[REVIEW]

*Conversion and Back-Formation in English:
Toward a Theory of Morpheme-Based Morphology*

By Akiko Nagano, Kaitakusha, Tokyo, 2008, xii+280pp.

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1. Introduction

This book is a revised version of the author's doctoral dissertation submitted to Tsuda College (Nagano (2007)). Following the introduction, the book consists of seven chapters and four appendices. It was awarded the Ichikawa Award in 2009 from the Institute for Research in Language Teaching.

The aim of the book is to explore the nature and status of conversion and back-formation (henceforth BF) in English morphology. The author limits her discussion to V(erb)-forming conversion and BF for sensible reasons. With a careful review of previous proposals and meticulous analysis of ample and detailed data, the author proposes the following.¹ First, she

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¹ This book contains not only the examples from previous linguistic literature but also abundant data from dictionaries and corpora. They are as follows:

British National Corpus.

Summers, Della, ed. (1993) *Longman Dictionary of Contemporary English*, 2nd ed., Longman, London.

Matsuda, Tokuchiro, ed. (1999) *Kenkyusha's English-Japanese Dictionary for the General Reader*, Kenkyusha, Tokyo.

The Oxford English Dictionary (OED), 2nd ed. on CD-ROM, Oxford University Press, Oxford.

Crowther, Jonathan, ed. (1995) *Oxford Advanced Learner's Dictionary of Current English*, 5th ed., Oxford University Press, Oxford.

argues that two competing models of morphology, i.e. the morpheme-based model and the word-based model, are necessary for distinct processes in morphology. Specifically, she argues that while affixation is best-analyzed in a concatenative way under the morpheme-based model, conversion is an instance of a mechanism which Lieber (1992: 159) calls “relisting.” Then she further argues that back-formation is also a type of conversion. Finally, with respect to English morphology, she concludes that the basic mechanism for its word-formation component is the morpheme-based model, with the exception of conversion and back-formation. She categorizes these as “inside-the-lexicon” processes. She further suggests that treating conversion and back formation as relisting processes separates these processes from morphology, restricting formal operations of morphology to concatenation. This amounts to claiming that there is no operation specific to morphology, since concatenation, the major word-forming operation in English, shares the same formal nature with syntactic operations.

This conclusion is very strong and is insightful into the nature of grammar, as well. This work, therefore, has further ramifications to other domains of linguistics, which I think will be crystallized through further elaboration by the author and researchers in the same field.

While meticulous in the examination of previous studies and the handling of data, there seem to be some problems in the logic of the argument, as well as missing links in the discussion, in the book under review.² In what follows, summarizing the discussion in the book I will discuss the dual hypothesis in other domains of grammar and problematic points.

2. The Hybrid Model and Its Implications

Following a description of input and output properties of V-forming conversion in Chapter 1, Chapter 2 reviews the morpheme- and word-based models of morphology.³ The author proposes a hybrid model, under which

The four appendices contain ample historical examples from the *OED* and Pennanen (1966). They constitute impressive empirical supports for the claims made in the book.

² As far as I have noticed, there are a couple of grammatical and typographical errors:

- (i) “..., as will be discussed in Chapter, 5 ...” (Nagano (2008: 4 fn. 1)) should be “..., as will be discussed in Chapter, 5”
- (ii) “Baker (1998: 698)” ((Nagano (2008: 61 fn. 1)) should be “Baker (1988: 698).”

³ With respect to regular and irregular inflections, Nagano (2008: 19ff.) cites Kiparsky (1982) and Pinker and Prince (1988) among others, and shows that converted and back-

affixation is handled as morpheme-based concatenation and conversion is treated as word-based relisting.

What is called the “morpheme-based model” in this book is proposed in works by Halle (1973) and Lieber (1992) among others. The fundamental idea is that the lexicon contains both free and bound morphemes, e.g. *build*, *film*, *society* and *-er*, and the process of concatenation creates complex words such as *builder* and compounds such as *film society*. These complex words and compounds, the output of concatenation, are not listed in the lexicon.

The word-based model, on the contrary, is advocated by Aronoff (1976), Anderson (1992) and Jackendoff (1997), to name a few. Based on cross-linguistic data of non-concatenative morphological processes, they argue that the lexicon contains only words, and “derived” words are formed by Word Formation Rules (WFRs) (Aronoff (1976), Anderson (1992)), or related by morphological correspondence rules (Jackendoff (1997)). Crucially, the lexicon in this model contains words/free morphemes (or, to be more precise, “stems” according to Anderson (1992: 71)), but affixes/bound morphemes do

formed verbs have a tendency to inflect in a regular pattern even if the original verbs are irregular verbs:

- (i) a. He grandstanded/*grandstood to the crowd.
- b. He spitted/*spat the pig.
- c. He flied/*flew out to the center field.

