

On the derivational adaptation of borrowings¹

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This paper discusses the use of derivational morphology to accommodate loanwords, a process I term the derivational adaptation of borrowings. Three types of derivational adaptation are identified: substitution, addition, and truncation of derivational affixes (DAs). Under substitution, DAs from the donor language are directly substituted with DAs from the recipient language, whereas under addition, DAs from the recipient language are added to the borrowed stem without loss of original material. Finally, truncation of the original DAs may occur following substitution or addition. The DAs used in substitutive and additive adaptation may, but need not, be derivationally productive. The derivational adaptation of borrowings is frequently optional, reflecting the non-obligatory nature of the expression of derivational meanings; however, in a given language, derivational adaptation of some groups of borrowings may become obligatory.

Keywords: *borrowing, adaptation, derivational morphology*

To the memory of Vincas Urbutis (az29–2015)

1. Introduction

As a borrowing becomes integrated into a recipient language, it typically undergoes phonological and inflectional adaptation. In some cases, derivational morphology is also involved. Consider, for example, the case of Pennsylvania German, where the suffix *-ig* replaced the English adjectival suffix *-y* in (1):

- (1) English *boss-y, funn-y* → Pennsylvania German *bass-ig, fonn-ig*
(Haugen 1950: 219)

In this paper, I will refer to borrowing processes like this, which involve derivational morphology, as derivational adaptation. I argue that derivational adaptation should be recognized as an (optional) adaptation process similar to inflectional adaptation and I identify three techniques of derivational adaptation: substitution, addition, and truncation of derivational affixes (DAs)². The data presented below are largely based on materials taken from other studies and are not representative; as such, this article must be treated as a review article and no typological, areal or genetic claims can be made.

The structure of the paper is as follows. In Section 2, I begin by reviewing the relevant literature related to derivational adaptation. Section 3 then presents the formal processes of

¹ The paper is based on a talk given at the conference Word-Formation Theories II and Typology and Universals in Word-Formation III held at Pavol Jozef Šafárik University in Košice, June 26–28, 2015. I would like to sincerely thank the audience of the conference and the anonymous reviewers of the paper for remarks and suggestions which greatly improved the present version. I am also very grateful to Caitlin Keenan for careful editing and improving the English of my article. Needless to say, all possible errors and misinterpretations are mine.

² Non-concatenative morphology is left out of the scope of the present paper.

derivational adaptation and their interpretation. Section 4 briefly touches upon the issue of productivity related to derivational adaptation, and Section 5 summarizes the main points.

2. Previous research

Haugen's influential (1950) study brings together a number of observations relevant for the derivational adaptation of borrowings. First, Haugen makes a distinction between importation and substitution of the material of the donor language, noting that, while phonetic substitution is widely recognized, the equivalent phenomenon in inflection, word formation, and syntax tends to be overlooked. Morphological (derivational) substitution is illustrated by the case of American Portuguese *bord-o* ← English *board-er*, where the agent suffix *-o* replaces *-er* (Haugen 1950: 213). Second, Haugen suggests that loans can be classified according to their degree of morphemic substitution (none, partial, or complete). Loanwords are characterized by morphemic importation without substitution, loanblends feature both morphemic importation and substitution, and loanshifts are produced by complete morphemic substitution without importation (Haugen 1950: 214).

Of most relevance to the present paper are Haugen's loanblends, which may be further subdivided into blended derivatives, which substitute "native suffixes...for the foreign" (cf. the examples of suffix replacement in (1) and American Portuguese, mentioned above), and blended compounds, which directly substitute the (root) members of compounds (cf. Pennsylvania German *bocka-buch* ← English *pocket-book*, where *buch* replaces *book*) (Haugen 1950: 219). Haugen also makes a clear distinction between loanblends and creations (formations based on borrowings), which are elsewhere sometimes fused under the notion of hybrid formations (Haugen 1950: 219, 220–222; cf. Haspelmath 2009: 39–40). The substitution of morphemes is clearly understood as adaptation, but this term is rarely used (cf. Haugen 1950: 218 in the context of loanblends)³.

