predicate is understood to be telic when a v^0_{eve} is valued as [+q], though as atelic when a v^0_{eve} is valued as [-q], a [+NEP]-predicate may be understood as either telic or atelic when a bare noun appears as an internal argument of the V. Thus, assuming that the distinction between a Det-N^0 and a bare noun in Bulgarian is not a direct reflection of the relevant difference in the reference type of a nominal element, the current proposal can provide a unitary explanation of the aspectual effect of a nominal reference observed in English and the correlation between the telicity of a predicate and the interpretation of a bare noun internal argument in Bulgarian.

Finally, the last piece of evidence in support of the current proposal comes from an event-cancellation/non-cancellation phenomenon observed in Malagasy. Phillips (2000) argues that a verbal affix aha in Malagasy is a perfective marker, and observes that its presence has an effect of making it impossible to negate the result-state which is expected from a situation described by the predicate. This is demonstrated by the contrast between (70a) and (70b) below, taken from Phillips (2000: (7), (8)) with emphasis added:

(70) a. **Ni**sambotra ny alika ny zaza, nefa faingana loatra ilay alika
ni-captive DET dog DET child but quick too that dog
'The child tried to catch the dog, but that dog was too quick'

b. ***Naha**sambotra ny alika ny zaza, nefa faingana loatra ilay alika
naha-captive DET dog DET child but quick too that dog
'The child was able to catch the dog, but that dog was too quick'

In (70a), a verb appears with active morphology, and while the first half of the sentence is compatible with a situation in which the dog was actually caught as a result of the dog-catching by the child, such a result-state can be negated without resulting in a contradiction. In contrast, when a verb appears with a perfective marker aha (70b), the sentence entails that the dog-catching by the child actually resulted in the dog being caught (by the child), and so it results in a contradiction when the result-state in question is denied. The fact that the presence of a perfective marker makes it impossible to deny the result-state in (70b) can be explained under the current proposal if the reference type of a nominal element in Malagasy is determined by the syntactic environment in which it is base-generated, rather than by its morpho-syntactic shape, similar to the way that we have suggested for the Bulgarian case discussed above. First, [+NEP]-predicates can, in principle, be understood as telic or atelic depending on the reference type of the nominal element that appears as an internal argument of a V^0; it is understood as telic when a v^0_{eve} is valued by a nominal element that is understood to have a quantized reference, though it is understood as atelic when a v^0_{eve} is valued by a nominal element that is understood to have a cumulative reference. Then, the fact that (70a) does not incur a contradiction can be explained if an internal argument of a V^0 can be understood as having either a quantized reference or a cumulative reference[123]; when the internal argument of the V^0 is understood to have a cumulative

[123] It is intuitively somewhat awkward to say that '(the) dog' has a cumulative reference. However, if a cumulative reading of '(the) dog' is understood as something like a generic reading, it may not be so implausible. In effect, while the formal difference between a Det-N^0 and a bare noun in English is usually taken as indicative of a reference type of the nominal element in question (e.g. Mass terms and Bare Plurals that have a cumulative reference can surface as a bare noun, whereas singular count terms are usually realized as a Det-N^0), a singular count term, which is expected to have a quantized reference in its canonical sense, appears as a bare noun in certain contexts (Stvan 1998, Carlson et al., 2006, Paul 2009):
(i) a. school is not in session
b. I've left town
c. She spent time in prison

If the formal difference between a Det-N^0 and a bare noun in English in effect reflects the reference type of a nominal element, this suggests that a singular count term, too, can have a cumulative reference in certain contexts.

reference, a predicate is understood as atelic, that an event denoted by a predicate is understood as not having progressed all the way to its endpoint (if any), and so it is not contradictory to deny the state which is expected to have obtained only at the endpoint of the situation described by the predicate. On the other hand, if an internal argument of a V^0 is required to be understood as having a quantized reference in the presence of perfective morphology, the fact that (70b) results in contradiction follows the aspectual contribution of the nominal element; because a v^0_{eve} with the unvalued feature [Valα] is valued as [+q] when a [+q]-nominal element appears as an internal argument of the V^0, the predicate in (70b) is unambiguously interpreted as telic if the internal argument of the V^0 is obligatorily understood to have a quantized reference, and because the situation described by the predicate is understood as being completed, the result-state in question cannot be denied. If this is in effect how the contrast between (70a) and (70b) arises, we expect that the formal difference between a Det-N^0 and a bare noun in Malagasy does not correspond to a distinction in the reference type of the nominal elements under consideration, and furthermore, we expect that the difference in the telicity of a predicate affects the interpretation of a nominal element that appears as an internal argument of a V^0. These predictions seem to be supported by the following pair of data, taken from Paul (2012: (9), (10)):

(71) saika nanorina (ny) trano io vehivavy io
almost pst.at.build (det) house dem woman dem
'This woman almost built a / the house' *Counterfactual reading only*

(72) saika nahorina trano io vehivavy io
almost pst.aha.build house dem woman dem
'This woman almost built a house / houses' *Incompletive reading only*

As is indicated by the fact that sentence (71) has only the counterfactual reading in the presence of saika 'almost', the predicate is understood to be atelic irrespective of the morpho-syntactic shape of the nominal element that appears as an internal argument of the V^0. This minimally shows that the particular property that distinguishes a Det-N^0 from a bare noun does not affect telicity of a predicate, suggesting that the formal distinction between a Det-N^0 and a bare noun in Malagasy does not reflect a distinction in the reference type of the nominal element under consideration. Furthermore, (72), in which a predicate is understood to be telic due to the presence of the perfective marker aha, the sentence has only the incompletive reading even when

a bare noun appears as an internal argument of the V^0. Because bare nouns in Malagasy are number neutral, they can be understood as referring to either a single entity or multipletokens of the entity in question, and this option is available in (72). What is striking about (72) is that the sentence has only the incompletive reading even when the bare noun in question is understood as referring to multiple tokens of an entity. This suggests that a telic interpretation of a predicate constrains a bare noun internal argument to be understood to have a quantized reference; the situation described by the predicate is understood to be incomplete because a certain quantity is assumed for multiple tokens of the entity that the bare noun refers to (e.g. 'some particular number of houses'). Thus, the facts observed in (71) and (72) provide some support for the claims that the reference type of a nominal element may not be expressed by a formal difference between a Det-N^0 in Malagasy, and the reference type of a nominal element may be determined by the syntactic/syntactico-semantic environment in which the nominal element in question appears. This in turn provides support for the claim that the event cancellation/non-cancellation phenomenon observed in (70a,b) may be regarded as a consequence of the internal argument of the V^0 valueing the unvalued feature [Valα] of a $v^0_{eve,}$ which follows from the algorithms of aspectual calculation proposed in the current study.

While I admit that the relevance/irrelevance of a formal difference between a Det-N^0 and a bare noun to the reference type of a nominal element remains to be observed for each of languages discussed in this section to make any conclusive claim about how the telicity of a predicate is calculated in these languages, a particular way that the telicity of a predicate restricts the understanding of the situation type of a predicate and/or an interpretation of the internal argument of a V^0 across genetically unrelated languages seems to be indicative enough to conclude that the basic picture of the algorithms of aspectual calculation proposed in this section would not be completely off-track, minimally speaking. Thus, we take the particular direction of interpretive restrictions discussed in this section as indirect evidence in support of the current claims that (a) the [NEP]-property of a predicate is syntactically expressed by a difference in the feature makeup of a v^0_{eve} that merges with the VP, and (b) the telicity of a predicate is calculated based on an interaction between a v^0_{eve} and a nominal element that undergo AGREE.

5.3.2 Interim Summary and Discussion

In this section, I have motivated that the aspectual interpretation of a predicate is determined based on how a v^0 that merges with the VP interacts with a compositional part of a VP. Specifically, I have argued that the dynamicity as well as the [NEP]-property of a predicate is syntactically expressed by a difference in the feature makeup of the v^0 that merges with a VP; whether a VP can be understood as describing a static situation/dynamic situation depends on the VP being able to/unable to merge with a particular type of a v^0 at the syntactic level of computation, and the same goes for the [NEP]-property of a predicate. Furthermore, we have argued that the telicity of a predicate is calculated based an interaction between the v^0 and a nominal element that undergo an AGREE; when a v^0 has an unvalued feature [Valα], the value of the v^0 is affected by the [q]-feature specification of the nominal element due to an AGREE that takes place between the v^0 and the nominal element, and the particular value of the v^0 at the point of phase consequently influences the telicity of a predicate; a predicate is understood as telic when the v^0 that merges with the VP is valued as [+q], but atelic otherwise.

