[REVIEW]

*Predicate Concatenation: A Study of the V-te V Predicate
in Japanese*

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1. Introduction

The complex predicate in Japanese has been a focus of research for a long time (cf. Kageyama (1993, 1996), Matsumoto (1996), Yumoto (2005), Uda (1994)). The book under review, which is a revision of the author's doctoral dissertation submitted to Harvard University in 2004, is a new contribution to this area of study. It proposes a radically derivational analysis of the V-*te* V complex predicate. Japanese has two types of V-*te* V sequences: concatenated and non-concatenated, which are sometimes ambiguous (e.g. *Taro-wa e-o kaite-mita* 'Taro tried painting a picture' vs. 'Taro painted a picture and looked at it'). The proposed model is different from the predecessors most notably in denying the categorical distinction between the "auxiliary-like" concatenated verb and its "full" verb counterpart in that the former is dynamically derived from the latter. It attempts to integrate the issues of sense extension, which is non-compositional by definition, into compositional theory. Therefore, the author sets up a very challenging goal of trying to marry incompatibles, and demonstrates how far this approach can go. For this purpose, he adopts the Generative Lexicon Theory of Pustejovsky (Pustejovsky (1995)) as the semantic framework, together with Chomsky's Minimalist framework, "loosely" (p. 8) employed as the syntactic framework.

The book consists of eight chapters, including the introduction and conclusion. The first three chapters are devoted to preparing the ground for his proposals. After a brief introduction in Chapter 1, a general description of the V-*te* V predicate is provided in Chapter 2, and Chapter 3 presents an argument for the derivational approach. Chapter 4 analyzes the particle *-te*,

and the syntax of the *V-te* V predicate is explored in Chapter 5. Chapters 6 and 7 propose an analysis of the relevant semantic computation, which represents the most ingenious part of the model, followed by the conclusion in Chapter 8. Accordingly, this review starts with a brief survey of Chapters 3–5 in Section 2, leaving Chapters 6–7 for a more detailed exposition in Section 3. Section 4 critically discusses the proposal, and Section 5 concludes the review.

2. Overview of Chapters 3–5

2.1. Motivating a Derivational Analysis: Chapter 3

Chapter 3 argues for the derivational approach to the concatenated predicate. This is a radical departure from the traditional approach because the complex predicate has traditionally been analyzed as involving a kind of auxiliary verb (Martin (1975)), which is distinct from its homophonous main verb counterpart. Although the two are diachronically related and native speakers are somehow conscious of the relation, no serious attempt has been made to explicate this in formal terms. This is partly because the relationship is considered to be only an impression, and partly because the apparent syntactic and semantic differences are quite large. Take, for instance, *V-te ok*. Although the predicate *ok* means ‘to put some object somewhere,’ when it appears in concatenation, the meaning of physical transfer is completely absent; thus, *nemut-te-ok(u)* means ‘to take a sleep in preparation for something to come.’ In addition, the predicate *ok* is ditransitive, but its concatenated form may take no object.

However, Nakatani lists four hypothetical arguments for the auxiliary analysis, and refutes them all. Among the hypotheses are such eclectic ones as those in which, first of all, the two are acquired separately and later somehow associated, and, secondly, the two are only associatively acquired and later stored separately. The former is rejected outright, while the latter is not strongly negated. Granting that the derivational process may not always be active in adult grammar, Nakatani characterizes his model as an attempt to explicate the mechanism of derivational association “prior to lexical dissociation if applicable” (p. 52). He attaches importance to the native speaker’s intuition about the relatedness of the two forms, and argues that the association is linguistically real, too. Even if the auxiliary analysis can describe the behaviors of concatenated predicates, it is seriously defective because it misses the vital properties of the verb concatenation.

2.2. Analyzing *-te* as a Past Tense Marker: Chapter 4

Chapter 4 attempts to establish that the morpheme *-te* is a past tense marker, allomorphic with *-ta*, and provides its formal semantic characterization. The definition of *-te* as a past tense marker may sound counter-intuitive because the clause involving a *-te*-marked predicate can, and often does, denote a present or future event. This problem is solved by assuming that tense is computed through two stages: sequencing and anchoring. Sequencing concerns the relative order between events, while anchoring relates the event to a reference time. They are computed at different syntactic levels: with T and C, respectively. It is claimed that the past tense marker is realized as *-ta* when governed by C, and *-te* otherwise. The morpheme *-te* marks “past” only in the sense of the relative sequencing of events.

