FORM-MEANING INTERACTION IN DIACHRONY: A CASE STUDY FROM JAPANESE

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The Evolution of Grammar: Tense, Aspect and Modality in the Languages of the World, by Joan Bybee, Revere Perkins, and William Pagliuca, The University of Chicago Press, 1994, xxii + 398 pp.

0. Introduction

The 1990s has seen a greater convergence of interest in Cognitive and Functional-Typological Linguistics as represented by the 1995 Linguistic Institute in New Mexico and the two concurrent conferences, i.e. International Cognitive Linguistics Association and Functional Approaches to Grammar.¹ One of the traditional topics in Historical Linguistics which has received renewed interest due to this intellectual trend is Grammaticalization (or Grammaticization) as evidenced by several major publications exclusively devoted to this topic, i.e. Traugott and Heine (1991), Heine, Claudi and Hünemeyer (1991), and Hopper and Traugott (1993).²

Grammaticalization refers to a diachronic process whereby a lexical word becomes a function word such as tense-aspect-modality marker, auxiliary, conjunction or complementizer. The following examples

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¹ Readers are referred to Horie (1995) for the information on recent literature on linguistic typology.

² Matsumoto (1995a) presents a brief survey of recent literature on grammaticalization.

from Hopper and Traugott (1993: 105) illustrate a typical functional shift which accompanies grammaticalization:

- (1) Carefully considering/Having carefully considered all the evidence, the panel delivered its verdict.
- (2) Considering (*having carefully considered) you are so short, your skill at basketball is unexpected.

In (1), *consider* still functions as a verb with lexical meaning as demonstrated by its grammatical behavior (i.e. possibility of adverbial modification and tense inflection, dependence of the subject interpretation on the matrix clause). In (2), in contrast, *consider* loses some verbal characteristics and functions as a conjunction.

As noted by Hopper and Traugott (1993: 1), the term “grammaticalization” also refers to “the study of language that focuses on how grammatical forms and constructions arise, how they are used, and how they shape the language.” Grammaticalization as a subfield of linguistics is thus indispensable to linguistic theories in general and theories on language change in particular, because it offers insight into the mechanism and directionality of the process whereby a language constructs grammatical structure on the basis of lexical resources at its disposal.³

The Evolution of Grammar (henceforth abbreviated as EOG) by Bybee, Perkins and Pagliuca has now joined this growing body of research on grammaticalization. EOG is a cross-linguistic study of grammaticalization of Tense-Aspect-Modality expressions, or what they call Tense-Aspect-Modality “grams.” EOG consists of the following eight chapters. Chapter 1 “Theoretical Background” gives a brief exposition of the notion of grammaticalization and presents a set of hypotheses to be tested in EOG, e.g. source determination, unidirectionality, universal paths, and retention of meaning. Chapter 2 “Method Used in the Study” explains the procedure of constructing a stratified probability sample of languages and selecting reference materials, as well as the criteria by which to select forms to code them as well as their meaning. Chapter 3 “Anterior, Perfective and Related Senses” examines the lexical sources and paths of development leading to Pasts and Perfectives, along which are located such related

³ Readers are referred to Hopper and Traugott (1993), Chapter 2, for a brief historical survey of earlier and more recent research on grammaticalization.

grammatical meanings as Completives, Anteriors and Resultatives. Chapter 4 "A Quantitative Approach to Grammaticization" proposes a quantitative test of one of the most important hypotheses to be tested in EOG, i.e. parallel reduction hypothesis, on the basis of three clustered measures of grammaticalization of form and the correlated semantic measures of grammaticalization. Chapter 5 "Progressive, Imperfective, Present," similarly to Chapter 3, examines the lexical sources and paths of development leading to Presents, Imperfectives and Progressives, along which are found such related grammatical meanings as Habitual, Iterative, Continuative and Frequentative. Chapter 6 "Mood and Modality" aims at establishing the major paths of development for Mood and Modality notions with attention to the question of how and why particular grammatical meanings arise in a particular domain of Modality. Chapter 7 "Future" examines the developmental pathways to this cross-linguistically important tense category with modal meaning. Chapter 8 "Mechanisms of Semantic Change" discusses five mechanisms of semantic change for which cross-linguistic evidence was presented in Chapters 3, 5, 6 and 7, i.e. Metaphorical Extension, Inference, Generalization, Harmony, and Absorption of Contextual Meaning. The eight chapters are followed by Appendix A "GRAMCATS Sampling Procedure," Appendix B "Meaning Labels," Appendix C "Sources of Language Data," Bibliography for GRAMCATS Sample, References, Author Index, and Subject Index.