As for backformation cases like *sightsee* and *skywrite*, she cites more examples from Kiparsky (1982) and points out the tendency for these verbs to be more readily acceptable in infinitival and participial forms (Nagano (2008: 205ff.)). For conversion cases she attributes this tendency to “oscillation” in Jespersen’s (1942) terms, which is a consecutive occurrence of conversion in the pattern $V \rightarrow N \rightarrow V$. But this comment is problematic in two respects. First, it is not clear why doubly-converted verbs should be regularized. Second, and more seriously, this kind of “regularization” is not limited to conversion: Pinker and Prince (1988) give examples of non-converted nouns that have two inflections, regular and irregular:

- (ii) a. autumn leaves/*leafs b. Toronto Maple Leafs/*Leaves
- (iii) a. their lives/*lifes b. low lifes/*lives
- (iv) a. white mice/*mouses b. computer (?)mouses/*mice

Thus, what is crucial is not conversion, but the degree to which the original meaning is retained. In the (b) cases, the nouns in question have lost their original meanings. In other words, their original meanings have been semantically bleached, and that is the main cause of the regularization. Since this is the case with nouns, the examples in (i) should be treated on a par with nouns. In (ib) for instance, *spit* has never been converted into a noun, but the meaning has been shifted (from a human action to a cooking procedure).

not exist as lexical items.⁴

As is clear from the above description of the two models, the morpheme-based model captures facts about affixation in a straightforward manner: Since affixes are listed as morphemes with their own selectional properties and meanings (Lexical Conceptual Structure (LCS) and Argument Structure), it is natural that there should be regularities in derivation. This model, however, fails to explain mechanisms of conversion. In order to explain conversion, some researchers have posited so-called “zero morphemes,” phonetically-null affixes. But the author argues against this move, pointing out that no matter whether an affix is phonetically-null or -non-null, once one posits such elements, one should expect certain regularities in the output of such zero derivation. Yet as has been observed in the literature and described in the current work, the range of meanings that V-forming conversion can express is vast. On top of that, she argues that since English has both V-forming suffixation and prefixation, one would be forced to posit both zero suffixes and zero prefixes, leading to the proliferation of zero morphemes.^{5, 6}

The word-based model, while handling relations between the original and converted words without resorting to zero morphemes, runs into a problem in dealing with affixation. More specifically, since this model does not distinguish between affixation and conversion, it cannot explain the general-

⁴ Note in passing that the two different models are, as Anderson (1992: 72) points out, reminiscent of, or a recursion of the “Item-and-Arrangement (IA)” and “Item-and-Process (IP)” approaches in morphology (Hockett (1954)). In general, the definition of terms such as “morphemes,” “lexemes,” “listemes,” “stems” and “roots” is determined not in isolation but in the framework that each researcher adopts. Yet the author uses these terms without defining them or comparing between theories. Thus, more careful attention to this matter should have been made.

⁵ Prefixation is much more limited than suffixation both in the number of prefixes and the range of application: *en-/be-* for Locatum-without-NOT verbs and *de-/dis-un-* for Locatum-with-NOT verbs.

⁶ This second point may or may not constitute a major argument against zero morphemes, since a move analogous to this recurrently appears in syntax, i.e. abstract heads and projections. To name a few, there have been practices in generative semantics of the late 1960s to the 1970s like Lakoff (1970), articulated functional projections for inflection in the late 1980s to 1990s such as Pollock (1989), and more recent syntactic cartography for the complementizer domain as proposed by Cinque (2006). All of these syntactic analyses have received much discussion as well as criticisms, and many of the criticisms have been quite legitimate. Yet, whether positing zero morphemes is a legitimate direction or not should be discussed on a more conceptual level as well as on an empirical level.

ization in English morphology that affixation is predominant and has regular semantics while conversion is limited and has semantic versatility.

In order to reconcile the above problems, the author proposes a hybrid model under which affixation is a concatenative process with morphemes listed in the lexicon and conversion is the result of the process called “re-listing.” This is a mechanism that allows a lexical item already listed in the lexicon to re-enter as an item of a different category. This way, semantic regularities and versatilities of the respective processes are naturally captured.