The semantic computation of *-te* draws on Ogihara’s (1996) analysis of the past tense *-ta*, with major modifications. Specifically, removing the anchoring function from the past tense marker *-ta* and ascribing it to C or temporal adverbials, past tense morphemes *-ta* and *-te* share the same semantics as a pure sequencer in (1) (= (59a), p. 85):

$$(1) \llbracket -ta/-te \rrbracket \text{ ‘PAST’} = \lambda P \lambda t \lambda e [T(e) < t \wedge P(e)]$$

Nakatani also proposes an idea of *event interlacing* to account for the apparently non-sequential usage of *-te* conjunction. Namely, when two predicates are conjoined, the two events are not necessarily interpreted as occurring strictly sequentially, but as occurring roughly at the same time. Consider a phrase such as *ibiki-o kai-te ne(ru)* ‘to sleep with snoring.’ This example is analyzed as a case of event interlacing. Intuitively, an event is divided into its subevents, and the precedence relations are computed microscopically at the subevent level.

2.3. Syntactic Concatenation: Chapter 5

Chapter 5 discusses the syntax of V-*te* V concatenation. The complex predicates are known to present both monoclausal and biclausal properties. Existing analyses have attempted to capture the duality within the mechanism available in each theory. In this regard, Nakatani takes a standard approach in generative linguistics: a V-*te* V predicate is derived through a series of head movements.

Observe (2), which shows the structure of concatenation:

(2) (= (41e), p. 126)

V₁-to-*v* and *v*-to-T₁ movements take place to form a V₁-*te* [_{T1} [_v [_{v1} *mot*]_v *te*], which merges with V₂ for concatenation. Note that concatenation is optional; V₂ can function as a main verb without concatenation. Nakatani claims that the concatenation feeds the semantic operation that changes the semantics of V₁-*te* V₂, and this semantic operation endorses the otherwise unmotivated head movement.

3. Semantic Computation of the V-te V predicate: Overview of Chapters 6-7

Chapters 6 and 7 discuss the most important part of Nakatani’s proposal. Chapter 6 presents the general principles of the semantic computation, introducing the framework of the Generative Lexicon, as well as proposing several operations employed in the analysis. Chapter 7 demonstrates how the model is applied to each type of the concatenated predicates.

3.1. Generative Lexicon

The Generative Lexicon Theory proposed by Pustejovsky (1995) accounts for the problem of creative word senses on the basis of compositionality. The semantic structure consists of three levels of representation: argument structure, event structure, and qualia structure. The most noteworthy among them is the qualia structure, which specifies four essential aspects of a word's meaning, reflecting "Aristotelian modes of explanation" (Pustejovsky (1995: 76)). The meaning of a noun, say, *a book*, is a physical entity, but our knowledge of the word is not limited to its physical constituency. It crucially involves such information as "it is something written," "it is intended to be read," and so on. Such information is represented in terms of four qualia roles or quales. In the case of a noun denoting an object, the TELIC quale specifies what it is used for, the CONSTITU-

TIVE quale shows what it is made of, the FORMAL quale indicates what type of thing it is, and the AGENTIVE quale specifies how it came into being. In the case of a verb, the FORMAL quale gives the general information about the type of the event, while the AGENTIVE quale specifies an action that initiates the event. The TELIC quale, on the other hand, represents the purpose of the FORMAL and the AGENTIVE quales; intuitively, it specifies the goal of the event whose accomplishment is not necessarily entailed. The role of the CONSTITUTIVE quale is not clear and is ignored in the present analysis.

Qualia structures do not exhaustively show how we understand the semantic structure of a word, and Generative Lexicon adheres to the distinction between commonsense knowledge and lexical structure (Pustejovsky (1995: 4)). Nevertheless, it restrictively incorporates such extra-linguistic knowledge that interacts with syntax, and accordingly this model offers a way to compositionally accommodate the issue of polysemy and sense extension.