The organization of this review article is as follows. Section 1 highlights the two important features of EOG, i.e. cross-linguistic and quantitative orientations. Section 2 critically examines a selection of hypotheses proposed in EOG relative to patterns of grammaticalization of Tense-Aspect grams observed in Japanese. Section 3 tests the paths of development of Modality grams proposed in EOG in light of data on Modality grams in Japanese. Section 4 argues for the importance of studying Japanese grammar from the perspective of grammaticalization espoused in EOG. Section 5 summarizes the article.

1. Cross-linguistic and Quantitative Orientations of EOG

EOG has two distinguishing features not shared by many previous studies on grammaticalization, i.e. cross-linguistic and quantitative orientations. Studies on grammaticalization have tended to focus on a

single language or a limited set of languages (e.g. Heine, Claudi and Hünemeyer (1991)'s focus on African languages) because of the difficulty in obtaining reliable information on the diachronic change of a diverse range of languages from published materials. EOG has overcome this difficulty by constructing a database called GRAMCATS from published reference grammars of seventy-six languages, which are controlled for genetic and areal biases.⁴ The authors concede that the reference grammars did not always provide sufficient information to identify the meaning/function of a given grammatical form which was the target of their investigation (e.g. EOG: 35-36). Nevertheless, the cross-linguistically recurrent patterns of grammaticalization observed in the languages of the world and catalogued in this book are convincing enough to demonstrate that grammaticalization is a phenomenon universally observable across genetic groupings and areal boundaries.

The second feature of this book, i.e. quantitative orientation, is no less important. Grammaticalization theory has a home-grown set of hypotheses shared by most of its practitioners. For instance, it is generally assumed that grammatical meaning, which is relatively abstract, evolves out of lexical meaning, which is more specific. It is also generally agreed that there is an increase in morphosyntactic boundedness of a grammatical form as the degree of its grammaticalization proceeds. However, such metatheoretical assumptions, usually followed by a few illustrative examples, have never been rigorously tested in statistical terms.

The authors of EOG thus set themselves a challenging task of testing a set of hypotheses of grammaticalization in quantitative terms. In order to achieve this objective, they collected information on the meaning and phonetic shape of the grams expressing Tense, Aspect and Modality from seventy-six languages, presented in Appendix C "Sources of Language Data."⁵ The information on the meaning of a

⁴ Readers are referred to Dryer (1989), Perkins (1989), and Rikhoff, Bakker, Hengeveld and Kahrel (1993) for discussions of problems and methods of language sampling in typologically oriented research.

⁵ Constructing a stratified sample of seventy-six languages in itself is admittedly no easy task, especially in the light of the difficulty of obtaining semantic information from published reference materials. However, as pointed out by an anonymous reviewer, it must be noted that the EOG's sample is much smaller than the samples used in other typologically oriented works such as Dryer (1992) and Nichols (1992), which used a sample of 625 languages and 174 languages respectively.

gram is important in determining which stage of grammaticalization it is undergoing, e.g. whether a particular gram encodes earlier Anterior stage or later Perfective stage.

No less crucial is the information on the phonetic shape of a gram, on the basis of which the degree of phonetic reduction is quantitatively measured in EOG. The three quantifiable indicators of phonetic reduction thus arrived at in EOG are "shortness" (i.e. "the number of consonants and vowels present in the gram," EOG: 108), "dependence" (i.e. "the general loss of autonomy," EOG: 110), and "fusion" (i.e. "the actual fusion of the gram with the verb," EOG: 110).

As a result of synthesizing this semantic information and phonetic information obtained, the authors have been able to present a significant statistical confirmation of the hypothesis that "semantic reduction is paralleled by phonetic reduction" (EOG: 19) in grammaticalization process, i.e. what EOG calls "parallel reduction hypothesis."

Previously many functionally oriented linguists presented a strong case for the intimate relationship which holds between meaning and form of linguistic forms from a primarily synchronic perspective, e.g. Bolinger's "one form, one meaning" principle (Bolinger (1977)), Haiman's "iconic motivation" (Haiman (1983, 1985)), and Givón's "binding hierarchy" (Givón (1980, 1990)). EOG's statistical confirmation of the "parallel reduction hypothesis" has considerably enhanced the previous researchers' arguments by presenting a strong case for close form-meaning correlation (or co-reduction) in diachronic change.⁶

In the following section, I will critically examine a selection of the hypotheses tested in EOG in the light of the data on Tense and Aspect grams from Japanese.

2. Examination of a Selection of Hypotheses Tested in EOG: A Case Study from Japanese

EOG has amassed cross-linguistic data on Tense-Aspect grams in

⁶ EOG's contribution to the area of research on form-meaning interaction is comparable to that of Hawkins (1994), which presents a processing-oriented quantifiable principle of linear ordering, to the area of research on word order universals.

Chapters 3 and 5 and convincingly demonstrated that similar grammaticalization paths and patterns can be observed in a wide range of languages. Chapter 3 discusses Completive, Anterior, Perfective and Past grams, whereas Chapter 5 discusses Progressive, Imperfective and Present grams.