Morphemic substitution was studied in more detail by Filipović (1980), who examined Croatian borrowings from English. Filipović introduces the process of transmorphemization, which he proposes to occur in three stages: (1) zero transmorphemization, when a lexeme is borrowed as a free morpheme without any bound morphemes (English *bridge* → Croatian *bridž*), (2) compromise transmorphemization, "when a loan keeps a final bound morpheme that does not conform to the borrowing language's morphological system" (English *farm-er* → Croatian *farm-er*), and (3) complete transmorphemization, when "a donor language bound morpheme which does not conform to the morphological system of the borrowing language is replaced by a borrowing-language bound morpheme (suffix) with the same function." This third stage occurs either after the second stage (English *box-er* → Croatian *boks-er* → *boks-ać*), or directly (English *strik-er* → Croatian *štrajk-aš*)⁴ (Filipović 1980: 2–5).

The morphemic substitution (or transmorphemization) theory encounters some problems when the borrowings are adapted by the addition of morphemes with non-inflectional values. For example, Filipović (1981: 201) interprets the adaptation of English borrowed

³ The adaptive function of DAs is recognized in a number of linguistic traditions. I am unable to present a comprehensive overview and will limit myself to the following examples dealing mostly with suffixal adaptation of borrowed adjectives: Czech (Karlík et al. 1995: 181), German (Fleischer 1976: 265; Munske 2015 [1980]: 429), Lithuanian (Urbutis 1978: 115).

⁴ Borrowed via German (Filipović 1980: 6).

verbs into Croatian by the addition of suffix *-a-* (also *-ov-a-*, *-ir-a-*, etc.) as complete trans-morphemization (cf. English *box*, *dock*, *interview* → Croatian *boks-a-ti*, *dok-ova-ti*, *intervju-ira-ti*)⁵, but these suffixes also function as DAs (cf. Filipović 2002: 235 on their denominal use). It is hard to treat these suffixes as replacements, because no donor-language morphemes are substituted.

Muysken (2000: 191) addresses this problem by introducing the notion of adapted stems; cf. Dutch *offr-er-en*, where the suffix *-er-* is added to the borrowed stem (← French *offr-ir*). Muysken’s proposal is further elaborated in Wichmann & Wohlgemuth (2008) and Wohlgemuth (2009), who propose an indirect insertion adaptation strategy to account for cases in which borrowed stems require special affixation before inflectional material can be added. This strategy has three distinct subtypes: (1) affixation with a verbalizer, (2) affixation with a causative/factitive affix, (3) affixation with a distinct loan-verb marker (Wohlgemuth 2009: 94–101). Of these, (1) and (2) are the most relevant for the present paper; in each case, the adaptation employs an affix that would otherwise have a derivational function.

3. Processes of derivational adaptation

In this section, I distinguish and discuss four processes of adaptation: adaptation without derivational morphology (3.1), substitution of DAs (3.2), addition of DAs (3.3), truncation of DAs (3.4).

3.1. No derivational morphology

Typically, inflectional features on a lexeme are obligatorily marked in a given language, while derivational features are optional (cf. Bybee 1985: 27). For example, if a language expresses grammatical case and number on nouns, these features will be marked on each and every instance of a noun in the language⁶; conversely, derivational meanings (such as ‘action’, ‘agent’, ‘diminutive’, etc.) will be marked only on some nouns. Derivational markers in borrowings are also expected to be optional; thus, the frequent cases of borrowing with no derivational morphology should be interpreted as default, while cases of derivational adaptation can be viewed as deviations from that standard due to language-specific preferences and motivation. Note that some lexical borrowings may even evade the marking of inflectional features on their stems, although these items typically constitute a limited group; cf. some examples in (2):

