

An Analysis of Deverbal Adjectivization in the Framework of Distributed Morphology

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1. Introduction

The interaction between syntax and morphology is a central topic of recent studies in the generative framework and grammatical processes which involve the interaction have been well recognized and analyzed. Central to these phenomena is deverbal adjectivization, which is defined as deriving an adjectival from the corresponding verb phrase. Since there are a variety of adjectival constructions, it is necessary to set limits to our discussion. Deverbal adjectivization is divided into two groups: “active” and “passive.” Active adjectivization and the related phenomena may be tabulated as in (1).

(1) English participial construction, [-property]		Japanese
A <i>-ing</i> : the stimulus <i>arousing a lot of anxiety</i>	-yoona -poi	-teki: <i>gorin daihyoo-o ooen-shiyoo-teki(-na)</i> 'let's support the Olympic representatives-kind'
B' <i>-ing</i> ₃ : <i>rapidly-revolving gears</i> [+prog] that <i>beer-drinking</i> character		
adjectival construction, [+property]		
B <i>-ing</i> ₂ : <i>Times-reading</i> middle classes [+permanent]	-poi ₂	-teki ₂ : <i>taishuu-keimoo-teki(-na)</i> mass enlighten suf 'mass-enlightening'
-ive ₂ : <i>dialogue-inventive</i> mind	-poi ₁	-teki ₁ : <i>kyuushin-teki(-na)</i> shisoo
C <i>-ing</i> ₁ : a striking woman		advance rapidly suf thought 'radical thought'
-ive ₁ : expansive landlords		[+Sino-Japanese]
-ing: [+Native] -ive: [+Linate]	[+Native]	

As is well-known, constructions involving *-ing* participles in English are divided into two parts: syntactic (A) and lexical (B, C) constructions. The syntactic one is called *-ing* participle construction, which exhibits sentence characteristics; *the stimulus arousing a lot of anxiety* contains an aspectual

NP-modifying clause. By contrast, the lexical one is called adjectival construction, which involves no temporary element and expresses the permanent property of an external argument, as in *Times-reading middle classes*. The suffix *-ive* has much the same features as the lexical *-ing*, as in *dialogue-inventive mind*. We notice two distinct classes of the adjectival construction, B and C and their characterization and its principled account is the main concern of the present study. The expression *that beer-drinking character* in category B' falls in the grey area between syntactic and lexical processes. The *-ing* participle construction implies not only the lexical nature of a compound (cf. **to beer-drink*) but also the syntactic nature of progressive aspect. This mixed construction seems to be syntactically extending from the adjectival construction.

A similar classification is recognized in Japanese: what corresponds to an *-ing* participle expression is essentially an NP-modifying clause accompanied by the suffix *-yoona*, although the suffix *-poi* is infrequently used as clause-modifier in a colloquial register and *-teki* is combined, to a limited extent, with clauses to produce adjectival phrases with quotative flavor. Lexical adjectivals are again classified into two groups, B and C. Each involves the suffixes *-poi* and *-teki*. *-Poi* is of native origin and it is not so productive as the Sino-Japanese suffix *-teki*. The difference in lexical stratum plays an important role in lexical competition, discussed later in § 3.3.2.¹

Our focus here is on adjectivizers of both type B and of type C, which derive an adjectival with the meaning of ‘having the nature of’ from its verbal base. Specifically, our target expressions are *-ing* and *-ive* words in English and *-teki* words in Japanese. They are extracted from British National Corpus (BNC) and Balanced Corpus of Contemporary Written Japanese (BCCWJ); we have obtained 288 types of *-ive* derived words and 156 types of *-teki* derived words.²

In Distributed Morphology (DM), a current theory of antilexicalism, the central properties of a complex word are responsible for its syntactic configuration while the role of its formal building is allotted to the morphology module, driven by an economy constraint which requires information available to each stage of computation to be narrowly restricted (Marantz 1997, Embick 2010). The analyses of denominal adjectivization (Harizanov 2018) and adjectival passive formation (Bruening 2014) have been advanced within the framework of DM. The aim of the present study is to put forward a DM-theoretic analysis of deverbal “active” adjectivization in English and Japanese to substantiate the DM model. Based on a detailed observation of deverbal adjectivals extracted from large-scale corpora, their semantic and formal characteristics are illuminated in §2 and then they are precisely accounted for in §3.