In this section, I will critically examine two important hypotheses discussed and tested in EOG in relation to Tense-Aspect grams, i.e. “source determination” and “parallel reduction,” in the light of the data on Tense-Aspect grams in Japanese. Due to space limitations, I will limit my discussion to the domains of Completive, Anterior, Perfective and Past grams.

EOG proposes five different stages of “semantic age” for grams that belong to the Completive, Anterior, Perfective and Past pathway. These stages are referred to as “perpages,” and are arranged from perpage 1, the youngest semantic age, to perpage 5, the oldest semantic age, in the following Figure (constructed on the basis of the information given in EOG: 105):

For instance, comparing English Anterior and Simple Past enables us to appreciate the differing degrees of grammaticalization between the given two stages. Consider the following examples:

- (3) a. Carol *has taken* statistics. (EOG: 61)
 b. ?Carol has taken statistics last semester. (EOG: 62)
 c. Carol *took* statistics (last semester).

English Anterior, which is constructed periphrastically, indicates a past event which has relevance to the present, as in (3a), but unlike Simple Past, it does not normally refer to a specific past event, as shown in (3b). In contrast, Simple Past, which is encoded as being closely affixed to and fused with the matrix verb, can refer to a specific or nonspecific past event, as shown in (3c). Importantly, the greater

⁷ $X > Y$ in Figure 1 should be read as *X is older than Y* and does not necessarily entail that X always evolves into Y, because EOG does not have “documented cases of perfective evolving into simple past” (EOG: 105).

semantic specificity of English Anterior is paralleled by its lesser degree of formal reduction, which presents a striking contrast to the greater semantic generality and concomitant greater formal reduction of English Simple Past.

Modern Japanese has a relatively rich inventory of grams in the area of Aspect. Teramura (1984) gives a three-level classification of Aspect, i.e. Primary Aspect ("Ichijiteki Asupekuto"), Secondary Aspect ("Nijiteki Asupekuto"), and Tertiary Aspect ("Sanjiteki Asupekuto"). The following Figure is constructed on the basis of the information given in Teramura (1984: 119-183):

Primary Aspect: *-ru*, *-ta*

Secondary Aspect: *-te iru*, *-te aru*, *-te shimau*, *-te kuru*, *-te iku*

Tertiary Aspect: *-hajimeru*, *-tsuzukeru*, *-owaru*, *-kaku*,
-tsukusu, etc.

Figure 2. Teramura (1984)'s Three-level Classification of Aspect Grams in Modern Japanese

Teramura (1984: 118) notes that Primary Aspect (i.e. Imperfective *-ru* and Perfective *-ta*) is a full-fledged grammatical category, whereas Secondary and Tertiary grams are the lexical verbs which have become grammaticalized through the process of loss or bleaching of original lexical meaning and grammatical properties.⁸ Furthermore, Teramura notes that Secondary Aspect grams are a closed class whose members are relatively general in grammatical meaning (e.g. *-te shimau* encoding Anterior, Completive and Perfective), whereas Tertiary Aspect grams are a rather heterogeneous class whose members, some of which co-occur with a very limited number of main verbs, differ considerably in terms of the degree of grammaticalization and tend to encode rather specific grammatical meanings (e.g. *-tsukusu* encoding Completive only).

Teramura claims that grammaticalization takes place as indicated in the following Figure (cf. Teramura (1984: 118)):

⁸ It must be noted that Teramura does not use the word "grammaticalization" or its Japanese equivalent "bunpooka" in his work. However, as I discuss later in Section 4, Japanese grammarians such as Teramura and Akira Mikami have recognized the historical process wherein a lexical word becomes grammatical through the loss or bleaching of lexical meaning, calling it "keishikika" (lit. formalization).

Figure 3. Grammaticalization of Aspect Grams in Modern Japanese

The following Figure summarizes EOG’s definitions of five Perfective-related Aspect and Tense grams:

- Resultatives*: “a state exists as a result of a past action”, “are compatible with the adverb ‘still’ and are used only with telic verbs, that is, verbs which describe events which have inherent endpoints” (EOG: 54)
- Anteriors* (or “Perfects”): “signals that the situation occurs prior to reference time, and is relevant to the situation at reference time” (EOG: 54)
- Completive*: “to do something thoroughly and to completion, as is expressed, for example, in ‘to shoot someone dead’ or ‘to eat up’ ” (EOG: 54)
- Perfective*: “the situation is viewed as bounded temporarily; cannot be simultaneous with the moment of speech; in the non-past it is sometimes interpreted as future” (EOG: 317)
- (Simple) Past*: “indicates a situation which occurred before the moment of speech” (EOG: 55)

Figure 4. EOG's Definitions of Perfective-related Aspect and Tense Grams

Each of the three Japanese grams in question encodes a slightly different range of grammatical meanings defined in Figure 4. First of all, *-ta* encodes Anterior, Perfective and Past:

- (4) Densha-ga choodo ki-ta.⁹
train-Nom just come-TA
'The train *has* just *arrived*.' (Anterior)
- (5) Shiai-ga yooyaku owat-ta.
game-Nom finally end-TA
'The game *has* finally *ended*.' (Perfective)
- (6) Daitooryoo-wa sannen maeni nihon-ni ki-ta.
president-Top three years before Japan-to come-TA
'The president *came* to Japan three years ago.' (Simple Past)

-*Te iru* encodes Resultative, Anterior, and Progressive Aspect. Since Progressive Aspect is not relevant to our discussion, only Resultative and Anterior uses are illustrated:

- (7) Ano hito-wa mada okotte iru.
that person-Top still get angry-TE IRU
'That person *is* still *angry*.' (Resultative)
- (8) Sono otoko-ni-wa sankai atte iru.
that-man-to-Top three times meet-TE IRU
'(I) *have met* the man three times.' (Anterior)

Finally, -*te shimau* encodes Anterior, Completive and Perfective:¹⁰

- (9) Ano hito-wa amerika-ni itte shimatta.
that person-Top America-to go-TE SHIMAU
'That person *has gone* to America (and is no longer here).' (Anterior)
- (10) Asu madeni kono hon-o yonde shimai nasai.
tomorrow by this book-Acc read-TE SHIMAU do:Imp
'(I order you to) *finish reading* this book by tomorrow.' (Completive/Perfective)

The primary reasons for choosing these three grams are: (i) they are sufficiently general in grammatical meaning (as compared to more specific Secondary Aspect grams -*te aru*, -*te kuru*, -*te iku* and even

⁹ The following abbreviations are used in the gloss: Acc (Accusative Marker), Gen (Genitive Marker), Ger (Gerundive Form), Imp (Imperative Marker), Neg (Negative Marker), Nom (Nominative Marker), Past (Past Tense Marker), Quot (Quotative Marker), Top (Topic Marker).

¹⁰ Ono (1992) presents a possible grammaticalization scenario of -*te shimau* based on the synchronic data. However, Ono does not discuss Perfective and Completive uses of -*te shimau*, focusing instead on "Perfect" (EOG's Anterior), "Frustrative," and "Non-volitional/evidential" uses.

more specific Tertiary Aspect grams) and each of them covers a different combination of Aspect or Tense-Aspect functions, and (ii) very importantly for our current inquiry, each seems to display a different degree of grammaticalization, thereby enabling us to test some of the hypotheses tested in EOG.

In the remainder of this section, I will examine two important hypotheses tested in EOG, i.e. “source determination” and “parallel reduction,” in the light of the three Tense and Aspect grams in Modern Japanese.

2.1. Source Determination and Parallel Reduction as Reflected in Japanese Tense-Aspect Grams

EOG presents the hypothesis that “the actual meaning of the construction that enters into grammaticalization uniquely determines the path that grammaticalization follows and, consequently, the resulting grammatical meanings” (EOG: 9). In the domains of Perfective-related Aspect and Past grams, EOG has explored the following possible paths of development (constructed on the basis of the information given in Figure 3.1, EOG: 105):

- (a) ‘be/have’ > Resultative > Anterior > Perfective/Simple Past
- (b) ‘finish’ > Completive > Anterior > Perfective/Simple Past
- (c) ‘finish’ > Completive > Derivational Perfective
- (d) ‘come’ > Anterior > Perfective/Simple Past

Figure 5. Grammaticalization Paths of Perfective-related Aspect and Past Tense Grams

The grammaticalization paths undergone by the three Japanese grams, i.e. *-ta*, *-te iru*, and *-te shimau*, accurately fit in with EOG’s hypothesis of source determining the grammaticalization paths.

Perfective and Past gram *-ta* evolves from Old Japanese Resultative/Anterior gram *-tari*, which originated as a combination of conjunctive particle *-te* and existential verb *ari* (Matsumura (1969: 129, 142)). Its development is thus correctly captured by the path (a) in Figure 5 above.

Resultative and Anterior gram *-te iru* is on the same developmental path (a) as *-ta*. Its lexical origin is even more transparent than *-ta* in that its component *iru* still functions as a matrix animate existential

verb in Modern Japanese. Unlike *-ta*, however, *-te iru* hasn't evolved into a Perfective or Past gram yet.¹¹

Finally, *-te shimau*, which includes a lexical verb *shimau* meaning "finish, put (something) away," appears to be on the developmental path (b), rather than (c), considering the range of aspectual meanings it has, i.e. Completive, Anterior and Perfective. Needless to say, however, the exact developmental path of *shimau* must be supported by historical documents.