An advantage of the proposed algorithms of the aspectual calculation of a predicate is that positional constraints such as those proposed in Tenny (1994), shown in (73)-(75) below, can be explained as byproducts of the syntactic procedures that affect the aspectual calculation of a predicate:

(73) Measuring-Out Constraint on Direct Internal Argument

(i) The direct internal argument of a simple verb is constrained so that it undergoes no necessary internal motion or change, unless it is motion of change which 'measures out the event' over time (where 'measuring out' entails that the direct argument plays a particular role in delimiting the event).

(ii) Direct internal arguments are the only overt arguments which can 'measure out the event'

(iii) There can be no more than one measuring-out for an event as described by a verb

(74) Terminus Constraint on Indirect Internal Arguments

(i) An indirect internal argument can only participate in aspectual structure by providing a terminus for the event described by the verb. The terminus causes the event to be delimited

(ii) If the event has a terminus, it also has a path, either implicit or overt

(iii) An event as described by a verb can have only one terminus

(75) The Non-Measuring Constraint on External Arguments
An external argument cannot participate in measuring out or delimiting the event described by a verb. An external argument cannot be a measure, a path, or a terminus.

As has been discussed thoroughly in MacDonald (2006), the fact that the syntactic X^0/XP that affects the aspectual interpretation of a predicate is restricted to those that appear VP-internally (e.g. (75)) follows from the syntactic position of the functional element that serves as the syntactic locus for calculating the aspectual interpretation of a predicate; because external arguments are introduced by a v^0, though they do not interact with a v^0 otherwise, they cannot contribute to the aspectual calculation of a predicate. Furthermore, (73) also follows from the general properties of syntactic AGREE; because only an internal argument of a V^0 can AGREE with a v^0, the telicity of a predicate can be affected only by the internal argument of a V^0 (73-ii)[124], and the telicity of a predicate cannot be affected by more than one nominal element (74-iii)

[124] A possible counter-example to this claim may be the case of the 'Raising to Object' construction; if an external argument of a subordinate clause in effect raises to an internal argument position of a V^0 in such a context, we expect that the [q]-feature specification of the relevant nominal element to be able to affect the telicity of a matrix predicate. Aside from the fact that it is controversial if the Raising to Object construction in effect involves a movement into an internal argument of a V^0, it will not be easy to test out whether the relevant nominal element can/cannot affect telicity of a predicate, since the emergence/non-emergence of the aspectual effect of a nominal reference depends on the [NEP]-property of a predicate, and as far as we are aware, the VP projected by the class of

because a v^0 becomes inactive once its uninterpretable features are deleted, and so it is not expected to undergo AGREE with more than one nominal element in canonical situations. Moreover, because the value of a v^0 can be affected by the nominal element with which it AGREEs only when the v^0 has the unvalued feature [Valα], an internal argument of a V^0 is not always expected to affect telicity of a predicate (73-i).

The generalizations that are stated as the Terminus constraint on indirect internal argument (74) also follow from the way in which certain syntactic procedures are understood to contribute to the aspectual interpretation of a predicate in the present account. As we have discussed earlier, a nominal element that appears as a complement of a P^0 cannot affect the telicity of a predicate because it does not AGREE with the v^0. Hence, the only way by which an indirect internal argument can affect the aspectual interpretation of a predicate is to contribute to the selection of the v^0 that merges with the VP. This explains (74-i).[125] Furthermore, because the [NEP]-property of a predicate is determined bythe type of a v^0 that merges with a VP, and not by the presence of an X^0 with the <γ>-feature per se, the generalization stated in (74-iii) is rather expected in the current proposal as well.

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verbs that can appear as the matrix verb of the Raising to Object construction cannot be understood as a [+NEP]-predicate.

[125] Rappaport Hovav and Levin (2002) shows that a nominal element that affects the telicity of a predicate does not appear as a direct internal argument in the case of the dative alternation. Examples (i)-(ii) are taken from Levin (2002:(26)-(27)) , with emphasis added:

(i) a. Dona read poetry to employees / her niece for an hour (atelic)
b. Dona read the story to employees / her niece in an hour (telic)

(ii) a. Dona read her niece poetry for an hour (atelic)
b. Dona read her niece the story in an hour (telic)

While this fact goes against Tenny's (1994) proposal in which the aspectual contribution the nominal element is strictly related to a particular syntactic position (88-ii), it seems to be in favor of the present account in which the base-generated position of a nominal element that affects the telicity of a predicate is constrained only by the syntactic operation AGREE; the nominal element in question can be base-generated in any syntactic position so long as it can establish an AGREE relationship with a $v^0_{\text{eve [Valα, } u\beta]}$. Although the present account of the syntax-semantics mappings of event aspect is flexible enough to accommodate the facts observed in (ii), it depends heavily on an analysis of the Double Object Construction. Since it is beyond the scope of this study to discuss the syntactic structure of the Double Object Construction, we will leave this open for a future research.

Thus, the algorithms of aspectual calculation proposed in this section can capture the general facts about the syntax-semantics mappings of event aspects without stipulating that the aspectual contribution of a syntactic X^0 / XP is constrained by the particular syntactic position in which it appears; apparent positional constraints on the aspectual contribution of a syntactic X^0/XP follows from the fact that syntactic operations that have the consequence of affecting the aspectual interpretation of a predicate (i.e. selection of a v^0 and the AGREE that takes place between a v^0 and a nominal element) requires the X^0/XP to be in a certain syntactic position(s).

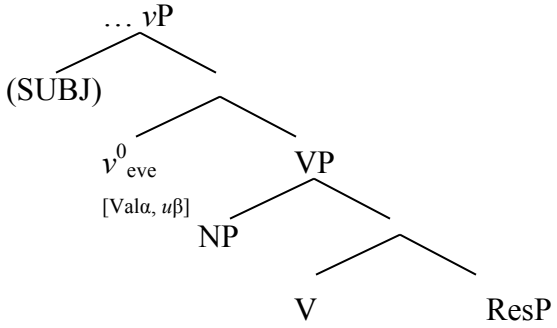
5.4 Cross-Linguistic Variation in the Productivity of RC Revisited

Please note that example number skip from (75) to (91) due to some problem in editorial process.

5.4.1 Proposal

Based on the algorithms of aspectual calculation of a predicate motivated in the previous subsection, I propose that the Resultative Construction (the RC) involves a syntactic configuration in which a VP merges with a particular type of a v^0, namely, a v^0_{eve} with an unvalued feature [Valα] and an uninterpretable feature [*u*β]:

(91) The Resultative Construction (Revised)



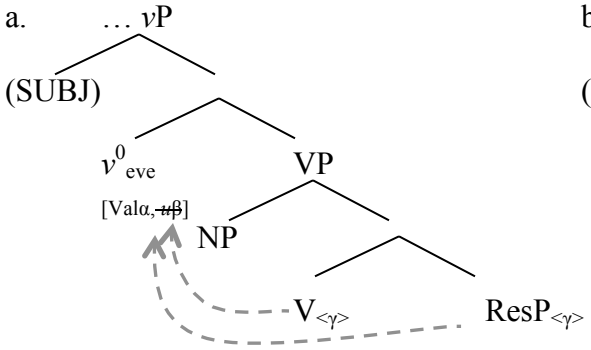
I claim that a VP merges with a $v^0_{eve[Val\alpha.\ u\beta]}$ in the RC for a formal licensing of ResP; ResP is properly licensed iff it is c-commanded by a $v^0_{eve[Val\alpha.\ u\beta]}$ in its base-generated position. Because the formal licensing of ResP requires a VP in which it is base-generated to merge with a $v^0_{eve[Val\alpha.\ u\beta]}$, the RC, which involves ResP by definition, necessarily involves a configuration in which a

VP merges with the relevant type of a v^0_{eve}. In section 5.4.2 below, I show that sentences derived with an RC exhibit the aspectual effect of a nominal in a way that parallels sentences derived with a(n internally simplex) [+NEP]-predicate. I also provide support for the claim that the RC involves a configuration in which a VP necessarily merge with a particular type of a v^0_{eve}, namely, a $v^0_{eve[Val\alpha.\ u\beta]}$. Furthermore, I motivate the claim that ResP is syntactically licensed by a particular type of a v^0 by discussing the nature of a Direction Object Restriction (the DOR; Levin and Rappaport Hovav 1995), observed to hold for the RC, but not for Depictive Secondary Predication. I show that the DOR in the RC follows if a formal licensor of ResP must have particular properti(es) that distinguish(es) the two types of a v^0_{eve}; if what licenses ResP is a particular property associated with one type of a v^0_{eve}, though not another, such a property is not expected to be found on other functional elements such as an I^0 / T^0 which is a potential licensor of a secondary predicate, and thus ResP must be base-generated lower than a v^0, unlike a Depictive Secondary predicate which can be base-generated either lower or higher than a v^0. I show that the aspectual requirement of the RC follows straightforwardly from the necessity of $v^0_{eve[Val\alpha.\ u\beta]}$ to formally license ResP.