- (2) a. French *taxi* → Russian *taksi* (indeclinable N) (own data)
 b. English *top* → (colloquial) German *top* (indeclinable Adj) (duden.de⁷)
 c. French *beige* → Arabic *bijj* (indeclinable Adj) (Ryding 2005: 273)

⁵ Some verbs of this type can be interpreted as derived from borrowed nouns, but there are cases that do not seem to have nominal bases. Cf., for instance, English *train*, *kidnap* → Croatian *tren-ira-ti*, *kidnep-ira-ti* (Filipović 1981: 201, 2002: 232).

⁶ Note that zero expression also counts as marking in the case of inflectional meanings.

⁷ <http://www.duden.de/node/853059/revisions/1379777/view> (accessed on May 13, 2016).

Despite the foregoing tendencies, however, cases are attested in which derivational adaptation is obligatory for inflected borrowings; for example, any language that exclusively uses the indirect insertion strategy to adapt borrowed verbs must exhibit obligatory derivational adaptation. Wohlgemuth's (2009: 148) study suggests that almost half (48%) of the languages that employ the indirect insertion strategy use this strategy exclusively⁸.

Cases of borrowing that do not involve derivational morphology arise in two scenarios: either (a) the source is derivationally analyzable in the donor language (cf. English *box-er*), or (b) the borrowed stems do not have any derivational markers in the donor language (cf. French *taxi*, *beige*, English *top*). The scenario in (a) seems like a reasonable environment for substitution; however, substitution can be bypassed for three reasons: (1) the speakers of the recipient language (hereafter, SRLs) may be unable to analyze the source derivationally due to limited competence in the donor language, (2) the SRLs may opt not to replace the DAs, or (3) the SRLs may not have a corresponding category in their own language⁹. My data are too limited to offer a more nuanced discussion of the motivation behind (2), but perhaps productivity may play a role; that is, if a certain derivational category is unproductive in the recipient language, substitution of the corresponding DA of the donor language may not be viable. In (b), the SRLs may intend to add DAs, but find insufficient grounds to do so.

3.2. Substitution of derivational affixes

If a derivational affix in the donor (or pre-donor) language is replaced by a corresponding morpheme of the recipient language, we are dealing with the case of adaptation by substitution. Cf. (3):

- (3) a. French *érot-ique* → German *erot-isch* (duden.de¹⁰)
 b. English *strateg-ic* → Arabic *istiraatiij-iiy* (Ryding 2005: 267)

In some instances, the substitution may occur at a later stage of adaptation. The example in (4), discussed already above, shows a noun that was first borrowed into Croatian with the English suffix and then later underwent substitution to incorporate a native suffix:

- (4) English *box-er* → Croatian *boks-er* → *boks-ač* (Filipović 1980: 4)¹¹

⁸ It has to be noted that this strategy includes two derivational means (verbalizing and factitive/causative affixes) and one specialized technique (distinct loan-verb markers). Once the languages using special loan-verb markers have been excluded, the share of languages exclusively employing derivational morphology to adapt borrowed verbs is actually lower than 48%.

⁹ I would like to thank an anonymous reviewer for suggesting the third possibility.

¹⁰ <http://www.duden.de/node/853322/revisions/1613353/view> (accessed on May 13, 2016).

¹¹ As an anonymous reviewer correctly points out, the two variants can co-exist, compete, and may also develop certain stylistic or conceptual differences. For example, Filipović (1980: 7) notes that in Croatian, *bokser* is semantically distinct from *boksač*: 'brass knuckles' vs. 'prize-fighter'.