The three Tense-Aspect grams also lend empirical support to EOG's "parallel reduction hypothesis," which states that "parallel to the growing phonological dependence on surrounding material is a growing semantic dependence on surrounding material" (EOG: 7), or to put it shortly, that "semantic reduction is paralleled by phonetic reduction" (EOG: 19).

As discussed above, *-ta* is at the most advanced stage of grammaticalization among the three grams in question as it is the only gram which encodes Simple Past, which is assigned Perfage 5 in Figure 1 above. *-Ta* encodes the most general meaning of the three grams, covering Anterior, Perfective and Past. Importantly, its semantic reduction (reduction of semantic specificity) is paralleled by its phonetic reduction (schematically represented as *-te ari* > *-tari* > *-ta*) and dependence on the surrounding material, thereby confirming EOG's parallel reduction hypothesis.

In contrast, both *-te iru* and *-te shimau*, though respectively contracted as *-teru* and *-chau* in colloquial speech, have not yet shown so much semantic reduction as to advance on their developmental paths to encode Simple Past, unlike a full-fledged Simple Past gram *-ta*.¹²

In this section, we have been able to confirm that EOG's hypotheses, i.e. source determination and parallel reduction, make overall correct predictions about the development of a subset of Tense and Aspect grams in Japanese. In the following section, we will inquire whether EOG's discussion of Modality grams is directly applicable to the Japanese data.

¹¹ Cf. Yamashita (1996) for a historical development of Resultative and Anterior grams *-te iru* and *-te aru* after Medieval Japanese.

¹² The analysis of *-te iru* and *-te shimau* in this paragraph owes much to discussions with Debra Occhi, Yasuhiro Shirai and Foong-ha Yap.

3. Remarks on EOG's Treatment of Modality Grams: A Perspective from Japanese

EOG discusses Mood and Modality in Chapter 6 and argues for general paths of development for Modalities such as the following:¹³

- (11) Agent-oriented modalities > Speaker-oriented modalities
- (12) Agent-oriented modalities > Epistemic modalities

Examples of more specific paths of development of Modalities are given as follows:

- (13) ability > root possibility > epistemic possibility
- (14) obligation > intention > future
- (15) desire > intention > future

Compared to the convincing case made in favor of universal paths of development for Tense and Aspect grams given in Chapters 3 and 5, the proposed universal paths of development for Modalities presented in Chapter 6 are not entirely convincing in the light of the development of Modality grams in Japanese.

One of the implicit assumptions underlying the hypothesized paths of development such as (11) and (12) seems to be the parallelism between different domains of Modalities, e.g. Agent-oriented Modality (e.g. ability, obligation, desire) and Epistemic Modality (e.g. possibility, probability, certainty), or Agent-oriented Modality and Speaker-oriented Modality (the modalities which are linguistically encoded by such moods as imperative, prohibitive, hortative). The parallelism between Agent-oriented Modality (traditionally referred to as Deontic Modality) and Epistemic Modality is synchronically observable in languages such as Modern English, where many non-periphrastic modal auxiliaries encode both Modalities (e.g. *may*, *can*, *should*, *must*).

However, such parallelism is not necessarily obvious in Modern Japanese, which appears to have rather different Modality grams in two domains, as shown below.¹⁴

¹³ It should be noted that only a selection of paths of development are discussed here and readers are referred to Figures 6.3-6.6 on pages 240-241 of EOG for the complete illustration of general and specific paths of development for Modalities.

¹⁴ "Modality" and its linguistic expressions have recently received much attention in Japanese linguistics in Japan (e.g. Nitta and Masuoka (1989), Masuoka (1991), Nitta (1991)), which has a long-standing academic tradition in the studies of so-called "chinjutsu," i.e. speaker's expression of his/her subjective stance as encoded either overtly or non-overtly in a sentence. Readers are referred to Onoe (1996)

Agent-oriented Modality grams

-(rar)eru, *-koto-ga dekiru* (Ability), *-nakereba naranai*, *-beki da* (Obligation), *-te mo ii* (Permission), *-tai*, *-te hoshii* (Desire) etc.

Epistemic Modality grams

-ka mo shirenai (Possibility), *-rashii*, *-yooda*, *-da roo* (Probability), *-ni chigai nai*, *-hazu da* (Certainty), *-sooda* (Conjecture or Hearsay) etc.

Figure 6. Agent-oriented and Epistemic Modality Grams in Modern Japanese

As far as Modern Japanese is concerned, there appears to be very little connection between the two types of Modality grams such that Epistemic Modality gram X (e.g. Epistemic Possibility) originally encoded Agent-oriented Modality (e.g. Ability), thereby making it very difficult to test EOG's proposed paths of development of Modality grams such as (11) and (12).

It may be objected that Old (Heian) Japanese had a more intimate connection between the two types of Modalities, as shown below:

Agent-oriented Modality Grams

-ru/raru (Ability), *-beshi*^{*15} (Obligation, Intention), *-mu*^{*} (Intention), *-mashi*^{*} (Wish), *-tashi*, *-mahoshi* (Desire) etc.