Within the same domain of morphology, a similar conclusion for the “dual hypothesis” is independently motivated by Ito and Sugioka (2002). There have been debates as to whether English past tense forms are produced via “rule-based” operations for regular forms and by “associative memory” or “family resemblance” for irregular forms (Pinker and Prince (1988)), or via a kind of “learning” for both regular and irregular forms (Rumelhart and McClelland (1987)). The former argue that while regular forms need not be stored in the lexicon as they are concatenated by the productive rule of English regular past form formation, irregular forms have to be stored in the lexicon. On the other hand, the latter assume that both regular and irregular forms are stored in the lexicon and children “learn” them. Ito and Sugioka give several arguments supporting the former. In particular, on the basis of an experimental study on Japanese suffixes *-sa* and *-mi*, which nominalize adjectives (Hagiwara et al. (1999)), they conclude that *-sa* is a productive suffix, while *-mi* nominalized forms are stored in the lexicon.⁷ Their reasoning lies in the fact that Broca’s aphasics, who in general retain lexical access but are severely impaired with syntactic operations, performed much better in *-mi* suffixation, while with “gogi” aphasics, who have syntactic generative capacity rather intact yet have limited lexical access, the result was reverse. Their conclusion, therefore, is that both productive or concatenative morphological operations and lexical storage are in operation. This dual hypothesis is analogous to the present proposal, thus giving independent and indirect support for this direction.⁸

⁷ This is in accordance with earlier discussion of these suffixes by Sugioka (1986) and Kageyama (1993), among others.

⁸ Another, related but independent argument for the dual mechanism is made by Oku and Urushibara (2000). In order to explain observed regular/irregular asymmetry in the form of past participles in the case of perfect in English VP preposing, VP deletion and pseudo-clefts, they argue that there are two different mechanisms at work: concatenation

3. Semantic Aspects of Conversion

In Chapter 3, semantic aspects of conversion are discussed with critical review of three approaches: lexical-syntax, lexical semantics and sparse semantics. The author argues for the sparse semantic approach. Specifically, under this approach, a noun is converted to (or related to) its verbal counterpart by a Word Formation Rule (WFR) (Aronoff (1976)) (or a morphological correspondence rule (Jackendoff (1997))). Crucially, this kind of rule has no reference to specific meaning. The author argues that this explains semantic diversity of conversion. On the other hand, she argues that the lexical semantic approach such as advocated by Kageyama (1997) resorts to numerous different LCSs.

The author points out a semantic gap in the range of meanings of converted verbs, namely, agent incorporation and transfer-of-possession verbs. She refers to Farrell's (1998) account using the criterion of "the defining property" of the original noun, and Kageyama's (1997) Salience Principle, and argues that in either way the above interpretive gap is explained. Actually, the author seems to prefer the latter approach. It is, however, not clear to me how the process of conversion under the sparse semantic approach can have access to the scale of arguments and adjuncts in terms of salience. The author emphasizes that rejection of the lexical semantic approach does not mean rejection of LCSs altogether and that verbs do have LCSs. Yet for argumentation it is crucial that conversion process "sees" LCSs and the salience scale in order to rule out the above classes of converted verbs.

Then the author criticizes the l(exical)-syntactic approach advocated by works by Hale and Keyser. While it is true that their approach deals with only "location" and "locatum" verbs within the domain of conversion, their approach subsumes argument-structure changing alternations including transitive-unaccusative alternations (*break*, *turn*) and stative-active alternations (*clear*). So it may not be legitimate to disregard this type of approach. And it is precisely because of their focus on such alternations that they do not cover the remaining denominal conversions such as manner, instrument and duration: except for a few verbs such as *treat* and *last*, these

of items and vocabulary insertion for present participles (*V-ing*), past participles for passives and irregular past participles for perfect on one hand, and application of WFRs for regular past participles for perfect.

concepts do not enter into syntax as arguments of verbs. As for the sparse-semantic approach that the author advocates, one could say that it is just another phrase for the lexicon that specifies the collection of irregularities.

On the technical side, the author makes an argument based on Hale and Keyser's (1994) analysis of contrasts between (1) and (2) (Nagano (2008: 58ff.)):

- (1) a. John saddled the horse.
 b. John shelved the book.
 (2) a. *She churched her money.
 b. *He bushed a trim.

According to Hale and Keyser (1994), sentences in (1) are derived from the structure in (3a), while those in (2) are derived from (3b):

While Hale and Keyser (1994) rule out (3b) as an ECP violation, i.e., the head movement of *church* creates an ungoverned trace, the author points out that (3b) is a derivation based on the double object construction “give a church her money,” and that an alternative derivation like (4) based on the dative construction, namely, “give her money to a church” should be available:

She argues that on a par with (3a), this should be allowed, but the fact that the sentences like (2) are ungrammatical indicates that their analysis is untenable.

However, Hale and Keyser (2002: 30ff.) later acknowledge some difficulties with their original analysis of contrasts between verbs like *splash* and *smear*, and change their original position. Namely, P-complements are merged as fully projected. Under this analysis, the alternative derivation proposed in Nagano (2008) will not work, as it would require deletion of the preposition *to*, which is impossible at the I-syntactic or narrow syntactic level. As I point out in the next section, since it is unclear what kind of overall organization of grammar the author assumes, one cannot tell whether such deletion is possible in another module of grammar or not.

