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Lexical Aspect, (Anti-)Maximalization, and V-V Compounds in Japanese*

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1. Introduction

Japanese has a highly productive process of V-V compounding. It has extensively been discussed in the literature that the second verb (V2) can fulfill a number of different syntactic functions (see e.g. Kageyama 1993, 2016, 2021; Matsumoto 1996, 1998; Yumoto 2005; Kishimoto 2021). Among them, some V2s in V-V compounds serve as aspectualizers, in a way similar to some particles appearing in English phrasal verbs (e.g. *use up*).

- (1) John-ga e-o kaki-{*oe/tuzuke/hazime*}-ta.
John-NOM picture-ACC draw-{finish/continue/begin}-PAST
'John {finished/continued/began} drawing picture.'

In this paper, I will discuss maximalization strategies in light of Japanese V-V compound constructions (Filip 1999, 2008; Filip and Rothstein 2008). Specifically, I argue that some types of V2s in Japanese V-V compounds function as “maximalization” operators, which can turn cumulative predicates into telic predicates. In addition, some V2s denoting incomplete meanings are shown to serve as “anti-maximalization” operators to create predicates that refer to events that terminate without reaching a specific endpoint. It will also be seen that the predicates derived by the anti-maximalization operator are neither telic nor atelic.

2. Maximalization and anti-maximalization

As is often discussed, a telic verb (or verb phrase) refers to a situation (or an eventuality) that has a specific endpoint (see Dahl 1981; Dowty 1989; Depraetere 1995; Bach 1986). The telic-atelic distinction is drawn depending on whether a given predicate includes a denotation of the terminal point of the described event (Garey 1957; cf. Comrie 1976). Krifka (1998) defines this distinction as (2).

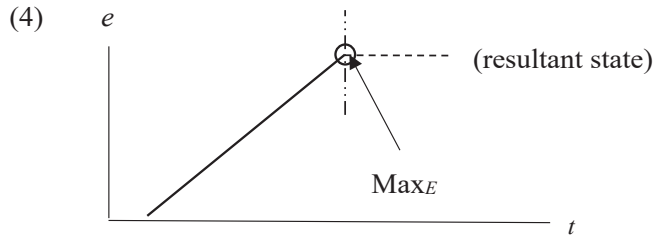
- (2) A verbal expression is atelic if its denotation has no set terminal point (e.g. walk); it is telic if it includes a terminal point (e.g. solve the puzzle).

The telic-atelic distinction mainly concerns the opposition between activity versus accomplishment verbs or the opposition between cumulative versus quantized event predicates (see e.g. Dowty 1989; Krifka 1989, 1992; Smith 1997).

More recently, a theoretical proposal has been advanced that attempts to treat telicity via “maximalization”, by way of which the largest event from a partially ordered set of events is picked out as its termination point (Filip 1999, 2008, 2011). Filip and Rothstein (2006) define the maximalization operator MAX_E as (3).

- (3) *The maximalization operator MAX_E is a monadic operator, such that $MAX_E(\Sigma) \subset \Sigma$. It maps sets of events, (partially) ordered by an ordering criterion for objects on a scale, onto sets of maximal events.*

The semantic effect that the maximalization operator induces is schematized in (4).



In (4), the solid diagonal line represents the event denoted by a non-punctual predicate (before maximalization), which proceeds cumulatively from left to right along the time line t . The dotted vertical line stands for the maximal event, which gives rise to the resultant state denoted by the predicate. Max_E picks out this maximal event as the termination point.

Under the maximalization approach, the telic-atelic distinction can be drawn as in (5)—the definition given by Martínez Vera (2021) (cf. Krifka 1998; Dowty 1991; Beavers 2011, 2012).

- (5) a. For any predicate X and event e , e is telic w.r.t. X iff there is no e' s.t. $e' <_E e$ and $X(e)$ then $X(e')$.

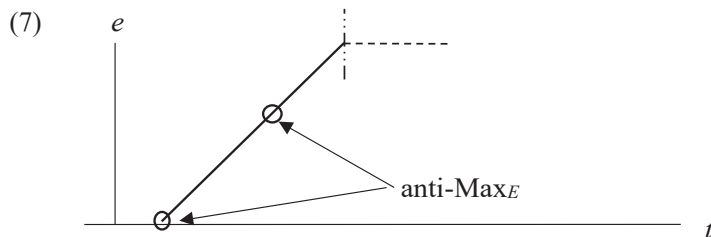
- b. A predicate is telic iff for any event the predicate describes, it does not describe a subpart of it.