Epistemic Modality Grams

-beshi^{*} (Certainty), *-mu*^{*} (Probability), *-mashi*^{*} (Counterfactual conjecture), *-rashi* (Certainty), *-ramu* (Probability, Conjecture on current state-of-affairs) etc.

Figure 7. Agent-oriented and Epistemic Modality Grams in Old (Heian) Japanese

Indeed, Old Japanese had a handful of grams such as *-beshi*, *-mu*, and *-mashi* which encode both Agent-oriented and Epistemic

for a historical overview and assessment of studies on "chinjutsu" in Japan. Onoe (1996) notes that the notion of Modality has been extended within some schools of Japanese linguistics beyond the original sense used in Western linguistic tradition, having been applied to a variety of linguistic indicators of speaker's subjective stance, such as sentence-final particles.

¹⁵ Asterisks in Figure 7 indicate that the gram in question occurs in both domains of Modality.

Modalities (in addition, Speaker-oriented Modality as well), reminiscent of English modal auxiliaries such as *should*. However, unlike English and a number of languages documented in EOG, it seems to be very difficult to prove beyond reasonable doubt that these Old Japanese Modality grams evolve from one domain to another as both Agent-oriented and Epistemic senses (e.g. Obligation and Certainty senses of *-beshi*) appear to have been present early on (cf. Ono, Satake and Maeda (1990)).

Also it appears to be remarkable that most of Old Japanese Modality grams did not survive into Modern Japanese, except in a few instances such as *-beki da*¹⁶ (<*-beshi*) and *-tai* (<*-tashi*), as can be seen by comparing Figures 6 and 7.

These circumstances surrounding the development of Modality grams in Japanese make it very difficult to confirm general paths of development of Modality grams proposed in EOG, unlike Tense-Aspect grams in Japanese, which were shown to yield strong support to the hypotheses presented in EOG in the previous section. This striking contrast between Tense-Aspect grams and Modality-grams in terms of the degree of verifiability of EOG's hypotheses suggests the possibility that the historical development of Modality grams is more variable across languages than Tense-Aspect grams. In other words, Tense-Aspect grams are universally more constant in terms of historical development than Modality grams, which display greater cross-linguistic variability.

It is also possible that there are other paths of development of Modality grams not explored in EOG. In this connection, I would like to draw attention to the development of auxiliary *-oo/-yoo* (phonologically conditioned variants), which in Modern Japanese primarily encode a type of Speaker-oriented Modality, i.e. Speaker's Intention or Hortative (Speaker's encouragement of someone else's action). The following examples illustrate the typical uses of *-oo/yoo* in Modern

¹⁶ *Beki-da*, which in Modern Japanese encodes Agent-oriented Modality of Obligation, is particularly interesting from a historical point of view, because it evolves from Old Japanese *besi*, which encoded both Obligation (Agent-oriented Modality) and Certainty (Epistemic Modality). It presents a striking contrast to English *should*, which, according to EOG (p. 200), developed Probability (Epistemic Modality) meaning from the original Obligation (Agent-oriented Modality) meaning.

Japanese:

- (16) Sonnani iya nara, boku-ga yar-oo.
 so much hateful if I-Nom do-OO
 'If (you) don't like (to do it) so much, I'll do (it).'
- (17) Toshokan-de isshoni benkyoo shi-yoo.
 library-at together study do-YOO
 'Let's study together at the library.'

However, as pointed out by Toyama (1959), *-oo/-yoo* in early Modern Japanese also encoded a type of Epistemic Modality, i.e. Epistemic Probability. This sense of *-oo/-yoo*, which has been replaced by more periphrastic auxiliaries such as *-daroo* and *-rashii* in matrix sentence, survives into Modern Japanese in some literary-sounding embedded constructions:

- (18) Ame-ga hur-oo ga, huru-mai
 rain-Nom fall-OO even if fall-Neg Conjecture
 ga, watashi-wa iku.
 I-Top go
 'I'll go whether it *may* rain or not.'
- (19) Ano hito-ga sonna koto-o shi-yoo to-wa
 that person-Nom such thing-Acc do-YOO Quot-Top
 omowa-nakatta.
 think-Neg:Past
 'I didn't think that the person *would* do such a thing.'

Furthermore, as noted by Hotta (1969), it is commonly assumed that *-oo/yoo* derived from Old Japanese auxiliary *-mu*, which encoded Agent-oriented Modality (e.g. Intention), Speaker-oriented Modality (e.g. Hortative), and Epistemic Modality (e.g. Probability). The development from Old Japanese *-mu* to Modern Japanese *-oo/-yoo* seems to suggest the following complex developmental path of Modality gram not explored in EOG:

- (20) Agent-oriented/Speaker-oriented/Epistemic modalities (Old Japanese) > Speaker-oriented/Epistemic modalities (early Modern Japanese) > Speaker-oriented modality (Modern Japanese)¹⁷

This developmental path is supported by the well-established

¹⁷ The author acknowledges indebtedness to insightful comments from a reviewer, which led to the rethinking and radical revision of the developmental path proposed in the earlier draft of this paper.

