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The Categorical Status of Prefixed Words: (Re-)Examining the “Derivational” Function of *anti-* and *pro-*

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Abstract: This study modifies Naya’s (2017) analysis of so-called “adjectivalizing” prefixes and re-examines his data from the *Oxford English Dictionary (OED)*. Naya (2017) deals with *anti-* and *pro-*, which are problematic for the Righthand Head Rule in that they seemingly derive adjectives from nouns (e.g., *anti-war movement*, *pro-poperly Ministry*). With his survey of the prefixed words listed in the *OED* entries of *anti-* and *pro-*, Naya (2017) concludes that there is no strong evidence for their adjectivalizing function because most of the words labeled as adjectives in the *OED* behave as prenominal modifiers, which are not necessarily adjectives (e.g., *industry output*). However, some prefixed words are used in predicate position (e.g., *[They] are not only anti-christian, but anti-physician.*). Naya (2017) assumes that such words are adjectivalized through conversion. Although we basically follow Naya (2017), we do not accept this assumption. Instead, we argue that the relevant prefixed words in predicate position are modifiers of a deleted noun (i.e., ... *be* {*anti-N* / *pro-N*} \bar{N}); i.e., the prefixed words in predicate position are still attributive and are not necessarily adjectivalized. With this background, we re-examine some data provided in Naya (2017), deepening our understanding of the categorial status of the prefixed words.

Keywords: prefix, relational adjective, noun modification, conversion, head deletion, contrast

1. Introduction

The Righthand Head Rule (RHR) defines “the head of a morphologically complex word to be the righthand member of that word” (Williams 1981, p. 248), which has been widely acknowledged as a basic principle governing the formation of complex words. In previous studies, including Williams (1981) itself, “exceptions” such as *be-*, *de-*, *dis-*, *en-* to the RHR have been identified. These prefixes are famous problematic examples for the RHR in that they apparently have a category-changing function despite being the lefthand elements in complex words. For example, *en-* is described as deriving verbs from nouns and adjectives (e.g., *en-cage* and *en-noble*).

Arguing against this common view in the field of the relevant prefixes, Nagano (2011, 2017) demonstrates that they are not exceptions. Her main point is that the prefixes actually attach to deadjectival or denominal converted verbs (e.g., [*en-* [[*cage*]_N]_V]_V and [*en-* [[*noble*]_A]_V]_V). In this analysis, it is not prefixation but conversion that verbalizes the bases. Accordingly, the relevant prefixes are no longer problematic to the RHR.

However, there still exist potentially problematic prefixes; *anti-* and *pro-* appear to have a derivational function in some cases. For example, Plag (2003, p. 99) states that “denominal, deadjectival and deverbal [*anti-*] derivatives [behave] like adjectives,” as in (1).

- (1)
 - a. anti-war movement
 - b. Are you pro-abortion or anti-abortion?
 - c. an anti-freeze liquid

(Plag, 2003, p. 99)

Similarly, Bauer (1983, p. 218) notes that “adjectives are sometimes derived from” prefixed forms including *pro-* derivatives. For instance, Marchand (1969, p. 186) shows the examples in (2), where *pro-* words are used as prenominal modifiers.

- (2)
 - a. pro-popery Ministry
 - b. pro-transubstantiation passage
 - c. pro-Slavery action

(Marchand, 1969, p. 186)

These examples raise the question as to whether the prefixes *anti-* and *pro-* are in fact counterexamples to the RHR. If we can prove that they are not exceptions, we can provide further evidence that the RHR is strictly applicable to English. Thus, the above question is important to deepen our understanding of English morphology.

In an attempt to answer this question, Naya (2017) examines the categorial status of the nonce prefixed words labeled “adjective” that are listed in the entries of *anti-* and *pro-* of the *Oxford English Dictionary (OED)* and concludes that there is no strong evidence for their derivational function. He shows that most examples are used as prenominal modifiers as in (1a, c) and (2a–c), which are not necessarily adjectives.