One advantage of this analysis is that it enables us to readily account for the fact that the predicate is construed as telic only when it describes an event that reaches a specified end point. This means that the predicate which describes only up to a subevent before reaching the endpoint is not telic.

The effect of maximalization is found in Japanese. There are V2s in V-V compounds which can contribute to signifying maximalization strategies. Such V2s can be seen as overt realizations of the maximalization operator Max_E . Moreover, some V2s can be seen as the negative counterpart of Max_E , which I refer to as anti-Max_E . As I will discuss below, anti-Max_E has a semantic function complementary to Max_E . Anti-maximalization can be defined as (6) (a la Filip and Rothstein (2006)).

- (6) *The anti-maximalization operator Anti-MAX_E maps sets of events, partially ordered by an ordering criterion for objects on a scale, onto sets of non-maximal events.*

Anti-Max_E picks out a subevent smaller than the final subevent as the termination point of the situation denoted by the predicate, while Max_E picks out the largest event as the termination point. The semantic effect invoked by anti-Max_E is illustrated schematically in (7).



(7) represents the process which ends before reaching the culmination (or end) point denoted by the predicate. Logically, there are two points which anti-MAX_E can pick out—one is the initial subevent where no resultant state is obtained, and the other is an intermediate subevent that yields some result, which is smaller than the expected end result.

Needless to say, telic predicates, which can be assumed to induce maximalization, are commonly found cross-linguistically, and in some languages, telicity is often overtly

marked. On the other hand, anti-maximalization complementary to maximalization is not widely observed, which suggests that anti-maximalization is a marked option. In the next section, I will argue that V2s carrying incomplete meanings in V-V compounds may be construed as anti-maximalization operators.

3. V-V compounds in Japanese

Japanese can have two verbs in a single clause if the two verbs form a complex predicate morphologically on the surface. The complex predicates comprised of two verbs are often called “V-V compounds”. It is widely acknowledged that Japanese has two types of V-V compounds (Kageyama 1993; Kishimoto 2009).

- (8) a. [TP [VP [VP V1] V2] T].
 b. [VP V1-V2]

One type is often called “syntactic V-V compound”, which has an analyzable syntactic structure, where VP headed by V1 is embedded under V2, as in (8a). The other type is “lexical V-V compound”, which forms a simple lexical unit despite its complex morphology, as in (8b).

In the syntactic V-V compound construction, the first verb (V1) is a main predicate and is embedded under the V2. Many, if not all, V2s serve as auxiliary predicates, which add aspectual meanings to the first main verbs.

- (9) a. John-ga e-o **kai**-ta.
 John-NOM picture-ACC draw-PAST
 ‘John drew a picture.’
 b. John-ga e-o kaki-**{oe/sokone}**-ta.
 John-NOM picture-ACC draw-**{finish/fail}**-PAST
 ‘John {finished/continued/began} drawing picture.’

(9a) is a simple verb construction, and (9b) is a V-V compound construction where the main verb *kaku* ‘draw’ is combined with aspectual V2s. Syntactically, V1 is embedded under V2 (Kageyama 1993; Kishimoto 2008), and one interesting property of V2 is that it often affects the “lexical aspect” of V1, but not the “grammatical aspect” of the V-V compound construction, as I will discuss below.

Many, but not all, V2s in the V-V compounds add aspectual meanings to V1s. Some V2s can add a perfective meaning, but there are V2s that can add an incomplete meaning (Kageyama 2016, 2021).

- (10) a. Inceptive: V₁-*dasu* ‘start’, V₁-*hazimeru* ‘begin’, V₁-*kakeru* ‘about to’
 b. Continuative: V₁-*tuzukeru* ‘continue’
 c. **Completive**: V₁-*oeru* ‘finish’, V₁-*owaru* ‘stop’, V₁-*kiru* ‘complete’, V₁-*tukusu* ‘exhaust’
 d. **Incompletive**: V₁-*sokoneru* ‘fail’, V₁-*sonziru* ‘fail’, V₁-*wasureru* ‘forget’, V₁-*nokosu* ‘leave without’

The sentences given in (11) are typical examples of completive and incomplete V-V compounds.