This type of derivational adaptation is similar to the replacement of inflectional markers in borrowings; cf. (5), where the Latin nominal inflection class was replaced by a corresponding Russian inflection class based on the formal identity of nominative singular:

- (5) Latin (nom. sg.) *Senec-a* → Russian *Senek-a*
 (gen. sg.) *Senec-ae* *Senek-i*
 (dat. sg.) *Senec-ae*, etc. *Senek-e*, etc. (own data)

When determining an appropriate substitution for DA in the donor language, SRLs treat the source of the borrowing as derivationally transparent and select the DA that most closely corresponds to the one present in the source structure (cf. Haugen 1950: 213, 215). Adopting this strategy therefore requires that the SRLs be sufficiently proficient in the donor language to notice the derivational relationships and to select corresponding ones (and their formal devices) from the recipient language, if they are available¹².

Suffix replacement is quite frequently encountered in the area of adjectival internationalisms in the European languages; to continue the list started in (3), one may add Bulgarian *erot-ičen*, Swedish *erot-isk*, Finnish *eroott-inen*, etc. Adjectives of this type spread by different routes of language contact, but ultimately go back to Latin and Greek: Latin *erot-ic-us* ← Greek *erōt-ik-ós*. In some cases, the replaced suffixes can be also etymologically related, as, for example, in German borrowings from French analyzed by Jones (1976: 50–51), where the French suffixes *-erie*, *-té*, *-ance (-ence)*, *-ier* are replaced by the nates *-erei*, *-tet*, *-an(t)z (-en(t)z)*, *-i(e)rer* in German and the prefixes *contre-*, *dés-*, *ra-* are sometimes substituted with the cognates *contra-*, *dis-*, *re-*.

3.3. Addition of derivational affixes

A derivational affix may be added to a borrowed stem and then followed by the inflections selected by that affix. Cf. the adjectival borrowings in (6):

- (6) a. English *super* → (colloquial) Polish *super-ow-y*
 b. English *cool* → (slang) Russian *kul'-n-yj* (own data)

When this adaptation strategy is employed, the derivational markers from the donor (or pre-donor) language are kept intact. In (7), *-ic*, *-ique*, *-ive* are followed by the Arabic and Hebrew relational suffixes *-iyy* and *-i*. Compare this example to the cases of suffix replacement in (3):

- (7) a. English *dynamic*/French *dynamique* → Arabic *diinaamiik-iyy*
 (Ryding 2005: 267)
 b. English *aggressive* → Hebrew *agressiv-i*
 (Rosenhouse & Fisherman 2008: 137)

¹² An anonymous reviewer raises the question of the extent to which the substitution of DAs can be interpreted as a conscious activity. Perhaps some (initial) cases can be treated this way, but after the pattern of adaptation is established, its application probably becomes routine.

The addition of DAs as an adaptation strategy is currently best described for verbal borrowings (Wohlgemuth 2009: 95–101). Cf. (8) from Jakarta Indonesian (Austronesian, Sundic):

- (8) English *download* → Jakarta Indonesian *download-in*
 (Wohlgemuth 2009: 97, originally from Tessa Yuditha, p.c.)

This type of adaptation is formally similar to the addition of inflectional markers (or assignment to inflection classes) in cases when the replacement of inflections cannot be assumed; cf. (9), where the original English noun and adjective have no case, number, or gender markers, but Russian and German add these elements anyway:

- (9) a. English *Bush* → Russian (nom. sg.) *Buš*
 (gen. sg.) *Buš-a*
 (dat. sg.) *Buš-u*, etc.
 (own data)
- b. English *cool* → German (nom. sg. masc.) *cool-er*
 (nom. sg. fem.) *cool-e*
 (nom. sg. neut.) *cool-es*, etc.
 (duden.de¹³)

Inflections can be also added to existing morphosyntactic markers from the donor language. This strategy is similar to the process we observed with DAs in (7). (10a) shows the preservation of the English plural *-s* before native Polish inflection, while (10b) illustrates the preservation of case endings from donor Latin:

- (10) a. English (pl.) *girl-s* → Polish (nom. pl.) *girls-y*
 (nom. sg.) *girls-a*, etc.
 (Görlach 2001: 133)
- b. Latin (nom. sg.) *Ies-us Christ-us* → Polish (nom. sg.) *Jezus Chrystus*
 (gen. sg.) *Ies-u Christ-i* (gen. sg.) *Jezus-a Chrystus-a*, etc.
 (own data)

DAs are added to borrowed stems for at least two reasons: (a) the need to mark the entrance of the borrowed stem into a certain word-class overtly, and (b) the need to explicitly link the semantics of the borrowed stem to a certain derivational scheme in the recipient language.