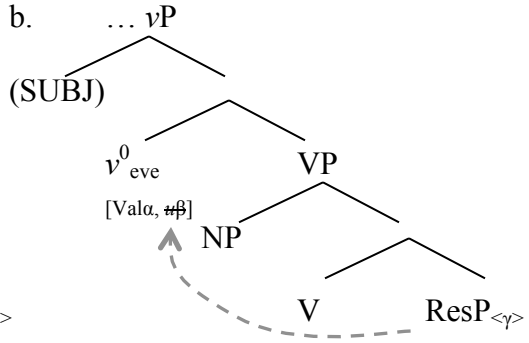
I further claim that the cross-linguistic difference in productivity of the RC observed between English and Japanese comes from different contributions that ResP makes to the selection of v^0_{eve} in these languages; while ResP (or a Res^0) in English has the <γ>-feature, whereby enabling a VP to merge with a $v^0_{eve[Val\alpha.\ u\beta]}$ even when the VP is headed by a V^0 that does not have the <γ>-feature, a ResP in Japanese does not contribute to the selection of a v^0_{eve}, and thus a VP cannot merge with a $v^0_{eve[Val\alpha.\ u\beta]}$ when it is headed by a V^0 that does not have the <γ>-feature. Consequently, in Japanese in which a ResP does not contribute to the selection of a v^0_{eve}, a derivation of the RC crashes whenever a VP is headed by a V^0 that does not have the <γ>-feature, because a ResP will be left unlicensed in such environments. This is schematically shown in (92) and (93) below:

(92) English

a. … *v*P

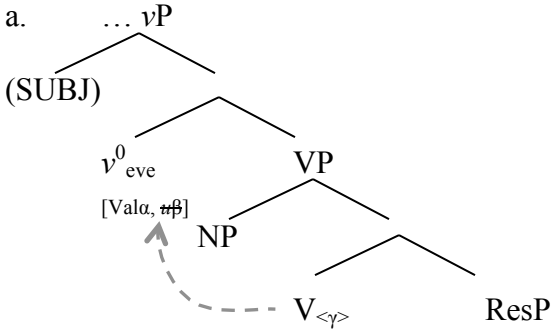


b. … *v*P

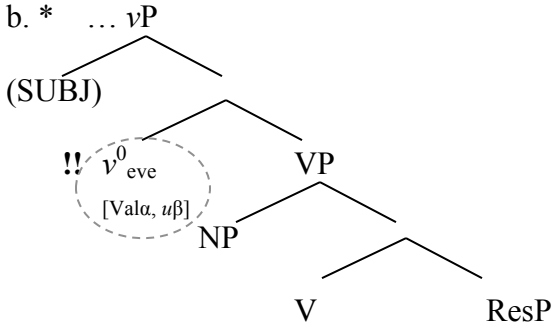


(93) Japanese

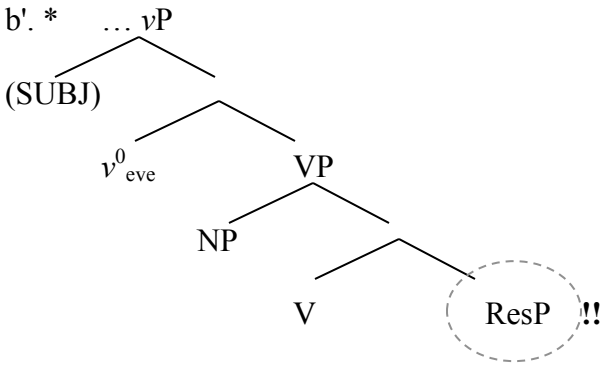
a. … *v*P



b. * … *v*P



b'. * … *v*P



In section 5.4.3, I examine the distribution of –ni marked locational phrase in Japanese, and motivate that a –ni marked XP in Japanese generally does not have the ability to affect a selection of a v^0_{eve}.

5.4.2 Explaining the Aspectual Requirement of the RC: a $v^0_{eve[Valα.\ uβ]}$ as a Formal Licensor of ResP

5.4.2.1 Aspectual Behavior of TREs

The claim that the RC involves a $v^0_{eve[Val\alpha.\ u\beta]}$ is motivated by the aspectual behavior of sentences derived with the RC. While it is often assumed in literature that (Thematic) Resultative Expressions describe a telic event, it is not always the case that sentences derived with the RC express a telic event. As is demonstrated by infelicity of sentences in (94) under the end-time reading of a Time-Span Adverbial (TSA), as well as felicity of sentences in (95) under a single-event reading of a Durative Phrase, sentences derived with the RC may describe a situation which is understood to be atelic:

(94) a. #John wiped glass [$_{ResP}$ clean] in an hour
b. #John hammered metal [$_{ResP}$ flat] in an hour
c. #They painted siding [$_{ResP}$ yellow] in an hour

(95) a. John wiped glass [$_{ResP}$ clean] for an hour
b. John hammered metal [$_{ResP}$ flat] for an hour
c. They painted siding [$_{ResP}$ yellow] for an hour (MacDonald 2006:125)

The atelic interpretation of the sentences in (94) and (95) are most naturally attributed to a presence of a Mass Noun internal argument, and cannot be reduced to the [NEP]-property of the predicate. Recall first that [+NEP]-predicates exhibit the aspectual effect of nominal reference, though [-NEP]-predicates do not; [-NEP]-predicates are consistently understood as atelic irrespective of the reference type of the nominal element that appears as an internal argument of a V^0:

(96) a. John hammered the metal {#in 5 minutes / for 5 minutes} **[-NEP]**
b. John hammered metal {#in 5 minutes / for 5 minutes}

(97) a. John burned the lobster {in 5 minutes / #for 5 minutes} **[+NEP]**
b. John burned seafood {#in 5 minutes / for 5 minutes}

Given this pattern, the fact that a predicate is understood to be atelic implies either that the predicate in question is [-NEP] (96) or the telicity of the predicate is affected by the reference type of the nominal element that appears as the internal argument of a V^0 ((97b) cf. (97a)). Now,

observe that TREs that are understood to be atelic such as those exemplified in (94)-(95) do not always involve a VP which is headed by a V^0 without the <γ>-feature:

(96) a. John hammered the metal {#in 5 minutes / for 5 minutes} $\mathbf{V^0}$
b. John baked the cake {in an hour / #for an hour} $\mathbf{V^0_{<\gamma>}}$

(97) a. John hammered <u>metal</u> [$_{ResP}$ flat] {#in 5 minutes / for 5 minutes} $\mathbf{V^0}$
b. John baked <u>cake</u> [$_{ResP}$ dry] {#in an hour / for an hour} $\mathbf{V^0_{<\gamma>}}$

As is indicated by the compatibility / incompatibility of the relevant interpretation of a TSA / Durative Phrase, an internally simplex VP which is headed by the verb <u>bake</u> (96b) is understood as describing a telic situation. This implies that the verb <u>bake</u> has the <γ>-feature, and so a VP it projects can, in principle, merge with a $v^0_{eve[Val\alpha.\ u\beta]}$. Consequently, the fact that TREs in (97a) and (97b) are equally understood as describing atelic situations, or, to be more precise, the fact that they equally fail to be understood as describing telic situations indicates that an atelic interpretation of the predicate under consideration arises due to the presence of the Mass Noun internal argument, rather than due to the [NEP]-property of the predicate. This is confirmed by the fact that sentences in (97) are understood as describing telic situations once an internal argument of a V^0 is replaced by a Det-N^0:

(98) a. John hammered <u>the metal</u> [$_{ResP}$ flat] {in 5 minutes / #for 5 minutes}
b. John baked <u>the cake</u> [$_{ResP}$ dry] {in 5 minutes / #for 5 minutes}

The observed aspectual behavior of TREs indicates that sentences derived with the RC may generally exhibit the aspectual effect of a nominal. Unlike in (97b)-(98b) in which a VP is headed by a V^0 with the <γ>-feature, (97a)-(98a) involve a VP which is headed by a V^0 that does not have the <γ>-feature, as is shown in (96a). Despite this difference in the property of a V^0 that appears as the head of a VP, aspectual interpretation of a predicate is affected by the reference type of the nominal that appears as the internal argument of V^0 in (97a)-(98a) just like in (97b)-(98b). This indicates that the aspectual interpretation of a predicate in a sentence derived with the RC is generally affected by the reference type of the nominal element that appears as the internal argument of V^0, providing evidence in support of the current claim that the RC involves a syntactic configuration in which a VP necessarily merges with a $v^0_{eve[Val\alpha.\ u\beta]}$.