- (11) a. John-ga syukudai-o **yari-oe-ta**.
 John-NOM homework-ACC do-finish-PAST
 ‘John finished his homework.’ (completive)
 b. John-ga syukudai-o **si-wasure-ta**.
 John-NOM homework-ACC do-forget-PAST
 ‘John forgot to do his homework.’ (incompletive)

V2s in the V-V compound construction can function in a way similar to particle verbs in English, where some particles, if not all, can serve to specify lexical aspect of the verb. In English, the telic-atelic distinction (typically “activity” versus “accomplishment”) can be marked by some elements added to the verbs (Jackendoff 2002; Thim 2012).

- (12) a. Perfective: He used our supplies **up**.
 He read the book **through**.
 She swallowed **down** the wine.
 b. Continuative: He talked **on/away**.

Notably, V2s in Japanese V-V compounds function in a similar manner, in that some V2s can add a perfective meaning. What is of particular interest to the present discussion is that some V2s add an incomplete meaning.¹

I claim that completive V2s are the maximalization operators that pick out the final subevent as a termination point, while incomplete V2s serve as an anti-

maximalization operator. When anti-maximalization applies, either the initial or an intermediate subevent is picked out as a termination point. I show that V2s with an anti- Max_E function affect the lexical aspect of V1s, in such a way that they refer to some “non-final” event as a termination point. To distinguish the two types of V-V compounds, it is instrumental to resort to standard tests utilizing time adverbials.

3.1. *Telicity*

As discussed by Verkuyl (1972), Dowty (1979), Dahl (1981), Pustejovsky (1995), Tenny (1994), Rothstein (2004), and Borer (2005) among others, the aspectual classes of verbs can be assessed by a frame adverbial (e.g. *in one hour*) and a durative adverbial (e.g. *for one hour*). A frame adverbial modifies an event which contains a logical culmination, while a durative adverbial modifies an event with no change of state. Accordingly, these adverbials give rise to a contrast in acceptability depending on whether a predicate is telic or atelic.

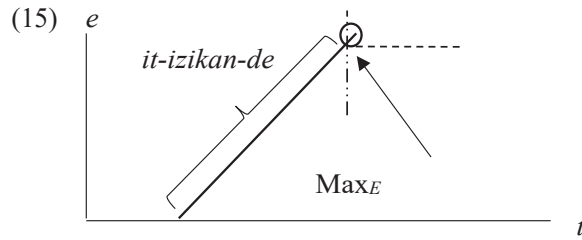
- (13) a. John drove the car {for an hour/*in an hour}. (atelic)
 b. John ran a mile {*for an hour/ in an hour}. (telic)

Essentially the same facts are obtained in Japanese with regard to the frame/durative adverbial tests.

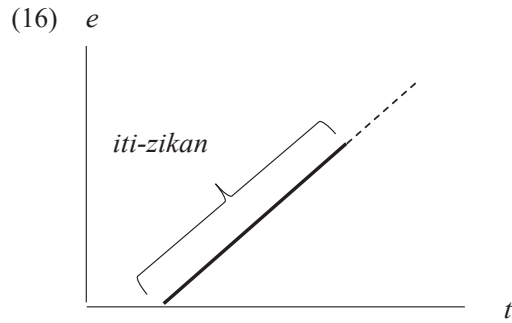
- (14) a. John-ga kuruma-o {iti-zikan/*iti-zikan-de} unten-si-ta.
 John-NOM car-ACC {one.hour/one.hour-for} drive-do-PAST
 ‘John drove a car {for one hour/*in one hour}.’ (atelic)
 b. John-ga {iti-zikan-de/*iti-zikan} iti-mairu hasi-ta.
 John-NOM {one-hour-in/one-hour} one-mile run-PAST
 ‘John ran one mile {in one hour/*for one hour}.’ (telic)

When the predicate is telic, the sentence can include a frame adverbial, but not a durative adverbial, as shown in (14a). On the other hand, the sentence is compatible with a durative adverbial, but not a frame adverbial when the predicate is atelic, as seen in (14b).

A frame adverbial like *iti-zikan-de* ‘in one hour’ measures a time span extending from the initial subevent to the final subevent of a telic event, as (15) illustrates.



Accordingly, the frame adverbial can be added to the sentence that carries a telic interpretation. By contrast, a durative adverbial *iti-zikan* ‘for one hour’ measures the stretch of an activity from the initial point to the point where the activity stops (with no designated endpoint), as (16a) illustrates.



The durative verb can also measure the stretch of a state, which is not incremental. The facts suggest then that if a given predicate is not compatible with a durative verb, it is a telic predicate.