In the case of (a), languages seem to prefer to explicitly signal the entrance of a borrowed stem into a certain word class before adding any inflectional values to it¹⁴. The borrowed stem thus serves as a quasi-base for the derivation and the added derivational marker licenses the use of that stem as a member of a certain word class as if it were derived (= new member of the lexicon). This is certainly a secondary function of the DAs, which serve here

¹³ <http://www.duden.de/node/852214/revision/1614738/view> (accessed on May 13, 2016).

¹⁴ As one of the anonymous reviewers suggests, there may be typologically driven cross-linguistic variation with respect to the tendency to mark the word-classes of lexical bases overtly; however, the data available to me at this juncture are too limited to claim any type of link.

as a kind of naturalization device to introduce new items to the lexicon. As an illustration of this point, Jones (1976: 51) notes that French adjectives, when borrowed into German, may be suffixed with *-lich* or *-isch*, “if adjectival function requires emphasis”; cf. (11):

- (11) a. French *alexandrin* → German *alexandrin-isch*
 b. *galant* → *galant-isch*
 (Jones 1976: 91, 355)

In a similar fashion, some languages use verbalizing affixes to introduce borrowed verbs into their lexicons. Wohlgemut (2009: 95–97, 100–101) describes this technique as a subtype of the indirect insertion strategy and suggests that these affixes “generally serve the purpose of (re)assigning a lexeme to the class *verb*.” In (12), the verbalizers *-pu-* and *-ol-* are added in Pitjantjatjara (Australian, Pama-Nyungan) and Hungarian, respectively:

- (12) a. English (Australia) *pay* → Pitjantjatjara *payi-pu-wa*¹⁵
 (Wohlgemut 2009: 95–96, originally
 from Glass and Hackett 1970: 4)
 b. German *leist-en* → Hungarian *leiszt-ol*
 (Wohlgemut 2009: 95–96, originally
 from Moravcsik 1975: 5–7)

Wohlgemuth (2009: 100–101) argues against Moravcsik’s (1975) proposal to interpret these examples as cases of verbalizing derivation; instead, he contends that the verbs in these cases are only adapted through the use of DAs. The addition of DAs (when borrowed nominal bases are not available) demonstrates that adjectives can also be introduced into the recipient language by indirect insertion and there is no need to assume derivation.

Explanation (b) above arises when SRLs wish to interpret borrowed stems according to the semantic schemes (and concomitant derivational systems) of their own language. For example, borrowed nominal stems may get DAs if they belong to (or are interpreted as belonging to) certain semantic classes that are overtly marked by derivation. Jones (1976: 51, 179, 258, 297, 538) suggests that some French nominal stems receive the suffix *-er* in German out of a desire to strengthen “agentive force” or “personal ref[erence],” as in (13a-b); likewise, the suffix *-in* is sometimes added “to reinforce the feminine reference,” as in (13c-d):

- (13) a. French *carabin* → German *Karabin-er*
 b. *dragon* → *Dragon-er*
 c. *courtisane* → *Cortisan-in*
 d. *princesse* → *Prinzess-in*
 (Jones 1976: 51, 179, 258, 297, 538)

Borrowed adjectival stems may also be interpreted in a similar fashion. For example, when the English NP *craft beer* is rendered in Lithuanian, *craft* is treated as a classifying adjective and a relational suffix *-in-* (which typically marks classifying adjectives) is added; cf. (14):

¹⁵ *-wa* marks the imperative.