3.2. Semantic Computation in Verb Concatenation

A fundamental assumption of the proposed analysis is that a single qualia structure represents a “unified event.” Since Nakatani presumes that a concatenated verb denotes a complex but unified event, it follows that concatenation involves the contraction of two qualia structures into one, which is the operation called COLLAPSE, illustrated in (3):

(3) (= (33), p. 185)

Let QL_1 be the qualia structure of VP_1 and QL_2 be the qualia structure of V_2 in the V_1 -*te* V_2 predicate. Then:

ADJOINED:

COLLAPSED:

$$\left[\begin{array}{l} [VP_1-te] V_2 \\ \lambda e_2 \exists e_1 : [e_1 <_{\alpha} e_2] \\ QL_1 = \pi(e_1) \\ QL_2 = \phi(e_2) \end{array} \right] \rightarrow \left[\begin{array}{l} VP_1-te-V_2 \\ \lambda e_2 \exists e_1 : [e_1 <_{\alpha} e_2] \\ QL = \left[\begin{array}{l} FORMAL = \phi(e_2) \\ AGENTIVE = \pi(e_1) \end{array} \right] \end{array} \right]$$

Observe that the two independent qualias QL_1 and QL_2 on the left get contracted into a single qualia on the right. More specifically, after COLLAPSE, QL_1 or the qualia of V_1 , whose value is represented as $\pi(e_1)$, corresponds to the AGENTIVE role, and QL_2 or the qualia of V_2 , whose value is $\phi(e_2)$, to the FORMAL role of the concatenated predicate. On the second line in each matrix, $\lambda e_2 \exists e_1 : [e_1 <_{\alpha} e_2]$, the symbol $<_{\alpha}$ indicates a temporal relation between two subevents which is defined as “exhaustively ordered part of” (Pustejovsky (1995: 69)). Informally, $[e_1 <_{\alpha} e_2]$ means that e_1 and e_2 , and no other event, constitute a complex event, and that e_1 totally precedes e_2 .

The idea of eventive unity, which is crucial for COLLAPSE, draws on the idea of *stage* and *continuation stretch* (Landman (1992)). Informally put, two events e_1 and e_2 may be considered as forming a unified event e_3 , if e_2 immediately follows e_1 , and is a further development of e_1 . In such a case, e_2 is a *continued stage* of e_1 , and the overall event e_3 is a *continuation stretch* of e_1 . Nakatani takes qualia structure as “a specific type of continuation stretch (p. 175)” in the sense that qualia roles represent different stages of a unified event. More specifically, qualia structure as a whole is considered as a continuation stretch of the AGENTIVE, where the FORMAL is an extensional continued stage of the AGENTIVE, and the TELIC is an intensional continued stage of the FORMAL. From this view, the qualia (QL) in the collapsed structure in (3) means that the events denoted by V_1 and V_2 form a unified continuation stretch of an event, in which the qualia of V_2 (as FORMAL) specifies the continued stage of the qualia of V_1 (as AGENTIVE). Note also that in this model of COLLAPSE, qualia roles specify stages in the above sense, and the AGENTIVE role does not imply volitionality, as we see below.

As an illustration, consider the phrase *e-o mi-te ku(ru)*. The non-concatenated form is represented in (4) (with additional argument (*to the office*)), while the concatenated form is in (5):

(4) (= (31), p. 184)

$$\left[\begin{array}{l} \text{e-o mi-te ofisu-ni ku} \\ \text{'painting-Acc see-te office-Dat come'} \\ \lambda e_2 \exists e_1 : \left[e_1 <_{\alpha} e_2 \right] \\ \lambda x \exists y, z : \left[\begin{array}{l} \mathbf{x: human} \\ \mathbf{y = the_painting} \\ \mathbf{z = the_office} \end{array} \right] \\ \text{QUALIA1} = \left[\text{FORMAL} = \star^{e_1} \text{see}(e_1, \mathbf{x}, \mathbf{y}) \right] \\ \text{QUALIA2} = \left[\begin{array}{l} \text{FORMAL} = \tau^{e_{2b}} \text{at}(e_{2b}, \mathbf{x}, \mathbf{z}) \\ \text{AGENTIVE} = \star^{e_{2a}} \text{move}(e_{2a}, \mathbf{x}) \end{array} \right] \end{array} \right]$$