The current study is a complement to Naya (2017), aiming to support and strengthen his conclusion by modifying his analysis of the predicative use of *anti-* and *pro-* words, which are exemplified by (1b), and re-examining his data. He assumes that unlike prenominal examples, such predicative examples are adjectivalized through conversion. This assumption needs careful examination because he does not consider the possibility that their “predicativity” is illusory; that is, the relevant prefixed words may modify a deleted noun. In this case, the prefixed words maintain prenominal modification and they can be analyzed in the same way as prenominal examples of the prefixed words. If so, we do not need to consider the relevant prefixed words in predicate position as adjectives. Accordingly, we will propose an alternative analysis of *anti-* and *pro-* words in predicate position based on Ishida’s (to appear) analyses of the “predicative” use of attributive-only nominal modifiers known as relational adjectives (see also Levi 1975, 1978 and Nagano 2018a).

This paper proceeds as follows. Section 2 summarizes Naya’s (2017) survey and analysis of *anti-* and *pro-* words. Section 3 proposes an alternative analysis and Section 4 re-examines the data from Naya (2017). Section 5 offers concluding remarks.

2. Naya (2017): *anti-* and *pro-* without Derivational Function

Naya (2017) retrieves 470 *anti-* words and 93 *pro-* words from the *OED* entries of *anti-* (prefix1) and *pro-* (prefix1) and classifies them according to the categorial properties of the inputs and outputs of the prefixation. The categorial status of the inputs and outputs were judged based on the *OED*. Particularly important examples here are those labeled “adjectives” that are formed by affixing *anti-/pro-* to nouns. If they are truly adjectives, the adjectivalizing function should be attributed to the prefixes. However, a careful examination of such examples shows that most of them are used as prenominal modifiers, as shown in (3) and (4).

- (3)
 - a. an anti-bank man
 - b. the anti-business speeches of the President
 - c. the genuine anti-art bias
 - d. any other anti-pollution measure

(*OED*, s.v. *anti-*; cited from Naya, 2017, p. 130, with slight modifications)

- (4) a. the pro-Annexation discussions
 b. the pro-business faction
 c. pro-gun lobbyists
 d. a pro-abortion Republican

(*OED*, s.v. *pro-*; cited from Naya, 2017, p. 131, with slight modifications)

Importantly, the pronominal examples do not prove the derivational function of *anti-* and *pro-* because, as Pullum and Huddleston (2002, p. 537) emphasize, “it is not only adjectives that can function as pre-head modifier in the structure of nominal” and “just about any noun can appear in this function,” as observed in the following examples:

- (5) brain death, bullet train, domino theory, language laboratory (Bauer, 1983, p. 204)
 (6) a. an iron rod, life imprisonment, a Sussex Village (Quirk et al., 1985, p. 1330)
 b. a metal sheet, clay soil, a top drawer, a garden fence, a morning train, a night sky, a board member (Quirk et al., 1985, p. 1332)
 (7) a government inquiry, student performance, a London park, the Clinton administration, the Caroline factor, the biology syllabus, a computer error (Pullum & Huddleston, 2002, p. 537)

That is, since “nouns can modify their subsequent nouns without turning into adjectives” (Naya, 2017, p. 131), the pronominal examples of *anti-* and *pro-* in (3) and (4) are not necessarily adjectives. Thus, the *anti-* and *pro-* words as pronominal modifiers are not problematic to the RHR.

The examples that require more careful examination include the following:

- (8) a. Those who are for a Spring Fast, are not only anti-christian, but anti-physician.
 (OED, s.v. *anti-*)
 b. When democracy is hit by foes abroad and nibbled at by foes within, organized labor is pro-war, anti-German, pro-democracy, anti-Bolshevik.
 (OED, s.v. *pro-*)

In these examples, the prefixed words are in predicate position, to which the above analysis of pronominal cases cannot be straightforwardly applied. Naya (2017) assumes that the *anti-/pro-* words in predicate position are adjectives but does not argue that the prefixes are responsible for category-changing. Instead, he argues that they are adjectivalized through conversion (or zero-derivation), as indicated in (9).

- (9) a. $[X]_N \rightarrow [anti-X]_N \rightarrow [anti-X]_A$
 b. $[X]_N \rightarrow [pro-X]_N \rightarrow [pro-X]_A$

If so, the prefixes are not responsible for adjectivalization and thus are compatible with the RHR.

This analysis, in fact, takes the same line as Quirk et al. (1985), which is not mentioned in Naya (2017). Quirk et al. (1985) focus on the categorial status of the italicized words in (10) and (11) and state that they can perhaps be regarded as adjectives “only when the noun form occurs in predicative as well as in attributive position” (p. 1562).