Semantically, the frame and durative adverbials are mutually exclusive and can distinguish between telic and atelic predicates. Nevertheless, some predicates allow both durative and frame adverbials to appear, as shown in (17).

- (17) John-ga e-o {iti-zikan/iti-zikan-de} kai-ta.
 John-NOM picture-ACC {one-hour/one-hour-for} draw-PAST
 ‘John drew a picture {for one hour/in one hour}.’ (activity/accomplishment)

The reason why (17) can be compatible with the two kinds of adverbials is that the sentence can have either an activity or an accomplishment interpretation, depending on whether the object is taken to delimit the event.

The telic-atelic distinction is drawn at the event level, i.e. the VP level. In a transitive clause, the relevant interpretation is made when the verb is combined with an object. Note that in Japanese, a bare NP *e* ‘picture’ is ambiguous in that it can be definite or indefinite. If the object *e* ‘picture’ in (17) is indefinite, the VP denotes an activity, in which case a durative adverbial is allowed to occur. If the object is definite, the VP is an accomplishment, so a frame adverbial is allowed to occur. Accordingly, (17) is compatible with both types of adverbials.²

Let us at this point turn to the discussion of how V2s in syntactic V-V compounds affect the aspect of compound verbs (Kageyama 1993, 2021; Kishimoto 2009, 2011, 2021). Observe that completive V2s impose a telic interpretation on V1.

- (18) John-ga e-o {iti-zikan-de/*iti-zikan} **kaki-oe**-ta.
 John-NOM picture-ACC {one-hour-in/one-hour} draw-finish-PAST
 ‘John finished drawing a picture {in one hour/*for one hour}.’

The compound verb’s incompatibility with a durative adverbial shows that a telic interpretation is forced in (18). It is also worth noting that clausal negation does not change the lexical aspect, as shown in (19).

- (19) John-ga e-o {iti-zikan-de/*iti-zikan} **kaki-oe-nakat**-ta.
 John-NOM picture-ACC {one-hour-in/one-hour} draw-finish-NEG-PAST
 ‘John did not finish drawing a picture {in one hour/*for one hour}.’

The sentence in (19) signifies that the event of drawing a picture does not reach the endpoint. Nevertheless, the frame adverbial, but not the durative adverbial, is compatible with (19). This is due to the fact that the time adverbials assess the event at the VP level. Since the negation lies outside the scope of VP, the distributions of the frame and durative adverbials remain constant regardless of whether or not the sentence is negated.

Under the maximalization approach, the V2 *oeru* ‘finish’ in (19), which can be assumed to take the VP headed by the V1, serves a maximalization operator, which affects the denotation at the VP level; more specifically, it functions as an operator that picks out the largest event from a partially ordered set of events.³

As noted in section 3, in the Japanese V-V compound constructions, some V2s can add a perfective or a continuative meaning to them. In English, some particles supply a perfective meaning, as in *John walked through*, or a continuative meaning, as in *John talked on*. Notably, some second aspectual verbs of Japanese V-V compounds can add an

incompletive meaning. I claim that the incompletive V2s serve as an anti-maximalization operator, which maps a partially ordered set of events onto an event smaller than the largest event.

To be concrete, consider the examples involving the V2s *wasureru* ‘forget’ and *sokoneru* ‘fail’.

- (21) a. John-ga ohirugohan-o tabe-**wasure**-ta.
 John-NOM lunch-ACC eat-forget-PAST
 ‘John forgot to have lunch.’
 b. John-ga tyokusen-o hiki-**sonzi**-ta.
 John-NOM straight.line-ACC draw-fail-PAST
 ‘John failed to draw a straight line.’

The V2 *wasureru* ‘forget’ in (21a) specifies that the event described by the V1 does not take place. The V2 *sonziru* ‘fail’ indicates the event denoted by the V1 is initiated but stops at an intermediate point. The two sentences in (21) differ as to which subevent the compound verb refers to. There are also cases where the sentence is ambiguous, as shown in (22).

- (22) John-ga e-o kaki-**sokoe**-ta.
 John-NOM picture-ACC draw-fail-PAST
 ‘John fail to draw pictures.’

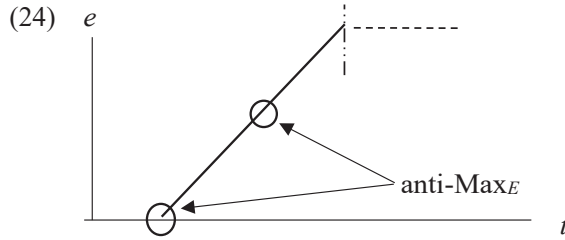
The verb *sokoneru* ‘fail’ in (22) can mean that the event described by the V1 does not take place at all or stops at an intermediate point. The difference is attributed to where the described event stops. If the event terminates at the initial point, no change takes place, but if it terminates at a non-initial, but not the final, point, some change takes place but it is incomplete.