5.4.2.2 Direct Object Restriction Revisited

The claim that a VP necessarily merges with a $v^0_{eve[Val\alpha.\ u\beta]}$ in a context of the RC for the sake of formal licensing of ResP gains support from the well-known distributional difference between a ResP and a Depictive Secondary Predicate. Recall from Chapter 2 that TREs (or Resultative Expressions in general) are subject to the Direct Object Restriction (DOR; Levin and Rappaport Hovav 1995): only an NP / DP that appears as a Direct Object can establish a predicate-subject relation with a ResP:

(99) a. John polished the floor$_j$ [$_{ResP}$ shiny]$_j$
John-ga yuka$_j$-o [$_{ResP}$ pikapika]$_j$-ni migaita (koto)
-nom floor-acc shiny-*ni* polished fact
'(the fact that) John polished the floor shiny'

b. #John$_j$ polished the floor [$_{ResP}$ sweaty]$_j$
*John$_j$-ga yuka-o [$_{ResP}$ asedaku]$_j$-ni migaita (koto)
-nom floor-acc sweaty-*ni* polished fact
'(the fact that) John polished the floor sweaty'

Recall further that the DOR cannot be reduced to restrictions on the syntax of predication, since such restriction is not observed in the case of Depictive Secondary Predications:

(100) a. John ate the fish$_j$ [$_{DepP}$ raw]
John-ga sakana$_j$-o [$_{DepP}$ nama]-de tabeta (koto)
-nom fish-acc raw-*de* ate fact
'(the fact that) John ate the fish raw'

b. John$_j$ ate the fish [$_{DepP}$ naked]$_j$
John$_j$-ga sakana-o [$_{DepP}$ hadaka]$_j$-de tabeta (koto)
'(the fact that) John ate the fish naked'

The distributional difference between the ResP and the Depictive Phrase (DepP) is straightforwardly explained if the formal licensor of ResP must have particular syntactic properties that distinguishes the two types v^0_{eve}. If ResP must be licensed by a functional element with particular syntactic properties found on $v^0_{eve[Val\alpha,\ u\beta]}$, though not on v^0_{eve} with the relevant clusters of feature set, it is unlikely that a functional element that appears higher than *v*P is able to serve as a formal licensor of ResP, because the two types of a v^0_{eve} differ from each other

mainly only with respect to the properties that affect the inner aspects of a predicate, and such properties are not expected to be found on functional element(s) that appears higher than *v*P such as I^0 / T^0. If the DOR found in TREs in effect follows from a $v^0_{eve[Val\alpha, u\beta]}$ being the only functional element that can formally license a ResP, the fact that a DepP can establish a predicate-subject relationship with a nominal element that appears either in an internal argument position (100a) or an external argument position (100b) implies that a formal licensor of a DepP does not have to be a v^0, but it can be a higher functional element such as I^0 / T^0. The distributional difference between a Subject-oriented DepP and an Object-oriented DepP suggests that this may in effect be the case. As I have discussed in Chapter 2, a Subject-oriented DepP appears higher in a structure than an Object-oriented DepP. The relevant data is shown in (101) below:

(101) Pseudo-clefting

a. What John$_j$ did [$_{DepP}$ naked]$_j$ is to eat the bonito **SUBJ- DepP**
John$_k$-ga [$_{DepP}$ hadaka]-de sita no wa [$_{VP}$ katuo-o taberu]-koto da
-nom naked-*de* did NL top bonito-acc eat fact cop
'What John did naked is to eat the bonito'

b. *What John did [$_{DepP}$ raw]$_j$ is to eat the bonito$_j$ **OBJ-DepP**
*John-ga [$_{VP}$ nama]$_j$-de sita no wa [$_{VP}$ katuo$_j$-o taberu]-koto da
-nom raw-*de* did NL top bonito-acc eat-fact cop
'What John did raw is to eat the bonito'

c. *What John did [$_{ResP}$ red]$_j$ is to paint the car$_j$ **ResP**
*John-ga [$_{ResP}$ makka]$_j$-*ni* sita no wa [$_{VP}$ kuruma-o nuru]-koto da
-nom red-*ni* did NL top car-acc paint-fact cop
'What John did red is to paint the car'

Now, if a DepP can establish a predicate-subject relationship with a nominal element that appears either in an external argument position or in an internal argument position because both positions are local enough to the position in which a DepP is base-generated, I do not expect a Subject-oriented DepP and an Object-oriented DepP to show different syntactic behaviors. Thus, given that a Subject-oriented DepP and an Object-oriented DepP show different syntactic behaviors, it seems plausible to conclude that a DepP must be base-generated in different syntactic positions when it is Subject-oriented and Object-oriented. This implies that a locality requirement on the syntax of predication excludes an external argument position as a possible

position for a subject of a DepP when a DepP is base-generated in a position from which it can establish a predicate-subject relationship with an internal argument of a V^0. Given that a DepP is base-generated in a position higher in the structure when it is Subject-oriented than when it is Object-oriented, it seems plausible to assume that the formal licensor of DepP is a different functional element in these two instances. If this is in effect the case, the fact that a DepP can be either Subject-oriented or Object-oriented is most naturally explained by a DepP being not picky about its formal licensor[126]; it can be licensed by either v^0 or T^0 / I^0. Consequently, the fact that a ResP cannot establish a predicate-subject relationship with a nominal element that appears in an external argument position follows if the formal licensor of ResP must be $v^0_{eve[Val\alpha,\ u\beta]}$; because ResP cannot be licensed by a functional element other than a v^0_{eve}, it cannot be base-generated higher in a structure than where it is base-generated, and because ResP is base-generated at least as low as an Object-oriented DepP is base-generated ((101b) vs. (101c)), a locality requirement on the syntax of predication excludes an external argument position as a possible position for a subject of a ResP to be base-generated.

Thus, the DOR which is observed in the case of a Resultative Secondary Predication, which is not observed in the case of a Depictive Secondary Predication, is straightforwardly explained if the formal licensor of ResP cannot be any functional element other than a particular type of a v^0_{eve}.

5.4.2.3 The Aspectual Requirement of the RC

Under the current proposal that a ResP must be syntactically licensed by a $v^0_{eve[Val\alpha,\ u\beta]}$, the fact that sentences derived with the RC equally express an event with an endpoint, though not necessarily a telic event as I show in 5.4.2.1 above, straightforwardly follows from the syntactic licensing of ResP; since ResP must be licensed by a $v^0_{eve[Val\alpha,\ u\beta]}$, a VP that involves a ResP must merge a $v^0_{eve[Vak\alpha,\ u\beta]}$, or else the derivation crashes because a ResP will be left unlicensed in such environment. Hence, because a derivation of the RC can converge iff a VP merges with a $v^0_{eve[Vak\alpha,\ u\beta]}$, and as I have discussed in section 5.3.1, because a VP is understood as constituting a [+NEP]-predicate when it successfully merges with $v^0_{eve[Val\alpha,\ u\beta]}$, a derivation of the RC

[126] Putting it slightly differently, a particular feature that a functional element must have to serve as a licensor of a DepP may be found more generally across different types of a functional element than the one that a functional element must have to serve as a licensor of a ResP.

converges only when a VP is understood as constituting a [+NEP]-predicate. Thus, the claim that ResP must be formally licensed by a $v^0_{eve[Val\alpha,\ u\beta]}$ provides an explanation to the aspectual requirement of the RC which is often stipulated as a construction-specific requirement of the RC.