- (10) a. that *concrete* floor ~ That floor is *concrete*.
 b. *Worcester* porcelain ~ This porcelain is *Worcester*.
 c. those *apple* pies ~ Those pies are *apple* <informal>
 (Quirk et al., 1985, p. 412)
 (11) a. a *brick* garage ~ The garage is *brick*.
 b. *reproduction* furniture ~ This furniture is *reproduction* <BrE>
 (Quirk et al., 1985, p. 1562)

If the statement by Quirk et al. (1985, p. 412) is correct and the italicized words in (10) and (11) are truly adjectives, they are adjectivalized through N-to-A conversion. Given that Quirk et al. (1985, p. 412) consider predicativity a defining characteristic for membership in the class of adjective, we, along with Naya (2017), might regard the data in (8) as indicating that the *anti-/pro-* words are adjectives.

To sum up, Naya (2017) assumes that *anti-* and *pro-* lack the category-changing function regardless of whether their attached words are used attributively or predicatively. In his analysis, however, attributive examples as in (3) and (4) and predicative ones as in (8) differ in categorial status; while the former are nouns, the latter are to be regarded as adjectives. We basically follow Naya’s (2017) analysis but partially modify it in the next section. More precisely, we will present another possible analysis of the prefixed words in predicate position, by which we point out that their “predicativity” is not so strong an indication of adjective-hood.

3. Modifying Naya’s (2017) Analysis of *anti-/pro-* Words in Predicative Position: Head Deletion under Contrast

We follow Naya’s (2017) approach, which does not allow the prefixes *anti-* and *pro-* to function as adjectivalizers. However, we explore an alternative possibility with regard to *anti-/pro-* words in predicate position. What Naya (2017) overlooks and we pursue here is the possibility that an *anti-/pro-* word in predicate position is a stranded modifier whose head noun has been deleted. In this alternative view, the prefixed words are still attributive modifiers, as indicated schematically in (12).

- (12) a. ... *be anti-N* \cancel{N}
 b. ... *be pro-N* \cancel{N}

Given this new approach, “predicative” *anti-/pro-* words are no longer true predicates and have the same status as prenominal examples. If so, they, as well as prenominal examples, are not necessarily adjectivalized.

This approach is an application of Ishida’s (to appear) analysis to our *anti-* and *pro-* examples. He focuses on the “predicative” use of relational adjectives (RA), which are known as attributive-only modifiers. Normally, RAs do not occur in predicate position, as in (13).

- (13) a. a chemical engineer
 b. *that engineer is chemical

(Levi, 1975, p. 1)

Under certain environments, however, RAs can occur in predicate position. Ishida (to appear) begins with Levi’s (1975, 1978) observation of the contrast between the RAs in (14a)–(16a) on the one hand and the RAs with numeral prefixes in (14b)–(16b) on the other.

- (14) a. *Those drawings are chromatic. (chromatic drawings)
 b. Those drawings are monochromatic. (monochromatic drawings)
 (15) a. ?Those agreements are national. (national agreements)
 b. Those agreements are binational. (binational agreements)
 (16) a. *The population of Hawaii is racial. (racial population of Hawaii)
 b. The population of Hawaii is multiracial. (multiracial population of Hawaii)

(Levi, 1975, p. 323, with slight modifications; see also Levi, 1978, p. 24)

Levi (1975, 1978) observes that while the RAs in the (a) examples are ungrammatical (or less acceptable), their prefixed counterparts in the corresponding (b) examples are grammatical. While she does not clearly account for why these prefixed RAs can occur in predicative position, Ishida (to appear) argues that these examples can be captured by the analysis that Levi herself proposes for the cases where non-prefixed RAs occur in the predicate position. First, Levi (1978) argues that the RAs that occur in the predicate position are not true predicates but rather are attributive modifiers stranded as a result of the deletion of their modified head nouns (see also Nagano, 2016, 2018a, Shimada & Nagano, 2018). Levi (1978) then points out several environments where the head nouns can be deleted. For example, she observes that RAs are “consistently and markedly more acceptable when used in an explicit or implied comparison than when they are used alone” (Levi, 1978, p. 260), as indicated in (17)–(20).