2. Two Kinds of Deverbal Adjectives

In this section, two kinds of deverbal adjectivizers are proposed to be distinguished: one is semantically transparent, productive, and argument-inheriting (*-ing₂*, *-ive₂*), and the other is semantically idiosyncratic, unproductive, and non-argument-inheriting (*-ing₁*, *-ive₁*). Adjectivals of each type are subdivided into compounds and derived forms.

2.1. Level 2

Let us first consider English adjectivization. The level 2 adjectivizers of *-ing*₂ and *-ive*₂ exhibit regular characteristics in semantic, morphological, and morphosyntactic ways. To begin with, both *-ing*₂ and *-ive*₂ are semantically transparent and they form only compositional words. As exemplified in (2), the two suffixes have the interpretation ‘that can V’ and so the derived words *loving* and *provisive* mean ‘that can love’ and ‘that can provide,’ respectively. Second, both *-ing*₂ and *-ive*₂ may inherit the arguments of their bases. In (2), the adjective *provisive* takes over the base verb’s argument *comfort and satisfaction*. In addition, *-ing*₂ yields the transparent compound *thought-stimulating* in (3), where the object *thought* of the base verb appears in the first position.

(2) The “good” parent, for the child, is *loving, caring, provisive of comfort and satisfaction*. (BNC EW8: 1175)

(3) He used homely but *thought-stimulating* examples. (BNC B2W: 1039)

There is certainly a good argument that level 2 adjectivizers are morphologically creative. One view that receives a lot of support from experimental evidence is that while highly frequent complex words are lexically stored and easily accessible, infrequent ones are generally created by some device (Hay 2003: 77-81). The hapax legomena (token frequency 1) drawn from a large corpus can thus be a considerable barometer of lexical innovations (Baayen and Renouf 1996). For measuring the creativity of each kind of adjectivizers, the hapax adjectives under discussion are extracted by a computer research for BNC. As for the level 2 suffix *-ive*₂, of a total of 263 word types in *-ive*₂ collected, 114 hapaxes of *-ive*₂ are detected (e.g. *provisive* and *cash-generative*); more than 40% of the attested word types in *-ive*₂ are innovated adjectives. These remarks certainly signify the creative nature of *-ive*₂.

The same observations hold good in Japanese level 2 adjectivizers. The suffix *-teki*₂ generates the derived word *kenshin-teki(-na)* in (4), which has the transparent meaning of ‘that can devote oneself.’ Argument-inheritance can also be seen in (4), where *-teki*₂ inherits the argument *daitooryoo(-ni)* of the underlying verb. We can see these features in the compound *taishuu-keimoo-teki(-na)* in (5). Lastly, our BCCWJ research detects as many as 49 hapaxes of *-teki*₂ among 139 word types in *-teki*₂. A large number of *-teki*₂ hapaxes attested demonstrate how creative *-teki*₂ affixation is in coining new words.

(4) *daitooryoo-ni kenshin-teki(-na)* minpei ‘militia devoting themselves to the President’ (BCCWJ)
President to devote suf militia

(5) *taishuu-keimoo-teki(-na)* ugoki ‘mass-enlightening trend’ (BCCWJ)
mass enlighten suf trend

2.2. Level 1

The deverbal adjectivizer *-ive*₁ is among level 1 affixes, which have irregular interpretations, occur only sporadically, and “disinherit” related argument structures. For instance, the *-ive*₁ derivative *expansive* in (6a) refers to ‘friendly’ and the *-ive*₁ compound *surface-active* in (6b) implies ‘tending to reduce the surface tension of a liquid.’ *-Ive*₁ is of very limited use: no hapax legomenon is found among only 25 attested *-ive*₁ word types (e.g. *affective* response, *calculative* attitude, *talkative* woman). Additionally,