- (14) English *craft* (*beer*) → Lithuanian *kraft-in-is* (*alus*)
(own data)

The adaptation of some verbal loans may also be explained along similar lines, according to which the adaptation is related to the semantic features of derivational morphology. For example, a well-known subtype of indirect insertion involves the addition of factitive/causative affixes (Wohlgemuth 2009: 97–98). In (15), the borrowed English stem *miss* is introduced into the class of transitive predicates in Ma'di (Nilo-Saharan, Moru-Ma'di) with the derived causative-marking prefix, despite the fact that no proper base is available¹⁶ (cf. also the Jakarta Indonesian factitive suffix in (8)):

- (15) English *miss* → Ma'di *ĩ-mĩsi*
(Wohlgemuth 2009: 97, originally from Blackings & Fabb 2003: 69)

It seems evident that interpretations (a) and (b) can be combined in some cases: the derivational markers, originally used additively to adapt borrowings, cause the new stems to be identified as members of certain syntactic categories in the recipient lexicon; at the same time, these markers may also signal semantic properties of the new lexemes.

It is important to note that, under additive adaptation, SRLs treat the original derivational structure of the source as irrelevant (or are simply unaware of it). At times, the derivational function of the original markers winds up being doubled (or almost doubled) by the additional native morphology, as in the case of (13d), *princ-ess-in*, where French *-esse* is already a feminine suffix (added to the base *prince*) or (11a), *alexandr-in-isch*, where French *-in* already marks the relational quality of the adjective (← *Alexandrie*).

3.4. Truncation of derivational affixes

In some cases, DAs that belong to the original borrowing can be partially or fully truncated. To be recognized as a morphological adaptation, this process has to be free from phonological factors. The number of examples currently available to me is very limited and I have not found any reliable cases when morphological truncation is applied directly¹⁷. Typically, the borrowing is first adapted by affix addition or substitution and only at a later stage is the affix of the donor (or pre-donor) language truncated. For example, in (16), the German affix *-ier-* is first included in the borrowing and later truncated:

- (16) German *stud-ier-en* → Latvian *štud-ier-ē-t/studier-ē-t* → *stud-ē-t*
(own data)

Note that the German affix truncated in (16) functions as a loan adaptation device (see, e.g., Wohlgemuth 2009: 230–231); (17) presents a clearer example where the affix *-al-* is deriva-

¹⁶ If intransitive borrowed predicates are adapted by employing factitive/causative morphology, this has to be interpreted as a generalization (factitive/causative morphology for all borrowed verbs).

¹⁷ Unless cases of direct truncation (i.e. chronologically not following affix substitution/addition) of DAs can be found, this process cannot be interpreted as an independent adaptation technique, but only as a secondary process following other techniques (affix substitution/addition). I would like to thank Livio Gaeta for discussing this issue with me.

tional in its original use but is truncated at a later stage after the addition of an adaptive derivational suffix:

(17) German *zerebr-al* →¹⁸ Lithuanian *cerebr-al-in-is* → *cerebr-in-is*
(own data)

This process of adaptation is partly similar to the truncation of inflectional markers, especially in cases where the inflectional material is deleted later. For example, Hebrew (pl.) *cherubim* was borrowed into a number of European languages with its plural suffix *-im*. In some cases, this suffix has been truncated to reflect the correct singular form¹⁹, as, for example, in Polish, where *cherubin* is used alongside *cherub*²⁰.

Truncation can be attributed to the simple fact that SRLs tend to treat some segments of borrowings as redundant. This process may be tied to certain purist tendencies or language planning efforts. For example, it is known that the omission of *-ier-* in Latvian verbal borrowings, such as (16), was specifically suggested by Pārstrautu Jānis in 1881 (Bankavs & Jansone 2010: 202).