Semantic-pragmatic Tendency proposed by Traugott and König (1991: 209):

- (21) “Meanings tend to become increasingly situated in the speaker’s subjective belief-state/attitude toward the situation.”

In this section, we have critically examined EOG’s proposed paths of development for Modality grams in the light of the data on Japanese. The Japanese data did not clearly lend support to EOG’s proposed paths of development for Modality grams, contrary to the rather striking confirmation of EOG’s hypotheses for developmental paths of Tense-Aspect grams in section 2. The Japanese data also suggest that there could be greater cross-linguistic variation in the development of Modality grams than in the development of Tense-Aspect grams, and that other paths of development not explored in EOG might present themselves if a wider range of languages are investigated.

4. How Can EOG Contribute to the Study of Japanese Grammar?

In this section, I argue for the importance of viewing Japanese language from the perspective of grammaticalization explored in EOG by pointing out some potentially interesting research topics in the grammar of Japanese.

In Section 4.4 “Morphological Typology,” EOG advocates revisiting a typology of grammatical meaning proposed by Sapir (1921) and makes the following insightful remark on the possible correlation between a morphological typology of languages and the degree of grammaticalization observable in the languages:

“If morphological typology also involves a typology of grammatical meaning, then we would expect a correspondence between the type of meaning expressed grammatically and the overall formal type of language. Let us call all the grams on the perfective and past path *perf* grams. *Isolating languages would have perf grams with low perfages, namely completives and anteriors, while inflectional languages would have perf grams with high semantic ages, namely perfectives and pasts*” (EOG: 116, emphasis added).

The above remark claims that the degree of grammaticalization of grams tends to be greater in inflectional languages than in isolating languages, and leads us to infer that agglutinating languages such as

Japanese show an intermediate degree of grammaticalization.¹⁸ In fact, as observed in Section 2 in the discussion of Aspect grams *-te iru* and *-te shimau*, Japanese has numerous grams in the various parts of its grammar whose lexical origins are either transparent or relatively easy to arrive at.

Nevertheless, it seems that traditional Japanese grammarians have not recognized the important role played by grammaticalization in affecting the grammatical structure of the Japanese language. Notable exceptions are grammarians such as Akira Mikami and Hideo Teramura, who recognized the notion of grammaticalization under the name of “*keishikika*” (lit. formalization). For instance, Mikami (1972) defines the term “*keishikika*” as follows:

“*Aru tango ga kan'yoo no kekka, ippootekina yoo hoo ni koteishite gengi kara mo sore, toki ni wa hinshi kuzure mo hikiokosu to iu yoo na baai ni sono tango wa keishikika shita to iu.*” (When a word, as a result of increase in frequency of use, becomes fossilized in usage and deviant from its original meaning, sometimes leading to its decategorization, the word can be recognized as having *become formalized*; Mikami 1972: 194, emphasis added, translation by KH)

The following are some of the examples of “formalization” cited by Mikami (1972: 197-198, translation and gloss provided by KH):

- (22) a. Hon-o makuramoto-*ni oite*, yomu.
book-Acc pillowside-*at put:Ger* read
'Putting the book *at* (his) pillowside, (he) reads it.'
- b. Hon-o makuramoto-*ni oite* yomu.
book-Acc pillowside-*at* read
'(He) reads the book *at* (his) pillowside.'
- (23) a. Hana-o *motte*, byooshitsu-o otonau.
flower-Acc *bring:Ger* hospital room-Acc visit
'Bringing a flower, (he) visits a hospital room.'
- b. Hana-o *motte* byoonin-o nagusameru.
flower-*with* patient-Acc cheer up
'(He) cheers up the patient *with* a flower.'

In the (a) examples of (22) and (23), the italicized gerundive forms

¹⁸ It must be noted that, as Shibatani (1984) points out, the degree of “agglutination” can vary among so-called agglutinating languages such as Japanese, Korean and Turkish.

of verbs, *oite* and *motte*, function as verbs. In contrast, in the (b) examples, the verbs become grammaticalized and function as postpositions together with co-occurring case particles. In each of the (b) examples, the original lexical verb thus has lost its original lexical meaning and encodes grammatical meaning of location or instrument.

As observed in the above examples and in the case of Aspect grams *-te iru* and *-te shimau* in Section 2, the process of grammaticalization of lexical verbs into grams is very commonly observed in Japanese. Importantly, the grammaticalized verbs feed into various grammatical categories and become part of the grammar of Japanese. The following figure, constructed largely on the basis of the information given in Mikami (1972: 194–198), shows the extent of this phenomenon:

Adverb: *tatoeba* ('for example' < *tatou* 'compare' + Conditional particle *ba*), etc.