- (17) Her infection turned out to be
 a. viral, not bacterial.
 b. viral.
- (18) Our firm’s engineers are all
 a. mechanical, not chemical.
 b. mechanical.
- (19) a. The therapy he does is { primarily musical / ?musical }.
 b. The novelists we studied were { mostly regional / ?regional }.
- (20) French electricity is 75 percent nuclear. (Nagano, 2016, p. 45; cf. Bauer et al., 2013, p. 318)

In (17) and (18), the (a) sentences are “regularly more acceptable [...] than the (b) sentences, which lack a contrasting adjective” (Levi, 1978, p. 260). The examples in (19) show that RAs “become more acceptable when preceded by qualifying adverbs such as *primarily*, *mainly*, *mostly*, or *largely* since these modifiers function in such a way as to set up an implied comparison” (ibid.). Such modifiers include those expressing percentage, as shown in (20). That is, the expression *75 percent* implies the complementary *25 percent*, and the same applies to the qualifying adverbs in (19). Under these environments, the modified noun can be deleted, stranding an RA in predicate position.

Ishida (to appear) argues that the examples in (14)–(16) with prefixed RAs can be analyzed in the same way as those in (17)–(20). For example, *monochromatic* in (17a) can be compared to other types of chromaticity such as *dichromatic*, *trichromatic*, and *multichromatic*. In these prefixed RAs, the prefixes themselves are responsible for evoking an implied comparison. In other words, the numeral prefixes play the same role as the qualifying adverbs in (19) and (20).

Interestingly, and importantly, Ishida (to appear) points out that the prefixes that can evoke comparison are not limited to numeral prefixes. He includes among such prefixes spatio-temporal prefixes (e.g., *pre-*, *post-*, *ante-*, *extra-*, *intra-*, *inter-*, and *sub-*) and contrastive prefixes (e.g., *pro-*, *anti-*, *contra-*, and *counter-*). The RAs with such a prefix can occur in predicate position, as shown by his data in (21) (emphases added) (see also Togano et al., this volume).

- (21) a. The consideration of Fallacies is *extralogical*. (OED, s.v. *extralogical*)
 b. ... a philosophy demanding that utilities shall be *prosocial* and bought forth ... (OED, s.v. *prosocial*)
 c. This is why classic Australian fiction, which at its best is *anti-colonial* and *anti-establishment*, is little read today. (The Guardian)

What is crucial here is that the prefixes *anti-* and *pro-* belong to this type. In fact, they are antonyms of each other, each evoking the existence of the other. They can therefore license head noun deletion and leave their attached RAs in predicate position.

On the basis of this analysis, it is plausible to assume that the same analysis can be applied to the cases where the prefixes in question attach to nouns as in (22), which is repeated from (8).

- (22) a. Those who are for a Spring Fast, are not only *anti-christian*, but *anti-physician*.
 b. When democracy is hit by foes abroad and nibbled at by foes within, organized labor is pro-war, anti-German, *pro-democracy*, anti-Bolshevik.
- (= (8))

That is, *anti-christian*, *anti-physician*, and *pro-democracy* are all prenominal modifiers and their modified nouns have undergone head noun deletion. For example, we can assume *people* for the modifying target of *anti-christian* and *anti-physician* in (22a), and *labor* for *pro-democracy* in (22b). In fact, the *anti-/pro-* words in these examples have the same meanings as are available when used as prenominal modifiers.

It is this analytical possibility that Naya (2017) overlooks but we propose here to better understand the categorial status of the prefixed words in question. If this analysis is correct, we do not need N-to-A conversion in the form of (23) for *anti-/pro-* words in predicate position; they are

categorially equivalent to prenominal examples, as indicated in (24), and not necessarily adjectivalized.

- (23) a. $[X]_N \rightarrow [anti-X]_N \rightarrow [anti-X]_A$
 b. $[X]_N \rightarrow [pro-X]_N \rightarrow [pro-X]_A$ (= (9))

- (24) a. ... *be anti-N* \nrightarrow
 b. ... *be pro-N* \nrightarrow (= (12))

By grouping the *anti-/pro-* words in predicate position together with prenominal ones, this analysis contributes to a more unified understanding of the prefixed words.