The terminating point of an event specified by way of the anti- Max_E operator can be an initial subevent, in which no change of state is entailed. The terminating point of an event specified by the anti- Max_E operator could also be some intermediate subevent, in which case some change of state is induced, but the process is not complete. Given that some incompletive V2s are compatible with both interpretations, it is feasible to assume that the mapping operation of a set of events onto a non-final event via anti- Max_E is contextually or pragmatically conditioned.

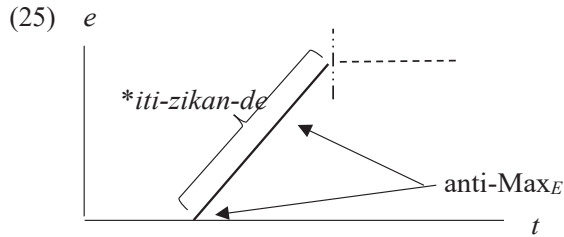
With this much as a background, let us consider how durative and frame adverbials behave in the incomplete V-V compound constructions. The examples in (23) show that neither the durative nor the frame adverbial is allowed.⁴

- (23) a. John-ga e-o {*iti-zikan-de/*iti-zikan} kaki-**sokone**-ta.
 John-NOM picture-ACC {one-hour-in/one-hour} draw-fail-PAST
 ‘John failed to draw pictures {in one hour/for one hour}.’
 b. John-ga ohiru-gohan-o {*iti-zikan-de/*iti-zikan} tabe-**wasure**-ta.
 John-NOM lunch-ACC {one-hour-in/one-hour} eat-forget-PAST
 ‘John forgot to have lunch {in one hour/for one hour}.’

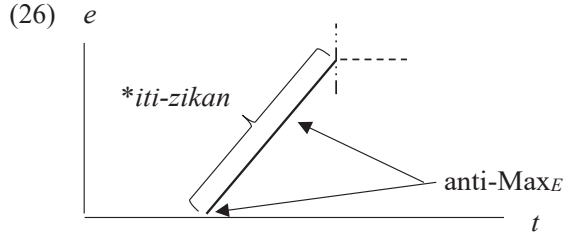
The question to be addressed at this point is why is it that frame and durative adverbials are not compatible with incomplete V-V compounds. The key to answering this question lies in the fact that anti-Max_E sets a termination point on a non-final event, i.e. either an initial or an intermediate point.



Recall that a frame adverbial measures the stretch of time leading to a specific endpoint denoted by the predicate, but in (23), the event does not pick out as its termination point the largest subevent described by the first predicate.



The durative adverbial also fails to appear in (23), given that the event described by V1 stops at an intermediate point, which is not a specified end point.



Note that a telic predicate allows a frame adverbial to occur with it; if the predicate is atelic, a durative adverbial is allowed. Given that the V-V compound with an incomplete verb denotes that the described event terminates before reaching the designated final point, it is feasible to state that the incomplete V-V compounds are neither telic nor atelic.

It is worth noting that negating the clause does not affect the distribution of frame and durative adverbials for incomplete V-V compounds, as exemplified in (27).

- (27) John-ga ohirugohan-o { *iti-zikan-de/*iti-zikan } tabe-**wasure-nakat**-ta.
 John-NOM lunch-ACC { one-hour-in/one-hour } eat-forget-NEG-PAST
 ‘John forgot to have lunch {in one hour/for one hour}.’

Clausal negation applies at the level higher than the event VP, which is outside the scope of (anti-)maximalization. Consequently, the distribution of the frame and durative adverbials remains unaffected regardless of whether the clause is negated or not, as seen in (27).

The V2s of V-V compounds are originated from lexical verbs. Accordingly, the aspectual V2s can more often than not be used as main predicates. For instance, *wasureru* ‘forget’ has a main predicate use.

- (28) John-ga sono tango-o { iti-zikan-de/*iti-zikan } wasure-ta.
 John-NOM that word-ACC { one-hour-in/one-hour } forget-PAST
 ‘John forgot that word {in one hour/for one hour}.’