Aspect gram: cf. Section 2

Complementizer: *-to iu* (Complementizer modifying NP < Quotative particle *to* + *iu* 'say')

Conjunction: *shitagatte* ('accordingly' < Gerundive form of verb *shitagau* 'follow'), etc.

Determiner: *aru* ('a certain'; < *aru* 'exist'), etc.

Modality gram: *-ka mo shire nai* ('it may be that' < Question particle *ka* + Focus Particle *mo* + *shiru* 'know' + *nai* 'Neg'), etc.

Postposition: *-ni tsuite*¹⁹ ('concerning' < Locative particle *ni* + Gerundive form of *tsuku* 'become attached'), etc.

Figure 8. Grams Involving Grammaticalized Verbs in Modern Japanese

Another area of Japanese grammar where grammaticalization is crucially relevant involves semantically bleached nouns with very general meaning, which are traditionally called "keishiki meishi" (lit.

¹⁹ Japanese and Korean have a number of postpositions involving grammaticalized verbs, referred to as "extended particle phrases" by Martin (1992: 194). Readers are referred to Takahashi (1994) for a detailed description of grammatical constructions involving grammaticalized verbs in Japanese, and to Matsumoto (1995b) for a cognitive linguistic analysis of postpositions involving grammaticalized verbs.

formal nouns) in Japanese grammar.²⁰ The following figure illustrates a subset of grammatical constructions involving grammaticalized nouns:

Aspect gram: *-tokoro da* (Progressive/Anterior < *tokoro* 'place' + Copula *da*), etc.

Complementizer: *koto* (< 'matter, thing'), *tokoro* (< 'place')

Conjunctive Particle: *-mono no* (Concessive < *mono* 'thing' + Genitive *no*), etc.

Conjunction: *tokoroga* ('however' < *tokoro* 'place' + Nominative particle *ga*), etc.

Modality gram: *-yoo da* (Epistemic Probability < Old Japanese *-yoo nari*; *yoo* 'appearance' + Copula *nari*), etc.

Figure 9. Grams Involving Grammaticalized Nouns²¹

Though Figures 8 and 9 are not exhaustive, they are sufficient to demonstrate that grammaticalization plays a very important role in shaping the grammatical structure of Japanese in both verbal and nominal domains.

The grammar of Japanese thus offers a variety of grammatical categories and constructions in which to test the grammaticalization hypotheses proposed in EOG. Take for example various mechanisms of semantic change discussed in Chapter 8 of EOG, e.g. Inference, Metaphor, Generalization, etc. It seems to be certainly worthwhile to inquire what kinds of mechanism of semantic change are at work in the grammaticalization process of Japanese, an area of research which has not been fully explored in the previous Japanese linguistic studies.²²

I would like to conclude this section by emphasizing once again the importance of "re"-viewing Japanese grammar from the perspective of grammaticalization espoused in EOG, specifically form-meaning interaction in diachrony and the actual mechanisms of semantic change.

²⁰ Readers are referred to works by Hideo Teramura (e.g. Teramura (1992)) and Kanae Sakuma (e.g. Sakuma (1983)) for the important role played by grammaticalized nouns in the grammar of Japanese.

²¹ Readers are referred to Horie (forthcoming) for a cognitive linguistic analysis of grammaticalization of overt nominalizers such as *tokoro*, *koto* and *no*.

²² Except a series of works by Yo Matsumoto (e.g. Matsumoto (1988, 1995b)).

5. Conclusion

In this article, I have critically examined some of the major hypotheses on the development of Tense-Aspect and Modality grams presented in EOG in light of data from Japanese. I have also pointed out some possible areas of research in the grammar of Japanese where the findings of EOG can be profitably applied and tested.

EOG opens up the possibility of investigating grammaticalization patterns of particular languages, including Japanese, from the perspective of diachronic form-meaning interaction. EOG is highly recommended for anyone working on the structure and history of the Japanese language, including those working in the field of Japanese linguistics, as well as for general linguists interested in comparing languages from a synchronic and/or a diachronic perspective.

Finally I would like to say a word on EOG's "Preface and Acknowledgment." This small section of the book tells us how this book developed out of the original research project by Bybee, later joined by Perkins and Pagliuca, aided and supported by numerous scholars, contributors and organizations. It gives us a good idea what a cross-linguistic research project of this scale would entail, e.g. financial support (occasionally "not in the full amount requested" (EOG: xvi)—sounds familiar?), close collaboration among researchers, assistance and consultation offered by academic colleagues, and above all, a firm determination to complete the project. It is a touching story that any hard-working linguist would empathize with.

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