words in *-ive*₁ have undergone semantic drift and so *-ive*₁ does not inherit the argument structure of its base, as in **affective of your life*, **life-affective events*.³ A similar observation applies to the Japanese suffix *-teki*₁: the meaning of *kyuushinteki(-na)* in (7a) is not just the composition of *kyuushin* ‘advance rapidly’ and *-teki* ‘that can V.’ The suffix fails to inherit the complement of a base verb (cf. *hakai-teki(-na)* *ningumi* in (7b) and **soshiki-hakai-teki(-na)* *ningumi* ‘system-destroy-like couple’). Notice, in addition, that only 17 *-teki*₁ derivatives (non-hapaxes) are detected in BCCWJ (e.g. *bakuhatsu teki(-na)* *hitto-shoohin* ‘explosive hit product’ and *kensetsu teki(-na)* *yakuwari* ‘constructive role’).

- (6) a. the world’s most *expansive* landlords (BNC CR8: 475)
 b. non-ionic *surface-active* agents (BNC ARY: 347)
- (7) a. *kyuushin-* *teki(-na)* *shisoo* ‘radical thought’ (BCCWJ)
 advance rapidly suf thought
 b. *hakai-* *teki(-na)* *ningumi* ‘strong and violent couple’ (BCCWJ)
 destroy suf couple

3. A Proposal

3.1. An Antilexicalism Model: Distributed Morphology

This section reveals that the distinct semantic and formal behaviors of the two types of adjectivals are essentially attributable to the difference of their syntactic representations. Before proposing a new analysis, let us sketch a grammatical model on which our analysis relies.

The overall parallelism of combinatory rules in word and sentence building has brought us to antilexicalism, according to which major word construction processes take place outside the lexicon. A leading antilexical model is DM, which advances two fundamental claims (Halle and Marantz 1994, Marantz 1997, Harley and Noyer 2000). One is late insertion: lexical items in Vocabulary are inserted into the terminal nodes of a syntactic derivation, motivated by an economy condition which requires only relevant information to be accessible at each point of computation (Halle 1994: 3). The other is postsyntactic morphology: a syntactic output, the origin of the core features of a complex word, is sent to the morphology module to receive some readjustments. Specifically, a series of operations like merger and impoverishment apply to the syntactic output to complete a word form.

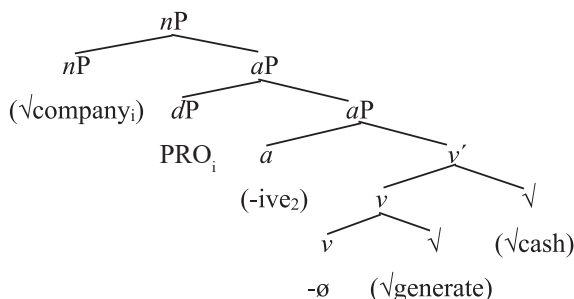
3.2. Syntactic Consideration

3.2.1. Syntactic Structure

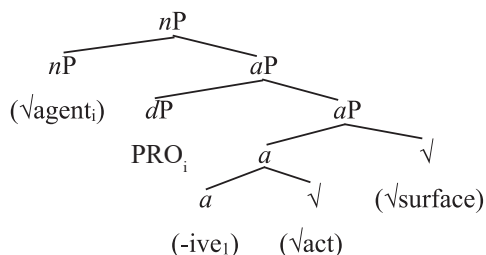
Given that the domains for word formation are classified according to the height of attachment of a head morpheme (Arad 2003), both types are structurally distinguished; the underlying structure of “low” (level 1) adjectival (e.g. *surface-active* agents/*striking* woman) and that of “high” (level 2) adjectival (e.g. *memory-enhancing* drug/*provisive* of comfort) are provided in (9) and (8), respectively.⁴ By way of comparison, the syntactic representation of the clausal equivalent is provided in (10).⁵ Root ($\sqrt{\quad}$) is defined as bound morpheme that becomes the core of a word and *a* (adjectivizer) and *v* (verbalizer) are category-

defining heads. Importantly, the high adjectival is VP-incorporating: *a* attaches to *v'* in a higher position, whereas the low adjectival is non-VP-incorporating: *a* joins to $\sqrt{\quad}$ in a lower position.⁶

(8) level 2: *cash-generative* companies



(9) level 1: *surface-active* agents



(10) [T [[√company]_{DP} [v_{CAUSE-∅} [√generate [√cash]_{DP}]_{VP}]_{VP}]_T] (Companies generate cash.)