5.4.3 Explaining the Verbal Restriction of the RC in Japanese

Under the current proposal in which the aspectual requirement of the RC is explained by a need of a $v^0_{eve[Val\alpha,\ u\beta]}$ for a formal licensing of ResP, the cross-linguistic difference in a range of verbs that can derive the RC in English and Japanese observed in Chapter 3 is most naturally explained if ResP in English can affect the selection of the v^0_{eve} that merges with VP, though ResP in Japanese does not. While there are few logical possibilities of how ResP, or the presence of ResP therein, may have different influence to the selection of the v^0_{eve} in English and Japanese, I tentatively propose that a ResP in English and Japanese differ from each other in that the former has the <γ>-feature, and thus an uninterpretable feature $v^0_{eve[Val\alpha,\ u\beta]}$ can be properly deleted even when a VP with which it merges is headed by a V^0 that lacks the <γ>-feature, whereas a ResP in the latter lacks the <γ>-feature, and so $v^0_{eve[Val\alpha,\ u\beta]}$ cannot merge with a VP when a VP is headed by a V^0 that lacks the <γ>-feature.[127] In what follows, I go through a derivation of the RC in English and Japanese, and motivate the claim that ResP in English and Japanese make different contributions to the selection of v^0_{eve}.

5.4.3.1 The Contribution of ResP to the Selection of v^0 in English

Recall from Chapter 3 that TREs in English may be derived either with a verb that has an ability to render a VP it heads to be understood as constituting a [+NEP]-predicate, or with a verb that lacks the relevant ability:

[127] Alternatively, a ResP in Japanese involves a configuration in which the <γ>-feature of a lexical X^0, if it has any, is invisible to a v^0 that merges with a VP. While it seems to be a plausible hypothesis, we will not pursue it here due to a space / time limitation, and leave it for future research.

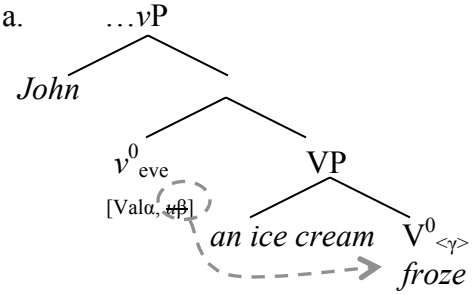
(102) a. John froze an ice cream solid
b. John pounded the metal flat

(103) a. John froze an ice cream in 5 minutes
b. #John pounded the metal in an hour

As is indicated by the fact that (103a) is felicitous under the end-time reading of a TSA, an internally simplex VP which is projected by the verb freeze can be understood as constituting a telic predicate. In contrast, the infelicity of (103b) under the end-time reading of the TSA indicates that an internally simplex VP which is projected by the verb pound cannot be understood as constituting a telic predicate, despite the fact that an internal argument of a V^0 is realized as Det-N^0. This implies that a VP headed by the verb pound, unlike the one headed by the verb freeze, cannot be understood as constituting a [+NEP]-predicate. Under the current proposals of syntax-semantics mappings of event aspects, this means that a VP headed by the verb freeze can successfully be merged with a $v^0_{eve[Val\alpha,\ u\beta]}$, though a VP headed by the verb pound cannot. This in turn implies that the verb freeze has the <γ>-feature, thereby a VP it heads can successfully be merged with a $v^0_{eve[Val\alpha,\ u\beta]}$, whereas the verb pound lacks the <γ>-feature, and so an internally simplex VP it heads can only be merged with a v^0_{eve} in order for the derivation to converge:

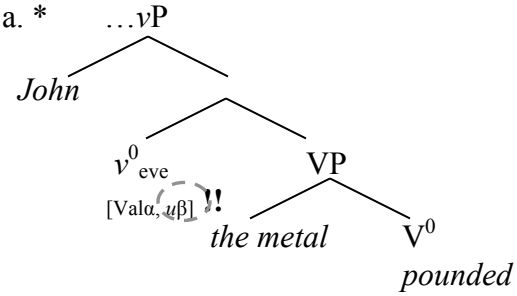
(104) John froze an ice cream

a.

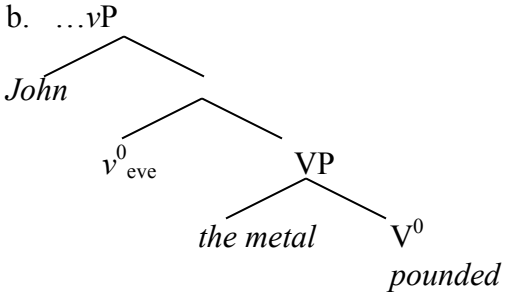


(105) John hammered the metal

a. *

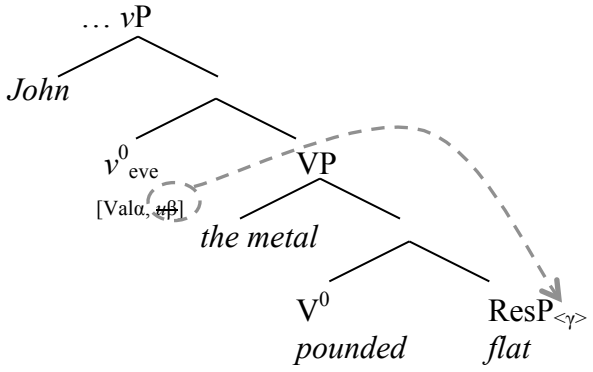


b.



Now, despite this difference in the feature makeup of a V^0, TREs that are derived with these verbs are equally well-formed in English (102). Given that a formal licensing of a ResP requires a VP to merge with a $v^0_{eve[Val\alpha, u\beta]}$, the fact that (102b) is well-formed just like (102a) implies that a VP successfully merges with $v^0_{eve[Val\alpha, u\beta]}$ in both (102a) and (102b). Furthermore, given that the verb pound does not have the <γ>-feature, yet a VP projected by pound successfully merges with $v^0_{eve[Val\alpha, u\beta]}$ in ((102b) cf. (103b)), there must be an X^0/XP that has the <γ>-feature within a local domain of a $v^0_{eve[Val\alpha, u\beta]}$ in (102b) which is not present in (103b). Since the minimal difference between (102b) and (103b) is a presence/absence of a ResP, it seems plausible to conclude that a Res^0/ResP is the X^0/XP that has the <γ>-feature.

(106) John pounded the metal flat



If this is in effect the case, an immediate consequence is that TREs that are derived with a V^0 that does not have the <γ>-feature behaves aspectually like TREs that are derived with a V^0 that has the <γ>-feature. Specifically, I expect that TREs in (102a) and (102b) are equally understood as describing a telic situation, and more generally, I expect TREs to exhibit the aspectual effect of a nominal reference irrespective of a V^0 having/not having the <γ>-feature. As I have discussed in Chapter 3 as well as in section 5.3 above, these predictions are in effect borne out:

(107) a. John froze an ice cream solid in an hour
b. John pounded the metal flat in an hour

(108) a. John froze cake solid in an hour
b. John pounded metal flat in an hour

The fact that TREs in English that are derived with a V^0 which lacks the <γ>-feature exhibit parallel aspectual behavior with those that are derived with a V^0 that has the <γ>-feature thus renders support to the claim that a ResP in English contributes to the selection of a v^0 that merges with a VP.

5.4.3.2 Non-Contribution of ResP to the Selection of v^0 in Japanese

Recall from Chapter 3 that well-formed TREs in Japanese involve a more restricted type of a V^0 than those found in well-formed TREs in English. Specifically, TREs in Japanese are well-formed iff V^0 has the ability to render a VP it heads to be understood as constituting a [+NEP]-predicate:

(109) a. John-ga sono aisu.kuriimu-o 30pun-de kooraseta (koto)
-nom that ice.cream-acc 30minute-in $froze_{Tr.}$ fact
'(the fact that) John froze the ice cream in 30 minutes'

b. *John-ga sono kinzoku-o 30pun-de tataita (koto)
-nom that metal-acc 30minute-in pounded fact
'#(the fact that) John pounded the metal in 30 minutes'

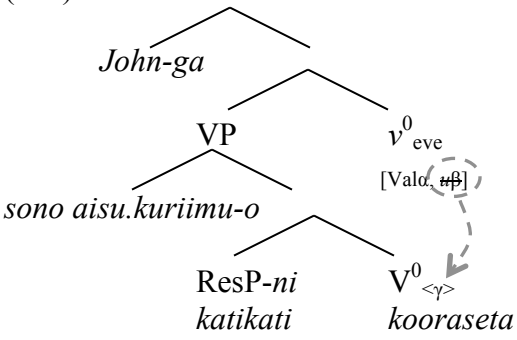
(110) a. John-ga sono aisu.kuriimu-o katikati-ni kooraseta (koto)
-nom that ice.cream-acc solid-*ni* $froze_{Tr.}$ fact
'(the fact that) John froze the ice cream solid'

b. *John-ga sono kinzoku-o perapera-ni tataita (koto)
-nom that metal-acc flat-*ni* pounded fact
'(the fact that) John pounded the metal flat'