(5) (= (34), p. 185)

$$\left[\begin{array}{l} \text{e-o mi-te ku} \\ \text{'painting-Acc see-te come'} \\ \lambda x \exists y, z : \left[\begin{array}{l} \mathbf{x: human} \\ \mathbf{y = the_painting} \\ \mathbf{z: speaker_territory} \end{array} \right] \\ \text{QUALIA} = \left[\begin{array}{l} \text{FORMAL} = \left[\begin{array}{l} \text{FORMAL} = \tau^{e_{2b}} \text{at}(e_{2b}, \mathbf{x}, \mathbf{z}) \\ \text{AGENTIVE} = \star^{e_{2a}} \text{move}(e_{2a}, \mathbf{x}) \end{array} \right] \\ \text{AGENTIVE} = \star^{e_1} \text{see}(e_1, \mathbf{x}, \mathbf{y}) \end{array} \right] \end{array} \right]$$

QUALIA1 and QUALIA2 in (4) are the Qualia Structures of V_1 *mi* and V_2 *ku*, respectively. Observe that when collapsed as in (5), QUALIA1 or the core semantics of V_1 *mi* becomes the AGENTIVE, and QUALIA2 or the core semantics of V_2 *ku* becomes the FORMAL of the concatenated predicate; in other words, the latter is analyzed as the continued stage of the former.

Note that symbols $\star$ and τ are operators related to event types. Nakatani assumes that the operator $\star$ is a pluractional (distributive) operator, and a predicate denotes an activity/process if and only if bound by the operator $\star$. The operator τ , on the other hand, is used for a transition/achievement event. Adopting a BECOME/INCH analysis of transition events, Nakatani employs the operator τ as the BECOME/INCH function. Transition events are those that are denoted by a predicate bound by an operator τ ; given a predicate ψ , $\tau^e\psi(e)$ denotes the smallest initial event true of ψ . A predicate which is not bound by $\star$ or τ is regarded as a state predicate.

Simply collapsing the two qualias, however, cannot always properly derive the meanings of concatenated predicates. The most essential semantic operation proposed is THEME EVENTIFICATION, which works with the STRETCH function. Consider a sentence such as *Sora-ga kumot-te ku(ru)* 'It (the sky) is becoming cloudy,' with the concatenated verb *ku* 'come.' Although this sentence does not denote any physical movement, it is still analyzed as involving some movement: what comes toward the speaker's territory is the situation of the sky's being cloudy. The operation of THEME EVENTIFICATION is designed to accommodate this shift in meaning, by replacing the theme role with an event. However, what replaces the theme is not the *transition event* per se but the entailed *situation* following it. This problem of incongruity is solved by the STRETCH function defined as in (6) (= (65), p. 196), which turns an event argument into a subsequent event, as if it is stretching out the event.

- (6) STRETCH (e) in a world w is an event e' in w such that $e < e'$, and e' is either (a), (b), (c), or (d) where the choice is finalized by a higher, context-sensitive semantic mechanism:
- a. An actualization of $Q_T(e)$
 - b. The logical entailment of $Q_F(e)$
 - c. A continued stage of $Q_F(e)$
 - d. A pragmatic implication of $G_F(e)$
- (where $Q_T(e)$ is the TELIC and $Q_F(e)$ is the FORMAL of the qualia structure of e .)

THEME EVENTIFICATION is defined as in (7) (= (66), p. 196):

(7) THEME EVENTIFICATION

A specific occurrence of a theme variable (“theme” in the sense of an entity that undergoes change or movement) in the FORMAL may be replaced with the STRETCH of the AGENTIVE event.