Arad's thesis is also supported by the two-level distinction of Japanese deverbal adjectivizers, *-teki*₁ and *-teki*₂. The underlying structure of a “low” adjectival is given in (11) and that of a “high” adjectival is provided in (12).

(11) [[√shisoo]_{iNP} [[PRO]_{iDP} [[a_{-teki1} √kyuushin]_{aP}]_{aP}]_{nP} (=7a)

(12) [[√minpei]_{iNP} [[PRO]_{iDP} [a_{-teki2} [v_{-∅} √kenshin]_{vP}]_{p_{-ni}} [√daitooryoo]_{aP}]_{pP}]_{vP}]_{aP}]_{nP} (=4)

3.2.2. Evidence

The first evidence for the two-level structural distinction in adjectivization comes from the syntactic behavior of each adjectivizer. Level 2 adjectivizers like *-ive*₂ occur with a verb-modifying adverb, as in (13). This behavior follows if *-ive*₂ is syntactically outside vP, since the suffix should have semantic scope over that phrase in order to derive the appropriate interpretation of sentence (13a). In comparison, a verb-modifying adverb does not occur with a level 1 adjectival, as in (14). This indicates that *-ive*₁ affixes to a root and hence its projection involves no verb phrase.

(13) a. ... most of which were strongly *supportive* of Mrs Thatcher. (BNC APE: 128)

b. ... her expression clearly *indicative* of her alarm. (BNC H9V: 1375)

(14) *gradually *expansive* landlords, *immediately *attractive* young woman

Secondly, we can see the two-way structural distinction from a morphological point of view. A level 1 adjectival can appear as the first element of the compound pattern [A-looking]_A in (15a), whereas it does not take part in synthetic compounding as in (15b). Conversely, level 2 adjectivals in (15) cannot take the first position of an [A-looking]_A compound, while they engage in synthetic compounding. These observations can be accounted for if a synthetic compound has structure (8) and an [A-looking]_A compound has structure (16), with the adjectival being “lexicalized” as an adjective.⁷

(15) a. [A-looking]_A level 1: *interesting/attractive*-looking toys

- level 2: **buying-looking* politicians, **illustrative-looking* music
- b. [N-Vsuf]_A level 1: **boy-interesting* toys, **boy-attractive* toys
- level 2: *vote-buying* politicians, *text-illustrative* music

(16) [[$\sqrt{\text{toy}}_i$]_{nP}] [[PRO]_i]_{aP} [*a*]_{-ing2} [[*v*]_{-o} $\sqrt{\text{look}}$]_v [*a*]_{-ing1} [$\sqrt{\text{interest}}$]_a]_v]_{aP}]_{nP}

The two-part distinction in Japanese is supported morphologically as well. According to the criteria previously described, *-ka(-suru)* in (17) is a level 2 denominal/deadjectival verbalizer, since it is very productive and is compositional, just adding its meaning to that of the base. Notice that the level 2 affix *-teki₂* can join to *-ka(-suru)* derivatives as in (18a), whereas the level 1 affix *-teki₁* cannot as in (18b). It may be argued therefore that *-teki₂*, but not *-teki₁*, is outside the *vP* projection within which a *-ka-suru* verbal is derived.

(17) *min-ei-ka-suru* ‘privatize’ *kyakkan-ka-suru* ‘objectify’
 private make objective make

(18) a. *min-ei-ka-teki(-na)* *kaikaku* ‘privatizational reform’ (BCCWJ)
 kyakkan-ka-teki(-na) *kagaku* ‘objectificational science’ (BCCWJ)

- b. **kyuushin-ka-teki(-na)* *shisoo* ‘radicalized thought’ (cf. ^{OK}*kyuushin-ka(-suru)*)
 **kooatsu-ka-teki(-na)* *taido* ‘highly-pressurized, i.e. aggressive attitude’