The verb *wasureru* ‘forget’ is not a stative verb, but a punctual telic verb with the meaning of a specific endpoint. Accordingly, (27) is compatible with a frame adverbial, but not a durative adverbial. In this connection, observe that (29) expresses a meaning similar to (27), but the distribution of the frame and durative adverbials differs.

- (29) John-ga [ohiru-gohan-o tabe-ru] koto-o {iti-zikan-de/*iti-zikan}
 John-NOM lunch-ACC eat-PRES that-ACC {one-hour-in/one-hour}
 wasure-ta.
 forget-PAST
 ‘John forgot to have lunch {in one hour/for one hour}.’

In (29), the object of the verb *wasureru* is a nominalized clause whereby the event of having lunch is expressed. The verb *wasureru* describes a mental process, and is not a V2 to serve as an anti-maximalization operator. Accordingly, the frame and durative adverbials behave in the same way as those in (28).

The sentence in (29) is understood to express an unaccomplished event, since the nominalized clause refers to an event cotemporaneous with the event of forgetting. This brings out the effect that the event of eating does not take place by virtue of forgetting. But the event denoted by a nominalized clause does not have to be co-temporaneous with the event of forgetting, as shown in (30).

- (30) a. John-ga [asu ohirugohan-o tabe-ru] koto-o wasure-te
 John-NOM tomorrow lunch-ACC eat-PRES that-ACC forget-GER
 i-ta.
 be-PAST
 ‘John forgot that he will have lunch tomorrow.’
 b. John-ga [ohirugohan-o tabe-ta] koto-o wasure-te i-ta.
 John-NOM lunch-ACC eat-PAST that-ACC forget-GER be-PAST
 ‘John forgot that he had lunch.’

In (30a), the temporal adverb *asu* ‘tomorrow’ indicates that the event described by the embedded clause will take place after the event. The sentence expresses the meaning that the speaker forgot about the event of having lunch, which does not mean that the speaker forgot to have lunch. Likewise, (30b) indicates that the speaker forgot about what he had done. These interpretations may be obtained since the verb selects a tensed clause as its complement. On the other hand, (27) takes a VP complement, so that it does not allow a temporal adverb to appear, as in (31).

- (31) *John-ga asita ohirugohan-o tabe-wasure-ta.
 John-NOM tomorrow lunch-ACC eat-forget- PAST
 ‘John forgot to have lunch tomorrow.’

By virtue of the fact that the V2 *wasureru* takes a VP-complement, it can only mean that the event described by the V1 occurs contemporaneous with the event of forgetting, the result of which is that (30b) refers not to a simple mental process, but to the delimited event where John failed to have lunch.

Incidentally, English can construct sentences which carry incompleted meanings similar to (32a) and (32b) by using *fail* and *forget*.

- (32) a. John **failed** to solve the puzzle in one minute.
 b. John **failed** to hold his breath for one minute.

In English, the incompleted verbs *fail* and *forget* take a clausal complement, lying outside the VP event domain of the lower predicate, however. Accordingly, both frame and durative adverbials are allowed to occur. In (32a), *solving the puzzle* refers to a telic situation, so a frame adverbial is consonant with it. Since *holding his breath* in (32b) is an atelic (activity) predicate, it is possible to occur with a durative adverbial.

4. Lexical V-V compounds

The compound verbs considered so far are “syntactic V-V compounds” and fall into the type where their components have structures visible to the syntax. It is also well observed that Japanese has lexical V-V compounds which behave as single lexical units in syntactic terms, i.e. they have no internal structures visible to the syntax. Remarkably, the same “completive-incompleted” distinction is found in lexical V-V compounds.

- (33) a. **Completive:** *taki-ageru* ‘cook’, *kaki-ageru* ‘write up’, etc.
 b. **Incompleted:** *mi-sugosu* ‘overlook’, *mi-ayamaru* ‘mistake’,
mi-otosu ‘overlook’, *yomi-ayamaru* ‘misread’, etc.

Lexical V-V compounds are lexicalized and constitute unanalyzable units syntactically, but still some V2s can induce Max_E and anti-Max_E effects, depending on the aspectual meaning they carry. (34) is a case of completive lexical compounds.

- (34) John-wa e-o {iti-zikan-de/*iti-zikan} **kaki-age-ta**.
 John-TOP picture-ACC {one-hour-in/one-hour} draw-up-PAST
 ‘John drew the picture {in one hour/for one hour}.’ (completive)

Completive lexical V-V compounds are compatible with a frame adverbial, but not a durative adverbial. This fact is naturally expected, since completive V-V compounds are telic regardless of whether they are categorized as lexical or syntactic V-V compounds. (35) is a case involving incomplete V2s.