Now compare the representation of the V₂ *ku* ‘to come’ in (8) with that of *sora-ga kumot-te ku* in (9):

(8) (= (12), p. 204)

$$\left[\begin{array}{l} \text{ku ‘come’} \\ \lambda y, z : \left[\begin{array}{l} \mathbf{x: human} \\ \mathbf{y: speaker_territory} \end{array} \right] \\ \text{QUALIA} = \left[\begin{array}{l} \text{TELIC} = \text{---} \\ \text{FORMAL} = \tau^{e_2} \mathbf{at}(e_2, \mathbf{x}, \mathbf{y}) \\ \text{AGENTIVE} = \star^{e_1} \mathbf{move_act}(e_1, \mathbf{x}) \end{array} \right] \end{array} \right]$$

(9) (= (67), p. 197)

$$\left[\begin{array}{l} \text{sora-ga kumot-te ku} \\ \text{‘sky become_cloudy-te come’} \\ \exists \mathbf{x}, \mathbf{y} : \left[\begin{array}{l} \mathbf{x = the_sky} \\ \mathbf{y: speaker_territory} \end{array} \right] \\ \text{QUALIA} = \left[\begin{array}{l} \text{FORMAL} = \left[\begin{array}{l} \text{FM} = \tau^{e_{2b}} \mathbf{at}(e_{2b}, \text{STRETCH}(e_1), \mathbf{y}) \\ \text{AG} = \star^{e_{2a}} \mathbf{move_act}(e_{2a}, \text{STRETCH}(e_1)) \end{array} \right] \\ \text{AGENTIVE} = \tau^{e_1} \mathbf{cloudy}(e_1, \mathbf{x}) \end{array} \right] \end{array} \right]$$

With the STRETCH function, (9) means that the situation is initiated by the transition event e_1 of the sky becoming cloudy (=AGENTIVE), developing into a situation (=FORMAL) in which the STRETCH of e_1 (the state of the sky being cloudy) is being directed toward the location physically or psychologically associated with the speaker.

Although space does not permit us to go into details, such mechanisms as the PRINCIPLE OF CAUSATION FLOW and VARIABLE REINTERPRETATION are also posited to ensure the correct interpretation.

Chapter 7 illustrates the application of the model to accommodate other predicates. Since it aims at a comprehensive theory, it covers all types of the V-te V predicate: those involving a verb of going (*ik*, *ku*), a verb of giving (*kure*, *age*, *moraw*), a verb of putting (*ok*, *simaw*), a verb of vision (*mi*, *mise*), a verb of existence (*i*, *ar*), and a desiderative adjective (*hosi(-i)*).

4. Discussion

Nakatani’s approach is an ambitious challenge to substantiate native speaker intuition about the relatedness of auxiliary-like verbs and their full

verb counterparts in a rigorous way. The challenge has proved successful to a large extent. The combination of THEME EVENTIFICATION and the STRETCH function is particularly ingenious in deriving the “grammaticalized” meaning of the concatenated predicate. Semantic change in grammaticalization often involves metaphorical extension (Heine, Claudi and Hünemeyer (1991), Hopper and Traugott (2003)); for instance, temporal terms are often derived metaphorically from spatial terms (e.g. *be going to* (future)). The operation of THEME EVENTIFICATION can be understood as recapitulating the metaphorical extension that construes an event in terms of an object. An event evolves through time, while an object occupies space. In this sense, THEME EVENTIFICATION involves a mapping from the spatial domain to the temporal domain.

In addition, the STRETCH function solves the semantic incongruity by broadening the scope of denotation of an event. Note that this is reminiscent of metonymy, another important source of semantic change in grammaticalization (Traugott and Dasher (2002)). Metonymy involves association based on a relation of contiguity (e.g. part-whole and cause-effect). The relation between an event and its result also constitutes metonymy. It has been demonstrated that not only entailments but also defeasible implicatures are sometimes conventionalized, leading to semantic change (Traugott and Dasher (2002)). The STRETCH function, which associates the event with its entailed consequences or pragmatic implications, is obviously a mechanism for metonymical extension. Thus one can expect that the proposed model will have a high potential for reproducing the process of sense extension. Nevertheless, viewed as a synchronic theory, it is not without problems. I will discuss some of the empirical and conceptual problems in what follows.