3.2.3 Consequences

The proposed analysis has two main consequences. To begin with, the contrastive features of both adjectivals derive from the occurrence of their adjectivizers in two different syntactic positions. Semantically, an “inner” adjectivizer directly merges with a root to yield a word (*a*) as illustrated in (9) and it may have idiosyncratic meanings, since the domain below the category head *x* is reserved for lexicalized senses (Marantz 2013). Contrastively, an “outer” adjectivizer in (8) underlyingly produces a phrase (*aP*) and so it has only compositional readings. Consequently at LF, an interpretation of each adjectival follows directly from structure (8) or (9): the idiosyncratic reading of ‘tending to reduce the surface tension of a liquid’ and the compositional reading of ‘that can generate cash’ are obtained from (9) and (8), respectively. Morphologically, direct attachment of an inner adjectivizer to a root in (9) will lessen its productivity, since the unpredictable bases of the suffix are specified item-by-item in its lexical entry. In comparison, an outer adjectivizer easily creates complex words, because it attaches to a functional category in much the same way as an inflectional affix in the underlying structure of (8). Morphosyntactically outer, but not inner affixation, is typically characterized by a combinatory process whereby the features of its constituents including argument features are regularly composed. Accordingly, an outer adjectivizer can inherit the arguments of a base verb, but an inner one cannot. It has to be emphasized that an outer adjectival in (8) and its clausal counterpart in (10) have a common head-complement relation, which is crucially derived from the shared core layer (*v*’).

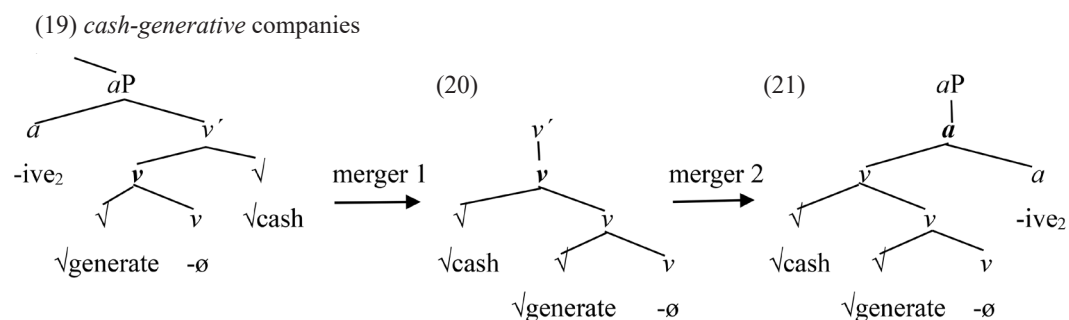
The second consequence of our antilexical approach is that it solves theoretical problems rooted in lexicalism (Aronoff 1976, Scalise 1984). The lexicalist model has the defect of making the adjectivization theory too redundant. As laid out in §3.2.1, the overall similarity is found between a “high” adjectival in

(8) and its clausal equivalent in (10). Lexicalists, however, fail to provide a unified and elegant account of the resemblance. This is because a high adjectival like *cash-generative* would be formed by a word formation rule in the lexicon and inserted under the A-node before syntactic derivation. In our antilexical scheme, the underlying structures of both an adjectival and its clausal equivalent are properly constructed by the same device, thereby eliminating the redundancy of the combinatory rules concerned. Another theoretical weakness of the lexicalist account is that it undermines the homogeneity of a module. We have already observed the creative aspects of level 2 adjectivals. In the lexicalist position, these creative adjectivals, together with unproductive ones, should be treated in the lexicon. Such a treatment, however, would weaken the homogeneity of the module, since the lexicon is generally defined as a set of listed items. Contrastively in DM, the inventive facets of level 2 adjectivals are elegantly attributable to their underlying syntactic structures.