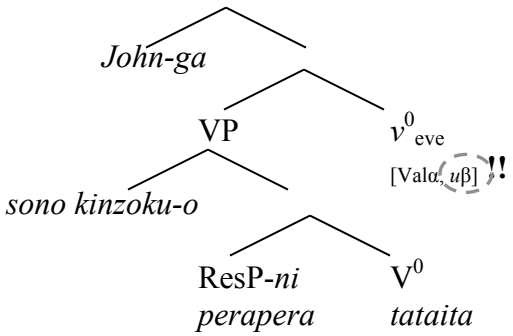
Under the current proposal, the relevant verbal restriction that the derivation of the RC shows in Japanese can be straightforwardly explained if ResP in Japanese does not contribute to the selection of the v^0 that merges with VP. In other words, unlike ResP in English, Res^0/ResP in

Japanese does not have the <γ>-feature. The derivation of (110a) and (110b) are shown in (111a) and (111b), respectively (irrelevant details omitted):

(111) a. …*v*P



b. * …*v*P



Unlike in (111a), because a V^0 in (111b) does not have the <γ>-feature, the derivation crashes when $v^0_{eve[Val\alpha,\ u\beta]}$ merges with VP. On the other hand, if v^0_{eve} without the relevant cluster of features merges with VP, the derivation still crashes because ResP will be left unlicensed in such environments. Thus, the fact that the derivation of the RC requires a V^0 with the <γ>-feature is straightforwardly explained if ResP in Japanese does not contribute to the selection of v^0 with which VP merges.

Partial support to the claim that a ResP in Japanese does not contribute to the selection of v^0 comes from the distribution of a –ni marked XP. As has been mentioned in previous chapters, ResP in Japanese usually appears with –ni marking when it is headed by a morpho-syntactic noun (e.g. Nouns and Nominal Adjectives), and it surfaces with adverbial morphology (e.g. *–ku* marking) when it is headed by a morpho-syntactic adjective / adverb (e.g. Canonical Adjectives). Interestingly, a location XP that denotes a goal of motion in so-called Motion Event Constructions, which is generally considered to be closely related to the RC due to its similar semantics and syntactic properties, can surface with a –ni marker just like ResP which is headed by a morpho-syntactically nominal element:

(112) a. John-ga **ie-ni** tuita (koto)
-nom house-*ni* arrived fact
'(the fact that) John has arrived home'

b. John-ga **gakkoo-ni** itta (koto)
-nom school-*ni* went fact
'(the fact that) John went to the school'

c. John-ga **kooen-ni** mukatta (koto)
-nom park-*ni* headed.to fact
'(the fact that) John headed out to the park'

It has been widely discussed in literature (Tsujimura 1996, 2008, Beavers 2002, 2008, Imai and Muehleisen and Imai 1996, among many others), that the distribution of a –ni marked goal expression is generally restricted to environments in which it co-occurs with a path-verb (e.g. (112)), and so it usually fails to co-occur with a manner-of-motion verb such as aruku 'walk' / oyogu 'swim'. In this respect, the distribution of a –ni marked goal expression in Japanese diverges from a goal PP in English:

(113) a. John walked to the station
b. John swam to the shore
c. the bottle floated under the bridge (e.g. the bottle is now at under the bridge)

(114) a. *John-ga eki-ni aruita (koto)
-nom station-*ni* walked fact
'(the fact that) John walked to the station'

b. *John-ga kisi-ni oyoida (koto)
-nom shore-*ni* swam fact
'(the fact that) John swam to the shore'

c. *bin-ga hasi-no sita-ni tadayotta (koto)
bottle-nom bridge-gen under-*ni* floated fact
'(the fact that) the bottle floated under the bridge'

Given that a –ni marked goal location XP appears only with path-verbs, a –ni marked location XP is generally considered an argument of a path verb (e.g. Tsujimura 1994, Beavers 2008, Inagaki 2002, etc.), in the sense that it realizes an inherent goal of motion expressed by the predicate when the predicate in question expresses a motion event that involves a path (and /or a goal). An interesting implication of the distribution of a –ni marked goal expression is that a –ni

marked goal expression appears only in environments in which an event denoted by a predicate can be understood as telic. That is, a VP that involves a –ni marked goal expression has the ability to merge with a $v^0_{eve[Val\alpha,\ u\beta]}$, minimally speaking. In effect, a predicate derived with a path-verb is generally compatible with an end-time reading of a TSA, suggesting that they are / can be understood as describing a telic situation:[128]

(115) a. John-ga **3pun-de** ie-ni tuita (koto) **cf.** (112)
-nom 3 minute-in house-*ni* arrived fact
'(the fact that) John has arrived home in 3 minutes'

b. John-ga **3pun-de** gakkoo-ni itta (koto)
-nom 3 minute-in school-*ni* went fact
'(the fact that) John went to the school in 3 minutes'

c. John-ga **3pun-de** kooen-ni mukatta (koto)
-nom 3minute-in park-*ni* headed.to fact
'(the fact that) John headed out to the park'

d. John-ga **3pun-de** ie-ni modotta (koto)
-nom 3minute-in home-*ni* headed.to fact
'(the fact that) John went back to his house in 3 minutes'

While this fact itself does not tell us if a –ni marked goal expression has/does not have the <γ>-feature, since a VP projected by a path-verb may merge with a $v^0_{eve[Val\alpha,\ u\beta]}$ either because a path-verb has the <γ>-feature or because a path-verbs takes a –ni marked goal expression which has the <γ>-feature. However, the verb-dependent/context-dependent nature of the distribution of a –ni marked goal expression, as observed in Beavers (2008), suggests that a VP projected by a path verb can merge with a $v^0_{eve[Val\alpha,\ u\beta]}$, thanks to properties of V^0. First, observe the acceptability/unacceptability of –ni marked goal expressions in the following examples, taken from Beavers (2008:(12)) with slight modifications:

[128] In (115c), a time expressed by a TSA is understood as the minimum time spent for John to start moving toward a direction of the park, and it cannot be understood as the time spent for John to arrive at the park. Thus, it appears at first glance that a TSA elicits only the start-time reading, and the end-time reading of a TSA is unavailable in (115c). However, as may be suggested by a gloss of mukau 'head to / head out to', an apparent start-time reading of a TSA seems to come from the punctual nature of the event that the predicates denotes, rather than the predicate being atelic. That is, a situation described by the predicate is understood to be completed as soon as John starts moving toward the intended location.

(116) a. [John is at one end of a series of bridges]
John-wa hitotu.me-no hasi-no mukoo.gawa-ni watatta
-top first-gen bridge-gen yonder.side-*ni* went.over
'John crossed / went over the first bridge'

b. [John is at one end of a bridge]
*John-wa hasi-no totyuu-ni watat-te hiki.kaesita
-top bridge-gen halfway-*ni* went.over-prt returned
'Going to halfway along the bridge, John returned'

Beavers (2008) observes that a –ni marked goal expression that co-occurs with a subclass of path-verbs in Japanese shows what he calls 'salient goal effect'. As has been argued by Muehleisen and Imai (1996) as well as by Tsujimura (2008), path-verbs in Japanese are divided into two subclasses depending on which aspects of the path a verb directly encodes; so-called ground-path verbs incorporate constraints on the physical geometry of the ground / overall path into their meanings, whereas so-called direction-path verbs incorporate some notion of directionality into their meaning. Based on this distinction, Beavers (2008) observes that an acceptability of a –ni marked goal expression which co-occurs with a ground-path verb changes depending on the location denoted by a –ni marked goal expression (116), and argues that the different acceptability of a –ni marked goal expression in (116a) and (116b) comes from lexical semantics of the ground-path verb; because ground-path verbs encode the geometry of the path, they require the goal to be compatible with the geometry of the path in question, and so a –ni marked goal expression is unacceptable when the figure does not traverse the entire path described by the verb as in ((116b) cf. (116a)).