- (35) John-wa ito-o {*iti-zikan-de/*iti-zikan} yomi-**ayamat-ta**.
 John-TOP intention-ACC {one-hour-in/one-hour} read-mistake-PAST
 ‘John misread the intension {in one hour/for one hour}.’

As is the case with incomplete syntactic compounds, incomplete lexical compounds are not allowed to have both durative and frame adverbials. Since lexical compounding involves at the V level, it is feasible to state that while (anti-)maximalization applies at the VP level in syntactic V-V compounds, lexical V-V compounds invoke (anti-)maximalization at the V level. Even so, the event is taken to be complete or incomplete at the VP level, so that lexical V-V compounds pattern with syntactic V-V compounds with regard to the frame and durative adverbial tests.

5. The semantic relation between Max_E and anti- Max_E

If anti- Max_E is a negative counterpart of Max_E , it is expected that these two operators will have complementary functions in regulating aspectual interpretations. This is in fact the case. In Japanese, V-V compounds with V2s functioning as Max_E are telic predicates, and thus, refer to accomplished situations. On the other hand, incomplete V-V compounds combined with V2s serving as anti- Max_E refer to unaccomplished situations.

The complementary functions of Max_E and anti- Max_E applying in the domain of aspectual interpretation are confirmed by the fact that the incomplete V-V compounds, if negated, refer to accomplished situations, as exemplified in (36).

- (36) John-ga e-o kaki-**sokoe-nakat-ta**.
 John-NOM picture-ACC draw-fail-NEG-PAST
 ‘John did not fail to draw the picture.’ (accomplished)

In (36), since the incomplete V-V compound is negated, the sentence means that John successfully finished drawing the picture. A similar effect is observed in English, as seen in (37b), which is a negative counterpart of (37a).

- (37) a. John left his homework **unfinished**. (unaccomplished)
 b. John did **not** leave his homework **unfinished**. (accomplished)

Since (37a) refers to an unaccomplished situation, (37b), which is a negative counterpart of (37a), comes to refer to an accomplished situation where John successfully finished his homework.

On the other hand, telic predicates, if negated, refer to a situation where the event ends without completion.

- (38) John-ga e-o kaki-owara-nakat-ta.
 John-NOM picture-ACC draw-end-NEG-PAST
 ‘John did not finish drawing the picture.’ (unaccomplished)

(38) refers to an unaccomplished situation where the event of drawing the picture does not take place or stops at an intermediate point. Again, a similar effect obtains with a telic phrasal verb in English, as in (37).

- (39) a. John read the guidebook **through**. (accomplished)
 b. John did **not** read the guidebook **through**. (unaccomplished)

In (39a), an accomplished situation is described. (39b) is a negative version of (39a), so it describes a situation where John did not finish read the guidebook.

Maximalization operators turn cumulative (activity) verbs into telic verbs by picking out the largest subevent. Anti-maximalization operators make cumulative (activity) verbs refer to a situation which terminates at either an initial or an intermediate point. If, as I claim, anti-maximalization is a negative counterpart of maximalization, the reversal of aspectual interpretations under clausal negation with complete and incomplete V-V compounds observed above is naturally expected.

6. Auxiliary verb (V-*te* V) constructions

Japanese has another type of complex verb construction, which I refer to as “auxiliary verb construction” where the predicate has the V-*te* V form. In the auxiliary verb construction, the predicates appear in the complex form in a way similar to V-V compounds, and some auxiliary verbs serve as aspectualizers.

Since the auxiliary verbs of the auxiliary verb constructions take embedded predicates (marked with *te*) as complements. Since the V-*te* complements constitute infinitival clauses, maximalization effects are not induced even if the auxiliary verbs add completive meanings. (40a) is a case involving the perfective verb *simau* ‘finish’ and (40b) involves the resultative verb *aru* ‘be’.

- (40) a. John-ga kono hanasi-o {iti-zikan/iti-zikan-de} si-te **simat-ta.**
John-NOM this talk-ACC {one-hour/one-hour-in} do-GER finish-PAST
‘John finished giving this talk {for one hour/in one hour}.’ (Perfective)
- b. Koogi-ga {iti-zikan/iti-zikan-de} rokuga-si-te **at-ta.**
lecture-NOM {one-hour/one-hour-in} record-do-GER be-PAST
‘The lecture was recorded {for one hour/in one hour}.’ (Resultative)

Auxiliary verbs take TP as their complement, and the infinitival status of the complement is indicated by *-te*, and this means that the auxiliary verbs operate on the TP (i.e. proposition) level, and not the VP (i.e. event) level. This aspectual construction affects only grammatical aspects, so that the distribution of frame and durative adverbials sensitive to the aspectual properties of the event level (i.e. the VP level) remains unaffected in (40).