3.3. Morphological Consideration

3.3.1. Morphological Derivation

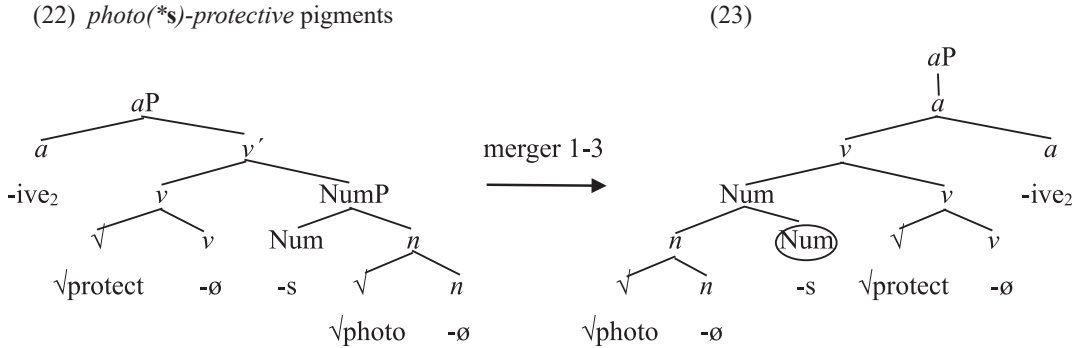
The last section focused on how the syntactic representations of level 1/2 adjectivals are made up in the DM program. In this section, we will explore how a syntactic output is shaped into a word form, taking a level 2 adjectival as an example. The syntactic output is sent to morphology, part of the PF component, where it is required to be constructed into a word form according to a set of morphological manipulations. Specifically, in the postsyntactic morphology, the syntactic product is readjusted by linearization, vocabulary insertion, and the operations of merger and impoverishment. Thus, formation of the compound *cash-generative* is carried out in a purely mechanical way:



The word *cash-generative* is built in a series of steps. In the first step, the linear order is determined; for example, in English head comes first in syntax (XP) but it comes last in morphology (X⁰). After the determination of the linear order, vocabulary items are inserted into the terminal nodes in the *aP* domain, resulting in (19). At this point, the “boundness” property of a bound morpheme comes into play: merger 1 (merger of \checkmark and *v*) is morphologically forced to apply to generate structure (20). Merger is defined as the process of combining adjacent constituents (including one that is already derived via merger) in terminal nodes into a zero-level category (Marantz 1996: 24). Subsequent merger 2 (*v*-*a* merger) is enforced to

yield structure (21), a postsyntactic morphological representation.

Let us turn next to the question of how a morphological condition applies to a readjusted morphological structure. The pre-merger structure of *photo(*s)-protective (pigments)* is given in (22). As stated above, merger is forced to apply three times in this structure: (i) *n*-Num merger, (ii) Num-*v* merger, and (iii) *v*-*a* merger. The result is the structure in (23).



In structure (23) the removal of a Num node is demanded, in accordance with a morphological condition in (24). The removal of Num is called “impoverishment”: to delete morphosyntactic features irrelevant to word construction. Condition (24) requires the absence in the constituent of X^0 of functional categories, which include [num], [d], and [p] (cf. Abney 1987: 60-68). Therefore, a compound with plural first element is generally ruled out, as in (25a). The present condition is operative in Japanese as well, as exemplified in (25b).

(24) * $[_{X^0} \dots [F] \dots]$, where [F] is [num], [d], [p], etc.

(25) a. **taxes-inclusive price*, **insects-eating animals*

b. *majo(*tachi)-gari-teki(-na)* kyanpeen ‘witch(*es)-hunting-like campaign’

*shinjin(*tachi)-kyooiku-teki(-na)* shidoo ‘newcomer(*s)-education-like guidance’

We sometimes find in English, but not in Japanese, words incompatible with constraint (24). Contrast the examples in (25a) and those in (26) below. In (26), a plural form takes place in the first position of a compound. Furthermore, Hungarian is a language which requires number to function meaningfully in word formation. That is, number contrast in incorporated constructions is morphologically marked in Hungarian. An example of noun incorporation in Hungarian is provided in (27). Note that the plural marker specifies plurality in the ordinary sense of ‘more than one’ as opposed to a generic reading. Accordingly, the easing of the constraint varies depending on individual languages and the variability in constraint relaxation can be parameterized; although Japanese seems entirely obedient to the constraint, it can occasionally be relaxed in English and Hungarian exhibits a very high degree of flexibility to it.