4. Productivity

The strategies of suffix substitution and addition are of interest from the perspective of morphological productivity. Just as a derivational morpheme may be understood to be productive when it is used to produce new formations based on native items or borrowed lexemes, the use of a derivational marker for adaptation also gives a (limited) indication of the marker's productivity (see Dressler & Ladányi 2000: 119–122, based on the the notions of primary/secondary productivity articulated in Wurzel 1989).

However, one has to be cautious and keep in mind that the adaptation of borrowings is a secondary function of derivational markers. If a given affix is used for adaptation, other criteria for determining its productivity should also be applied; there is always the possibility that the productivity of some affixes may be limited to adaptation of borrowings. The extreme case of this development would be a specialized loan-marking affix which may itself have been borrowed and which has no active derivational functions in a given language; see Wohlgemuth (2009: 98–100, 224–234) on loan-verb markers and Elšík (2009: 284) on *Selice Romani*, which uses special affixes (of South Slavic origin) for the adaptation of borrowed adjectives from Hungarian. Of main interest to students of derivational adaptation are those affixes with a derivational function, such as the German (borrowed) suffix *-ier*²¹, whose productivity has changed over time. In the past, *-ier-* was a productive loan-adaptation device and a derivational affix, but it is only used marginally for derivation in the modern language, and in general, German prefers direct insertion for the adaptation of borrowings (with inflections added to the borrowed stem directly) (Wohlgemuth 2009: 231).

¹⁸ Polish *cerebral-n-y* and Russian *cerebral'-n-yj* are possible mediators of the borrowing; if this is the case, the Lithuanian form has to be interpreted as adapted by suffix substitution (Polish/Russian *-n-* is replaced by Lithuanian *-in-*).

¹⁹ An alternative explanation would be to assume re-borrowing of the singular form.

²⁰ <http://sjp.pwn.pl/szukaj/cherub.html> (accessed on May 25, 2016).

²¹ See an overview of its history in Wohlgemuth 2009: 230–231.

Thus, the use of derivational markers in adaptation may, but need not, be an indicator of their derivational productivity. If a language has a number of adaptation affixes that are not derivationally productive, one may be tempted to speak of productivity ranks of adaptation affixes. In this case, affixes that are used more frequently at a certain period of time can be considered to be more productive adaptation devices.

5. Conclusions

In derivational adaptation, a borrowed stem is modified in the recipient language through a process involving derivational marking. The derivational adaptation of borrowings is generally optional, reflecting the non-obligatory nature of the expression of derivational meanings. In a given language, however, the derivational adaptation of certain groups of borrowings may become obligatory.

The process of derivational adaptation can be classified into three types, viz. the substitution, addition, and truncation of DAs. In the case of substitution, the sources of borrowings are treated as derivationally transparent and corresponding DAs of the recipient language are selected. This process parallels the substitution of bound morphosyntactic markers during inflectional adaptation of the borrowings.

Additive derivational adaptation treats the lexical sources of borrowings as quasi-bases available for derivation; the DAs in this case serve as devices to assign the borrowed stems to particular syntactic categories and to introduce these new items into the lexicon. In some cases, additive adaptation may also signal that the borrowed stem possesses certain semantic properties related to the newly added derivational affix. The addition of DAs is formally parallel to the addition of morphosyntactic markers during inflectional adaptation of the borrowings.

Finally, truncation is a process by which speakers of the recipient language come to treat the (pre-)donor language's original derivational markers as redundant; this process may be related to purist attitudes. Truncation may be a subtype of additive and substitutive adaptation; in the available data, truncation appears to always follow the addition or replacement of a derivational affix.

The DAs used for substitutive and additive adaptation may be derivationally productive in their own right, but their use for adaptation alone is not a sufficient measure of their productivity. Other (recipient-language-internal) criteria must also be brought to bear to estimate the affixes' productivity as both adaptation and derivation devices.

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