Recall that the V2s of syntactic V-V compounds affect the aspectual properties at the VP level. Thus the distribution of frame and durative adverbials in (41) differ from those in (40).

- (41) John-ga e-o {iti-zikan-de/*iti-zikan} **kaki-oe-ta.**
John-NOM picture-ACC {one-hour-in/one-hour} draw-finish-PAST
‘John finished drawing a picture {in one hour/*for one hour}.’

In (41) the compound complex is formed at the level of VP, and the V2 serves as a delimiter of the event. Since the compound verb is a telic predicate, the frame adverbial, but not the durative adverbial, is allowed to appear. The crucial difference that

distinguishes (41) from (40) is that while a TP boundary exists between the predicates in the auxiliary verb construction in (40), no TP boundary is present between the two predicates in the completive V-V construction in (41).

7. Concluding remarks

In this paper, I have argued that some V2s in Japanese V-V compounds make the “maximalization” operator available. Max_E renders the predicates as telic. There are also V2s that make the “anti-maximalization” operator available. Anti-Max_E makes the predicate refer to a situation that ends at a non-maximal point of the event. This suggests that V-V compounds with anti-Max_E is neither telic nor atelic. It has been seen that the anti-maximalization operator is a negative counterpart to the maximalization operator.

NOTES

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¹ In Slavic languages, prefixes on the verbs mark a perfective or imperfective meaning. A perfective prefix is almost always required for telic predicates in Slavic languages, as noted by Filip (2008). (i) is a list of aspectual prefixes in Polish (Kipka 1990).

- (i) a. Imperfective: *jeść* ‘to eat’
- b. Perfective: *zjeść* ‘to eat up’, *dojeść* ‘to eat up to a certain point’, *wyjeść* ‘to eat completely’, *podjeść* ‘to eat a bit’, *pojeść* ‘to eat for a while’, *objeść* ‘to eat all the way around’, *objeść się* ‘to overeat’, *najeść się* ‘to eat one’s fill’, *purzejeść się* ‘to eat too much of’

In Hungarian, telicity can be marked with a number of verbal particles, often referred to as “prefixed preverbs”. (see É. Kiss 2008; Kardos 2016, 2019)

- (ii) a. Éva *be-festette* a haját.
- Eve in-dyed the hair-her
- ‘Eve dyed her hair.’

- b. Eszter **fel**-vágta a tortát.
 Esther up-cut the cake
 ‘Esther cut up the cake.’
- c. A hús **meg**-főtt.
 the meat PRT-cooked
 ‘The meat cooked.’

Prefixal preverbs originate from various elements such as postpositions, case markers, and adverbials, and they are separable from the following predicates. The combined complex of a prefix and a verb typically has a “perfective” interpretation. In English, Polish and Hungarian, the telic-atelic distinction (most typically “activity” versus “accomplishment”) is marked by some elements added to the verbs.

² In English, the definite-indefinite distinction can be drawn by the forms of the DP, e.g. by the presence or absence of a definite article. Accordingly, the following distribution is observed in regard to the frame and durative adverbials.

- (i) a. John ate pasta {for one hour/*in one hour}.
- b. John ate the pasta {*for one hour/in one hour}.

³ It should also be noted that the second verb *tuzukeru* ‘continue’ imposes an atelic interpretation. Accordingly, only the durative adverb is consonant with the complex predicate *kaki-tuzukeru* ‘continue writing.’

- (ii) John-ga e-o {iti-zikan/*iti-zikan-de} **kaki-tuzuke**-ta.
 John-NOM picture-ACC {one-hour/in one-hour} draw-continue-PAST
 ‘John continued drawing pictures {for one hour/*in one hour}.’

Only the atelic interpretation is made available when *tuzukeru* is involved. This fact suggests that *tuzukeru* ‘continue’ precludes maximalization from applying to the clause.

⁴ The distribution of frame and durative adverbials may differ when habitual or iterative interpretations are involved (see Dowty 1979). The judgments on the time adverbials are based on the non-habitual/non-iterative interpretations.

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