Second, Beavers (2008) further observes that some of the direction-path verbs exhibit the salient goal effects similar to the one exhibited by the ground-path verbs when certain contextual factors impose a restriction on possible goals. This is demonstrated in (117) below, taken from Beavers (2008: (13)) with slight modifications:

(117) **context**: John is at the bottom of a 20-story tower
a. [John intends to go to the 10th floor]
John-wa 10.kkai-ni nobotta / agatta
-top 10th.floor-*ni* went.up / went.up
'John went up to the 10th floor'

b. [John intends to go to the top]
?#John-wa 10.kkai-ni nobotta / agatta
-top 10th.floor-*ni* went.up / went.up
'John went up until the 10th floor'

In (117a), a –ni marked goal expression denotes a location which is contextually salient (intended) goal, and the –ni marked goal expression is completely acceptable. In contrast, (117b) in which a –ni marked goal expression denotes a location which is different from contextually salient goal (e.g. a location which is different from an intended goal), the –ni marked goal expression is less acceptable. While Beavers (2008) reports that the acceptability of (117b) varies across speakers, I agree that the acceptability of a –ni marked goal expression differs in (117a) and (117b), and in the case of (117b), it is more natural to use another type of goal expression, namely, made XP 'until / up.to XP'. Based on the observations that the ground-path verbs exhibit the salient goal effect and that some direction-path verbs exhibit the salient goal effect when contextual factors impose a restriction on possible goals, Beavers (2008) argues that the distribution of a –ni marked goal expression is constrained by verb-based restrictions.

The salient-goal effects observed above strongly suggests that a VP headed by path-verbs can merge with $v^0_{\text{eve}[\text{Val}\alpha,\ u\beta]}$ due to the syntactic properties of V^0, rather than the presence of a –ni marked goal phrase. The fact that the denotation of ground-path verb constrains the denotation of the –ni marked goal expression ((116a) vs. (116b)) suggests that the goal of a motion described by an entire predicate is determined by lexical properties of the verb that heads a VP independently of the denotation of the –ni marked goal expression. Furthermore, the fact that some direction-path verbs exhibit the salient-goal effect when some restriction on possible goal is present due to contextual factors ((117a) vs. (117b)) suggests that the goal of motion described by an entire predicate can, in principle, be supplemented by contextual information, which implies that a VP headed by these verbs can be understood as denoting an event with an endpoint even in an absence of the –ni marked goal expression. These facts suggest that verbs that exhibit

the salient goal effect are those that have the ability to render a VP they project to merge with a $v^0_{[Val\alpha.\ u\beta]}$ independently of a presence of the –ni marked goal expression. Consequently, the fact that the distribution of a –ni marked goal expression is restricted by the lexical semantics of ground-path verbs or by contextual information in the case of some direction-path verbs is most naturally understood if a –ni marked goal expression does not contribute to the selection of the v^0_{eve} that merges with VP, which, in turn, makes it unable to affect the internal temporal structure of the event and / or the geometric path of motion denoted by the predicate; therefore, it must be interpreted with respect to the internal temporal structure of the event / the geometric path of motion which is provided by the lexical semantics of the verb.[129] If this view of salient goal effect is on the right track, it provides indirect evidence in support of the current claim that ResP in Japanese, which share some morpho-syntactic property with -ni marked goal expressions and marks an endpoint of an event denoted by a predicate in a way similar to –ni marked goal expressions, does not have the ability to affect the selection of the v^0_{eve} that merges with VP.

5.5 Implications and Remaining Issues for Future Study

5.5.1 The Source of the Parametric Variations

In section 5.4.3, I argued that the cross-linguistic behavior of TREs in English and Japanese is most naturally explained if a ResP in English and Japanese has different contributions to a selection of a v^0_{eve}; in English, a presence of a ResP therein has an effect of rendering a VP to be successfully merged with a $v^0_{eve[Val\alpha,\ u\beta]}$, whereas in Japanese, a presence of a ResP therein does not have this effect on the selection of a v^0_{eve}, causing Japanese, though not English, to require a verb that appears in a V^0 position to have the <γ>-feature in the context of the RC which can converge iff a VP is successfully merged with a $v^0_{eve[Val\alpha,\ u\beta]}$. To capture the different influence that the presence of a ResP therein has to a selection of a v^0_{eve} in English and Japanese, I put forth a tentative proposal that a ResP in English and has the <γ>-feature whereas a ResP in

[129] In this particular sense, I agree with Beavers (2009?) that ResP in Japanese is a modifier, though it does not necessarily make ResP in English different in this sense, since, although ResP in English can affect the selection of v^0_{eve} by making it available for the [$u\beta$]-feature of $v^0_{eve[Val\alpha,\ u\beta]}$ to be deleted, $v^0_{eve[Val\alpha,\ u\beta]}$ may delete its uninterpretable feature against a V^0 in case V^0 also has the <γ>-feature. In such a case, ResP in English would also be a modifier in the above mentioned sense. I will leave this question open for future study.

Japanese does not, and provided some evidence in favor of the proposed cross-linguistic contrast in property of a ResP. However, this proposal immediately raises the following question:

(118) Does the proposed difference in property of a ResP/Res^0 follow from some general parametric difference between English and Japanese?

The answer to this question seems to be yes and no. It seems to be 'no' in the sense that the reason why a ResP in Japanese does not bear the <γ>-feature is not necessarily that it cannot have the <γ>-feature, but rather, it simply does not have the <γ>-feature, though it seems to be 'yes' in the sense that the reason why a ResP in Japanese does not bear the <γ>-feature seems to come from an absence of appropriate types of functional/semi-functional elements in the inventory of the language. To see the point, consider the following examples:

(118) a. *John-ga Tom-o [$_{ResP}$ ti.mamire]-ni nagutta (koto)
-nom -acc blood.covered-*ni* smuggled fact
'(the fact that) John smuggled Tom bloody'

b. John-ga Tom$_j$-o [$_{PP}$ [pro$_j$ ti.mamire-ni naru] made] nagutta (koto)
-nom -acc blood.covered-*ni* become until smuggled fact
'(the fact that) John smuggled Tom$_j$ until he$_j$ became bloody'

(119) John-ga Tom$_j$-o tui-ni [$_{PP}$ [pro$_j$ ti.mamire-ni naru] made] nagutta (koto)
-nom -acc finally blood.covered-*ni* become up.to smuggled fact
'(the fact that) John smuggled Tom$_j$ until he$_j$ became bloody'
i) *(the fact that) John finally started smuggling Tom$_j$ until he$_j$ becomes bloody
ii)√(the fact that) John finally completed smuggling Tom$_j$ until he$_j$ became bloody

As is demonstrated in (118), although Japanese generally cannot derive TREs with a verb that does not have the <γ>-feature (118a), Japanese can derive a Resultative Expression with a verb that lacks the <γ>-feature as in (118b). Furthermore, observe that tui-ni 'finally' obligatorily induces an event-completion reading in (119), which suggests that a VP in (119) is understood as constituting a [+NEP]-predicate despite the fact that it is headed by a V^0 without the <γ>-feature.[130] This in turn suggests that made-PP may have the <γ>-feature, unlike a ResP that are

[130] Note that the most natural reading of a predicate under the event-completion reading of tui-ni in (119) is an iterative-durative reading, that John smuggled Tom repeatedly until Tom became bloody, and a single-action reading as the one discussed in Chapter 3 (e.g. John finally completed giving a single punch to Tom$_j$ until he$_j$

found in TREs; because the verb nagur(u) 'smuggle' does not have the <γ>-feature, the only reason why a VP headed by nagur(u) 'smuggle' is understood as constituting a [+NEP]-predicate, that is, it merges with a $v^0_{eve[Val\alpha,\ u\beta]}$, seems to be that the madePP has the <γ>-feature. Then, the presence of madePP in Japanese suggests that the reason why a ResP in Japanese does not have the <γ>-feature is NOT because Japanese bans a state-describing XP to have the <γ>-feature; in principle, nothing prevents a ResP to be headed by an X^0 with a <γ>-feature in Japanese, just like in English.

On the other hand, the fact that a ResP in Japanese lacks the <γ>-feature, unlike a ResP in English, seems to be attributed to a general parametric difference between English and Japanese, though in a rather indirect sense. As has been argued in Beavers, Levin and Tham (2008), henceforth BLT (2008), convincingly in my opinion, parametric variation found across languages in lexicalization pattern of directed motion event is most naturally understood as arising primarily from interaction of motion-independent morpho-syntactic and lexical factors (cf. Talmy 1975, 1985, 2000). Below are list of some of such factors, taken from Beavers

(120) Motion-independent resources / processes that may encode or combine path and manner:
a. Morphological: case, applicative affixes, aspectual affixes
b. Lexical: location and result adpositions, event delimiters, particles, compounding
c. Syntactic: serialization, adjunction, subordination

In this vein, it is not surprising for a ResP in English and Japanese to be different with respect to the <γ>-feature; English and Japanese employs different strategies to assure a derivation of the RC to converge (i.e. by having a ResP with the <γ>-feature vs. by restricting a V^0 to have the <γ>-feature) due to independently motivated parametric difference between the two languages under consideration.