4. Categorical Aspects of Conversion

In Chapter 4, the author reviews five different approaches for the description of conversion, namely, zero derivation, the use of correspondence rules, the use of WFRs, relisting and category underspecification. She classifies these approaches from the viewpoint of whether the process is directional or not. Zero derivation, WFRs, and relisting are directional process, as opposed to correspondence rules and category underspecification, which are non-directional. Then, using the seven criteria, she concludes that conversion is a directional process. This leads her to exclude the correspondence rule and category underspecification approaches.

Then the author goes on to discuss the lexical nature of conversion, giving arguments relating to productivity, blocking, lexicalization and non-compositionality of meaning. Given these arguments, more productivity and

compositionality is expected under the zero derivation approach. Since it is not the case, the author concludes that the zero derivation approach does not capture the facts about conversion.

Next, the category underspecification approach presupposes the morphosyntactic context in which the underspecified lexical item appears, which goes against lexical properties displayed by conversion. This leaves the author the relisting approach as the only candidate.

5. Relisting Approach as the Mechanism of Conversion

Chapter 5 examines morphosyntactic characteristics of converted words and concludes that the category and meaning of a converted word is determined by its morphosyntactic context. Specifically, the author makes the following claims (Nagano (2008: 114)):

- (5) a. Conversion occurs when an item already listed in the lexicon is relisted as an item of a different category.
- b. Specific properties of a converted word, especially its category and meaning, are fixed by its morphosyntactic context.

After a diachronic survey of conversion, she focuses on conversion in present-day English, and observes that the conversion pattern is the same as in the past, and that the most favored morphosyntactic contexts in which conversion occurs are the past participle form in the passive, the infinitive form and the *-ing* form (the present participle and the gerund). With respect to syntactic contexts to signal conversion, she lists the expletive *it* (as in *foot it*), particles (as in *cat around*) and *go/come + Ving* (as in *go strawberry-ing*).

6. Back Formation and the Organization of Grammar

In Chapter 6 the author argues that BF should also be analyzed as a subtype of conversion and that it undergoes the same process of relisting. Specifically, she compares the relisting approach with the two preceding ones, a backward application of WFR (Aronoff (1976)) and the application of a morphological correspondence rule (Haspelmath (2002)). She characterizes the three English morphological processes of affixation, conversion and BF as iconic, non-iconic and anti-iconic, respectively, in terms of correspondence between semantic complexity and formal (morphological) complexity.

So, in the case of *televise_V*, under the WFR approach, a WFR of suffixing *-ion* to N (e.g. *form_V → formation_N*) is applied backward, resulting in the

deletion of *ion* from *television*_N. This causes the categorical change from N to V. But the author points out that there are cases of BF that have no model or original WFR, such as *adolescence*_N > *adolesce*_V. She also argues that although BF is an anti-iconic process where the meaning increases while the form decreases, the WFR approach is iconic and wrongly implies that the result of the backward application of WFR is a decrease in meaning. Turning to the correspondence rule approach, she refutes this with two arguments, the absence of a correspondence rule that could be induced in BFs like *liaison*_N > *liaise*_V, and the difference in productivity.

Adopting the relisting approach, she proposes that *television*_N enters into the morphosyntactic context of V as it is, and then the morphosyntactic context requires that *ion*, being identical to the nominal suffix, be deleted. So for her, the deletion of *ion* is the result rather than the cause of categorical change.

However, it is unclear where in the domain of grammar such deletion takes place. Since the author crucially relies on the morphosyntactic context, this operation cannot be done in the lexicon. Yet, according to her assumptions, it is in the lexicon that the process of relisting occurs. Now, presumably it is possible to make some phonological adjustment if we adopt the morphological structure such as proposed by Halle and Marantz (1993). Yet, their analysis presupposes late lexical insertion and this is executed by the matching of terminal symbols in the syntax and the features of lexical items. So *television*, which is initially labeled as N, can never be inserted under V.

Another possibility for the process of deletion would be that it be done in PF, but in order to make it possible, the author has to ensure that PF has access to categorial information at that point. However, since the author does not pursue this line of analysis, details are unclear to me.

7. Conclusion

Overall, the book under review is a great contribution to the domain of morphology and its relation to syntax. As I laid out in Sections 3, 4, 5 and 6, not only does the book cover the history of the development of the theory of conversion, but it also reveals many interesting aspects of conversion and backformation based on a vast and solid body of data.

Furthermore, the overall direction of the proposal of the hybrid model of word formation made in the book goes hand in hand with other recent research proposing the division of labor by more than one mechanism, as

discussed in Section 2. Therefore, I highly evaluate the book under review as a proposal of an innovative framework for English morphology.

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