(26) *meals-inclusive charge* (BNC EX5: 169), *systems-thinking one* (BNC B2M: 217)

(27) Mari verseket olvas.

Mari poem.PL.Acc read ‘Mari is reading poems.’

(Farkas and de Swart 2003: 12-14)

3.3.2. Realization of Adjective Form

The form of an adjective at issue is determined by selecting an appropriate adjectivizer and inserting it into a relevant terminal node. The selection is primarily carried out by the morphological and semantic conditions of the bases. In what follows, focusing on English deverbal adjectivization, the insertion conditions of adjectivizers will be set up on the basis of extensive data. Most English deverbal adjectivals are derived by affixation of *-ive* or *-ing* and hence the realization of adjectival form at issue is essentially implemented by means of *-ive* or *-ing*.⁸ For the above reason, dealing with these suffixes, we will identify their insertion conditions, formalize them, and suggest regular competition for a choice from the adjectivizers.

There are three factors that merit special attention for setting up the morphological conditions of *-ive/-ing* bases. The first factor to note here is the selection of base category. Both *-ive* and *-ing* select the category of verb and neither of them is selective of particular subcategories. So their categorial choice is not a determinant for *-ive/-ing* distinction. The second factor relates to the lexical stratum of a base verb. While *-ing* is added to both Latinate and native verbs, *-ive* is only suffixed to Latinate ones (Jespersen 1949: 454). As evidenced in (28), *-ive* cannot attach to a native word (*forbid*) or a word with a native suffix (*-en*).

(28) *forbidding*/**forbiddive*, *softening*/**softenive* (cf. *expanding*/*expansive*)

The third morphological determinant is a base form: *-ive* exclusively joins to derived words ending in the Latinate suffix *-ate*. While *-ing* as an adjectivizer is not added to verbs ending in *-ate*, *-ive* is productively combined with these verbs. Our BNC survey has found 95 types of *X-ate-ive*, including 29 hapaxes. Some of the examples are cited in (29). The comparable *-ing* is generally not used as an adjectivizer.

(29) *educative* influence (BNC HTP: 669) (cf. ?*educating* influence), *investigative* journalists (BNC AGB: 539), *interrogative* eyebrow (BNC F9X: 3528)

Turning to a semantic condition of *-ive/-ing* distinction, the *-ive/-ing* choice is influenced by the meanings of their own. Both suffixes bear the meaning of ‘have the nature or state of,’ which originates in the feature [property]. As illustrated in the examples of (30) and (31), *-ive*, but not *-ing*, takes on additional modal readings about the range of possibility. The *-ive* adjective *protective* in (30) essentially means ‘capable of protecting’ and *selective* in (31) means ‘tending to choose carefully.’

(30) a. ... we are naturally *protective of* children ... (BNC ADE: 802)

b. *photo-protective* pigments (BNC J2R: 556)

(31) a. Be *selective of* safety features ... (BNC HX4: 1280)

b. the *age-selective* nature of the migration process (BNC EDK: 739)

3.3.3 Formalization of *-ive/-ing* Entries and Competition

From the insertion conditions identified above, we can describe the internal features and selectional conditions of *-ive* and *-ing*: these affixes have a common feature as deverbal adjectivizer, yet each requires the bases with some distinct features. These descriptions can be formalized into the lexical entry of each

affix on the basis of an underspecified model, as seen in (32)–(35). The internal features and license environment of the affixes are listed in (i) and (ii), respectively. Their complements are specified in (iii). For instance, the lexical entry of $-ive_2$ in (32) designates something like ‘ $-ive_2$ changes a verb into a (modalized) property adjective, connecting just to Latinate words and adjoining exclusively to $-ate$ forms.’ The lexical entry of $-ive_1$ in (33) entails that $-ive_1$ differs from $-ive_2$ in attaching only to a specified root.⁹

(32) $-ive_2$: (i) [property]([modal]), (ii) a , (iii) $\langle v, \text{Linate} \rangle$, $v = \{ \sqrt{\text{compete}}, \dots v^{\text{ate}} \dots \}$

(33) $-ive_1$: (i) [property]([modal]), (ii) a , (iii) $\langle \text{Root}, \text{Linate} \rangle$, $\text{Root} = \{ \sqrt{\text{affect}}, \sqrt{\text{expand}}, \dots \}$