First, Japanese is a case-language, whereas English is not. Due perhaps related to this parametric difference, inventory of P^0 in Japanese is much more limited than in English; case-morphology supplements much of syntactico-semantic functions associated with a P^0. Now, if the <γ>-feature is a syntactic feature generally associated with a lexical element, it is not

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became bloody) is unavailable. This ensures that the verb nagur(u) 'smuggle' here is in its 'Activity' use, minimally speaking.

surprising that Japanese has much less choice than English to form a ResP with the <γ>-feature bearing X^0. At least for a PP-result, it is almost deadly for Japanese since the inventory of P^0 in Japanese is quite limited to begin with.

Second, although Japanese seems to have a P^0 that bears the <γ>-feature, namely, made 'up to', it cannot form a particular type of a state-describing XP that serves as a ResP in TREs:

(121) a. John-ga [$_{PP}$ Tokyo made] itta (koto)
-nom up.to went fact
'(the fact that) John went to Tokyo'

b. John-ga [$_{PP}$ suika-no kawa made] tabeta (koto)
-nom watermelon-gen skin up.to ate fact
'(the fact that) John ate{even watermelon's skin/watermelon up to the point of its skin}'

c. *John-ga Tom-o [$_{PP}$ ti.mamire made] nagutta (koto) cf. (118)
-nom -acc blood.covered up.to

As is demonstrated by the grammaticality contrast between (121a,b) and (121c), made 'up to' seems to impose a certain semantic restriction on its complement; while a complement of made 'up to' is a morpho-syntactic nominal in all of (121a-c), (121a,b) are grammatical whereas (121c) is not. It appears that made 'up to' is generally incompatible with an adjectival noun (121c), which rules out made 'up to' from forming a legitimate ResP.

Third, as I have briefly mentioned earlier, morpho-syntactic adjectives that appear as a head of a ResP in Japanese show different morpho-syntactic property from the ones found in English, namely, it surfaces with an 'adverbial' morphology, rather than an 'adjectival' morphology:

(130) a. sono aka-i kabe
that red-*i* wall
'that red wall'

b. John-no subaya-i koodoo
-gen quick-*i* heart.beat
'John's quick heartbeat'

(131) a. John-ga kabe-o (penki-de) aka-ku nutta (koto)
-nom wall-acc paint-with red-*ku* painted fact
'(the fact that) John painted the wall red'

b. John-ga kabe-o (penki-de) subaya-ku nutta (koto)
-nom wall-acc paint-with quickly painted fact
'(the fact that) John painted the wall quickly'

cf.
(132) a. the clean table b. the quick response
(133) a. John wiped the table clean
b. John responded to Mary quickly

While it is true that morpho-syntactic adjectives in Japanese surfaces with –ku form in more environment than when they appear as a syntactic adverb (e.g. Yamakido 2005, among others), different inflectional patterns found between adjectival element that heads a ResP in English (133a) and Japanese (131a) suggests some fundamental differences between English and Japanese either with respect to properties of morpho-syntactic adjectives, or with respect to syntactic environment in which a ResP appears (e.g. some difference in properties of syntactic entity that affects morphological shape of an adjectival element). Since the nature of the 'adverbial morphology' hasn't been studied much in the past as far as I am aware of, particularly not the type found in Result expressions, I do not know exactly how I should interpret this English-Japanese contrast. However, this contrast in morphological shape of an adjectival element that forms a ResP in English and Japanese, also seems to have some bearing for the current proposal that a ResP in English and Japanese differ from each other with respect to the the <γ>. As has been reported in the literature (e.g. Washio 1997 among others), Romance languages, that are Verb-framed languages like Japanese (in a sense of Talmy 1975, 1985, 2000), have very limited types of TREs if they ever have any, and when they have TREs that involves a ResP formed by an adjectival element, adjectival element appears in its 'adverbial' morphology. Thus, although much further work needs to be done to say anything concrete about how the morphological shape of adjectival element in a ResP may be correlated with the presence/absence of the <γ> -feature in a ResP, it appears suggestive that this difference, too, may be another factor that prevents Japanese to have a ResP with the <γ>-feature.

5.5.2 The Nature of the <γ>-Feature and Degree Achievements

So far, I have not been taking a clear position about the nature of the <γ>-feature proposed in this study. My ultimate goal is to motivate that it is a purely syntactic feature, that it is syntactically interpretable only in a sense of valued feature in Pesetsky and Torrego (2007); the presence of the <γ>-feature on a V^0 or one of an X^0 that appears within a phasal domain of the V^0 has a semantic consequence only because it contributes to a selection of a v^0 which has the semantically interpretable feature(s) (e.g. the 'unvalued' feature [Valα] corresponds roughly to interpretable feature[131] and 'uninterpretable' feature [*u*β] as an interpretable-unvalued feature in a sense of Pesetsky and Torrego 2007). Aside from a matter of theoretical elegancy, there are few reasons to believe that an investigation in the line of the hypothesis that interface properties are properties autonomous of functional elements at syntactic level of computations may be fruitful. In various parts of this study, I have noted about how 'variable' an aspectual interpretation of some predicate may be; some predicates appear to be compatible with more than one aspectual interpretations rather freely (e.g. John read a book {for/in} an hour), whereas other predicates are much more rigid in their aspectual interpretation, and so they are compatible with non-canonical aspectual interpretation only thanks to the 'repair strategy' (e.g. an assumption of an implicit/contextually provided goal location to interpret John walked in 5 minutes when the end-time reading of in 5 minutes is enforced). This difference in aspectually rigid vs. non-rigid predicates, which seems to be tightly correlated with problems of predicates that express Degree Achievement, may well be handled if the <γ>-feature is not semantically visible. While I would like to explain it here in more detail, I do not have enough time due to the submission deadline of this thesis approaching. For this reason, I will leave this issue open for future study.

[131] If [Valα] must be a valued feature or unvalued feature is not clear to me now; more needs to be investigated how [Valα] of one type of a v^0_{eve} interacts with syntactic expressions of viewpoint aspects in order to be concrete about its status. I will leave it open for future research.

5.6 Chapter Summary

In this chapter, I proposed that the cross-linguistic difference in productivity of the RC found between English and Japanese is most naturally explained if ResP in English and Japanese makes different contributions to the selection of v^0. In section 5.3, I proposed the algorithms for the syntax-semantics mappings of event aspects in which certain differences in aspectual properties of predicates are syntactically expressed by some differences in the feature makeup of the v^0 that merges with VP, and motivated that an aspectual interpretation of the predicate is calculated based on how v^0 interacts with the component parts of the VP with which it merges. Based on the algorithms of syntax-semantics mappings of event aspects motivated in section 5.3, I argued that the RC involves a syntactic configuration in which a VP merges with a specific type of v^0 to properly license ResP. I motivated the claim that sentences derived with the RC involve a $v^0_{\text{eve[Val}\alpha, u\beta]}$ through the aspectual behavior of well-formed TREs in English; TREs in English exhibit the aspectual effect of nominal reference much like sentences derived with a(n internally simplex) [+NEP]-predicates do. Furthermore, based on the distributional difference found between ResP and Depictive Phrase, I motivated the claim that a requirement of VP to merge with $v^0_{\text{eve[Val}\alpha, u\beta]}$ in the context of the RC is most naturally explained if ResP must be licensed by $v^0_{\text{eve[Val}\alpha, u\beta]}$. Finally, based on the claim that the RC involves a syntactic configuration in which a VP necessarily merges with a $v^0_{\text{eve[Val}\alpha, u\beta]}$ for the proper licensing of ResP, I argued that the cross-linguistic difference in the productivity of the RC observed between English and Japanese comes from different contributions that ResP makes to the selection of v^0 in these languages. I showed that ResP in English contributes to the [NEP]-property of a derived predicate, and motivated the claim that ResP in English contributes to the type of v^0 with which VP merges. Through discussing the salient goal effect by which the distribution of –ni marked goal expressions in Japanese are constrained, I motivated the claim that ResP in Japanese, which may also appear with a –ni marker and which denotes a property of an entity which comes to be only at the endpoint of a situation described by a predicate much like a –ni marked goal expression does, is unlikely to be capable of affecting the selection of v^0 that VP merges with.

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