The first problem concerns the semantic description. The proposed approach provides a fairly clear analysis to such V_1 -*te* V_2 predicates as those involving, as V_2 , *ku* ‘come,’ *ik* ‘go,’ *yar/kure* ‘give,’ *moraw* ‘receive,’ which denote a movement or a transfer of something. While the semantic association in those predicates is more or less transparent, it is not always the case. Consider the verb of putting *ok* represented in the following matrix, for instance.

(10) (= (47), p. 221)

$$\left[\begin{array}{l} \text{syukudai-o yat-te ok} \\ \text{'homework-Acc do-te put'} \\ \\ \lambda x \exists y, z : \left[\begin{array}{l} \mathbf{x: human} \\ \mathbf{y = homework} \\ \boxed{\mathbf{z: surface}} \end{array} \right] \\ \\ \text{QUALIA} = \left[\begin{array}{l} \text{FORMAL} = \left[\begin{array}{l} \text{FM} = \tau^{e_{2b}} \text{on}(e_{2b}, \text{STRETCH}(e_1), z) \\ \text{AG} = \star^{e_{2a}} \text{act_on}(e_{2a}, x, \text{STRETCH}(e_1)) \end{array} \right] \\ \text{AGENTIVE} = \star^{e_1} \text{do}(e_1, x, y) \end{array} \right] \end{array} \right]$$

According to the analysis, *ok* as a full verb denotes an event of putting something onto an open surface, and *V-te ok* denotes an event initiated by someone doing something (e.g. *doing homework*) with a result that is metaphorically placed onto a “surface.” The location is open to access, which presumably leads to the predicate’s nuance of “doing something in advance.” However, this analysis is too abstract. The meaning of *V-te ok* may be difficult to define, but it is doubtful whether “the result is on a surface” is a meaningful rendition of the semantics of *V-te ok*. The case of *V-te simaw* is analyzed similarly, with the result being placed “in a closed container.”

This is not a parochial problem of these particular verbs but points to a problem inherent in the model. Although its goal is synchronic, the analysis is built on the tacit assumption that grammaticalization is a unified phenomenon that is fundamentally metaphorical, with supplementary metonymical modulation. However, it has been established in cognitive linguistics that semantic change is a result of usage-based operations, where specific inferences available in actual discourse contexts are gradually strengthened and semanticized (Traugott and Dasher (2002)). The semantic change of a word cannot be explained only by referring to its possible semantic associations. It is crucial to consider, for instance, in what collocations it is used with high frequency, and what kind of inference a collocation induces in context (cf. Kikuta (2011) for instance in the case involving *-te mi* in the conditional clause). To be sure, the synchronic model need not reproduce the diachronic process. But when the semantic change has resulted from the interaction of various factors other than metaphor, the association cannot be easily and naturally captured in metaphorical terms alone. The abstract lexical specification reflects this difficulty. Therefore, the model has an inherent limitation on the types of semantic extension it can accommodate. This limitation is justified only if the synchronic sense association operative in the mind of speakers is simpler and more regular than what

actually happened in the history of semantic change. This is an interesting question, calling for further experimental research.

Secondly, given that Nakatani hopes to capture what is “real” in the knowledge of speakers, a fundamental issue of the model concerns its psychological reality. Although he devotes a whole chapter to argue for the derivational approach, the issue is not all that clear. He rejects the idea that a concatenated V_2 and its main verb counterpart are learned separately and associated later, on the grounds that such a “post-acquisitional acquisition process” has no “conceptual advantage” (p. 51). Admitting that the derivational process may not be active in adult grammar, he still argues that concatenation involves derivational association before such dissociation takes place. Note that this makes a very strong claim: namely, children learn a concatenated V_2 after (or at the same time as) they acquire its main verb counterpart. However, this may not be the case, at least with some types of V_1 -*te* V_2 predicates.