(e.g. a *demonstrative* man)

(34) $-ing_2$: (i) [property], (ii) a , (iii) $\langle v \rangle$ (e.g. the *acid-rain-causing* compounds)

(35) $-ing_1$: (i) [property], (ii) a , (iii) $\langle \text{Root} \rangle$, $\text{Root} = \{ \sqrt{\text{interest}}, \sqrt{\text{strike}}, \dots \}$

(e.g. the *forbidding* landscape)

Under these conditions, allomorphic competition and blocking are regularly performed in local environments (Embick and Marantz 2008: 7); $-ive_2$ is selected for Latinate roots in verbal environments, especially ending in $-ate$, each of which is spelled out in its lexical entry, whereas $-ing_2$ is prevented from joining to these base forms and it is selected elsewhere. For example in *Pertwee’s indicative of deep affection* (BNC A73: 1661), $-ive_2$, conveying the modal reading of ‘tending to,’ is chosen for a Latinate root in $-ate$, inheriting the base’s argument and blocking its rival adjectivizer.

4. Conclusion

The distinction between two kinds of deverbal adjectives has received little attention in morphosyntactic studies. Focused on such a hitherto neglected area, an analysis of deverbal adjectivals in English and Japanese is carried out in the framework of DM: (i) after verifying the discrete properties of two types of adjectivals, the contrast is shown to stem solely from the structural difference of the adjectivals and (ii) substantial clarification and formalization of the insertion conditions are succinctly provided, under which an adjectival form is processed to obtain a proper phonological form. The results of the present study support the view that while syntactic computation of deverbal adjectivization is implemented universally, their morphological readjustment and vocabulary insertion can be language-specific semi-regular processes, thereby reinforcing the theory of “well-distributed” morphology.

Notes

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¹ The examples of native clausal adjectival constructions are given in (i) and those of native lexical adjectival constructions are provided in (ii).

(i) *akirakani kyusoku-shiteiru-yoona/ppoi* hito ‘clearly-take-a-rest-like person’

(ii) a. *-poi*: *shushoo erabi-ppoi* ‘prime minister election-like’

b. *-poi*; *wasure-ppoi* ‘forgetting easily’ cf. **bentoo-o wasure-ppoi* ‘forgetting lunchbox easily’

² For the detection of *-ive* derivatives, I am indebted to the research engine of www.english-corpora.org (BNC).

³ The same obtains for *-ing*; the derivatives have become lexicalized as adjectives (cf. *commanding* theory ‘superior’) and they are neither formed by a productive process nor argument-inheriting (cf. **boy-interesting* toys).

⁴ For reasons of space and clarity, only the attributive use of adjectivals is considered; the analysis of predicative use can be done in a parallel way.

⁵ No lexical item is present during syntactic derivation, though items are given here for convenience.

⁶ The affix *-ive*_J is not actually deverbal, but we call it deverbal here for ease of exposition.

⁷ [A-looking]_A compounds are enumerated in (i), which are drawn from BNC by using the “wild card” function of a research engine.

- (i) amazing-looking, arresting-looking, beguiling-looking, bruising-looking, convincing-looking, crumbling-looking, daunting-looking, depressing-looking, devastating-looking, forbidding-looking, inviting-looking, promising-looking, refreshing-looking, striking-looking, stunning-looking, tempting-looking

Further, we have examined whether the internal *-ing* adjectives in (i) can appear in a synthetic compound by the same method. As a result, no compounds of this kind have been detected (cf. **spectator-amazing* ball skills). These observations provide empirical support for the level 1 status of the relevant adjectives.

⁸ We have deverbal adjective-forming suffixes such as *-y* (*choosy*) and *-ful* (*forgetful*), but they are very limited in use.

⁹ The idiosyncratic interpretations of words and idioms (e.g. the reading ‘showing the feelings’ of *demonstrative* in (33)) are drawn from a list of irregular entries in the Encyclopedia which deals with non-compositional and extralinguistic information. For Encyclopedia entries, see Harley and Noyer 2000: 351-352.

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