The acquisition model of derivation is viable, we believe, only if children are familiar with the lexical verb and that they can find semantic connections between the two verb forms. Many concatenated verbs are indeed simple verbs such as *ik*, *ku*, *age*, *ar*, and so forth, which will be acquired early, and the sense extension is more or less transparent. But it is doubtful that children acquire such words as *simaw*, for instance, before they learn to understand and use the concatenated *V-te simaw*. In addition, existing literature on the form *V-te simaw* has analyzed its meaning in terms of such concepts as “completion,” “uncontrollability,” “negative feelings,” and “frustrative” (cf. Ono (1992), Kondo (2014)). Although these concepts may be diachronically related to the usage of the lexical verb *simaw* ‘to put something away/in a closed container,’ from a synchronic perspective, the semantic connection is not so obvious.

In fact, as quoted in several acquisition studies, early utterances of small children include such contracted forms of *V-te simaw* as *ittyatta* (< *itte-simaw-ta*) ‘to have gone’ (2;1) (Tatsumi and Pine (2014)). The contracted form occurs frequently in daily conversation, and children presumably learn it without relating it to the full verb *simaw*, which they may learn later. Based on the actual usage in context, they probably understand that *V-tyaw* carries such meanings as “completion,” “uncontrollability,” and the like. As they eventually encounter instances where the contracted form and the non-contracted form are used interchangeably, they may well learn the meaning of *V-te simaw* by making reference to *V-tyaw*. If this is really the case, the compositional derivation is not required for the acquisition of *V-te*

simaw.

Admittedly, this possibility does not readily deny the derivation as a psychological process; children may still compositionally derive the meaning of *V-te simaw* from the lexical *simaw*, and compare it to the independently learned contracted form *V-tyaw*. The important implication, however, is that the meaning of the full verb need not be recovered in order to arrive at the meaning of the concatenated predicate as a whole. The derivational model may have a “conceptual advantage” in the sense of theoretical economy, but it does not even guarantee efficiency in acquisition. In the case at hand, learning *V-te simaw* directly from *V-tyaw* seems much more efficient than deriving it from the lexical *simaw* and associating it with *V-tyaw*, considering that *simaw* is not among the more frequent words.

Contraction is pervasive in other verbs as well, including *V-ter* (<*V-te ir*) and *V-tok* (<*V-te ok*). But contraction should not be treated as exceptional; the point is that children can learn the meaning of the concatenated verb (either contracted or not) without decomposition. Nakatani insists that derivation at least takes place in child grammar, but this is an empirical question. Compositional derivation is certainly a possibility, but it is not a logical necessity. Derivational processes may not be active even at the earliest stage of language acquisition.

The derivational model ensures economy because it dispenses with a separate set of auxiliaries homophonous with lexical verbs. Parsimony is one of the fundamental guiding principles of a scientific theory, known also as Occam’s razor. But as Langacker (1987) argues under the rubric of “rule-list fallacy,” actual cognitive operations are not necessarily parsimonious but may involve redundancies. We do draw associations when we encounter two words that share a morpheme, but the association does not directly guarantee that they are derivationally related. The association may also be of an image schematic sort, which is not definable with formal precision.

Presumably, the author is well aware of all this kind of problem. As he says at the end of the conclusion, after all, such inadequacies of the model in covering the noncompositional aspect of language may stem from “the limitations of the reductionist approach” (p. 248).

5. Concluding Remarks

Nakatani puts forward a bold assertion that we need only lexical verbs to constitute *V-te V* concatenated predicates, and devises intricate compositional mechanisms to confirm that assumption. As pointed out in the

previous section, it is open to question whether the proposed model adequately captures the computations that operate in the mind of speakers; more experimental research is definitely called for. It may turn out that not all types of *V-te V* concatenated predicates are uniformly processed in a derivational way. Nevertheless, such potential weakness in psycholinguistic aspects does not necessarily reduce the value of this study as a generative analysis of sense computation. Nakatani's model has succeeded in providing a precise explication of sense derivation. The argument is solid and extensive. In addition, the author takes a broad perspective, giving critical consideration to both generative and cognitive linguistic approaches. This gives an insightful analysis to a wide range of semantic issues.

All in all, *Predicate Concatenation: A Study of the V-te V Predicate in Japanese* is a valuable contribution to the research of complex predicates, and it is highly recommended to both formalists and cognitive linguists interested in the issues of complex predicates and sense association.

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