Note, however, that we are not arguing that the proposed analysis should be applied to *all anti-/pro-* words in predicate position. It is not necessarily the case that the words are prenominal modifiers of the deleted nouns. Some examples may be true adjectival predicates. That is, it is possible that the resultant words are ambiguous between prenominal modifiers and true adjectival predicates. This ambiguity is similar to that observed between denominal adjectives such as *monochromatic* in (25). This adjective in principle actually has two readings. First, when this adjective is used as an RA, it has the reading in (26a). In addition, this adjective can be used as a qualitative adjective (QA), though it is formally identical to the adjective used as an RA. In this case, it has the meaning in (26b), which departs from the literal meaning obtained from its constituents.

- (25) Those drawings are monochromatic.
 (26) a. drawings which have one color
 b. drawings which are drab (unvarying)

The head noun-deletion analysis is applied to the RA use; *monochromatic* is a prenominal modifier when it is interpreted in (26a). The QA use should be treated in a different way. *Monochromatic* as interpreted in (29b) is not a prenominal modifier but rather a true predicate. This QA use of *monochromatic* can be considered a result of conversion from RA to QA (see Nagano, 2018a, 2018b, for a more detailed discussion).^[1] Likewise, *anti-/pro-* words can undergo N-to-A conversion, as illustrated in (23), and acquire the status of true predicates. In this case, the resultant words will have non-literal or metaphorical meanings. The proposed analysis does not deny this possibility.

The point is that when we encounter *anti-/pro-* words in predicate position, we need to keep in mind the two possible analyses represented in (23) and (24), the latter of which is not examined in Naya (2017) but is proposed in this paper. Examining the relevant words from this perspective will allow us to understand their categorial status more correctly. In addition, the discussion so far leads us to re-examine the data from Naya (2017) in the next section.

4. Re-Examining “*anti-Adj.*” and “*pro-Adj.*” in Naya (2017): Are Their Bases Truly Adjectives?

The examples that we need to re-examine are those where *anti-* or *pro-* apparently attaches to an “adjective.” Naya (2017) argues that such examples are not problematic to the RHR because the base words are adjectives to which *anti-* and *pro-* are affixed; that is, the prefixes are not involved in category determination. The question we need to ask here is whether their bases are truly adjectives. This question does not arise when we consider the examples shown in (27) and (28).

- (27) a. the antijewish party
 b. their anti-carnivorous principles
 c. [t]his anti-ecclesiastical partisan (OED, s.v. *anti-*; cited from Naya, 2017, p. 129)
- (28) a. the pro-educational, and anti-slavery parties
 b. [t]his procompetitive government agency (OED, s.v. *pro-*; cited from Naya, 2017, p. 129)

Given that the respective base words contain adjectival suffixes, they are clearly adjectives.

However, the above question does arise when we encounter the words underlined in (29) and (30), because while their bases do not have adjectival suffixes, they are listed as adjectives in the *OED*.

- (29) a. The anti-humanist symposium.
 b. The ‘Nike B’ is designed as an antimissile missile ...
 c. These anti-patriot flings of Lessing.
 (*OED*, s.v. *anti-*; cited from Naya, 2017, p. 129)
- (30) a. He was neither anti-Italian nor pro-Arab.
 b. The telegraph says nothing of any pro-German demonstration or declaration.
 c. I tell you I’m pro-slave.
 (*OED*, s.v. *pro-*; cited from Naya, 2017, p. 129)

These examples appear to support the idea that *anti-* and *pro-* are capable of adjectivalization. However, Naya (2017) does not count these examples as evidence for their category-changing function, arguing that in (29) and (30), *anti-* or *pro-* in fact is affixed to *denominal adjectives*. His argument is based on the dates of first attestation of the base words in the *OED*. According to the *OED* entries of the base words in (29) and (30), their adjectival usages were attested earlier than the prefixed words. (31) and (32) show the first attestation dates of (i) the relevant prefixed words and (ii) nominal and adjectival usages of their bases.

(31)	a.	anti-humanist	1904	humanist	N: 1589	A: 1790
	b.	anti-missile	1956	missile	N: 1606	A: 1610
	c.	anti-patriot	1870	patriot	N: 1577	A: 1649
(Naya, 2017, p. 130)						
(32)	a.	pro-Arab	1911	Arab	N: a1287	A: ?1520
	b.	pro-German	1864	German	N: a1387	A: 1536
	c.	pro-slave	1856	slave	N: c1290	A: a1567
(Naya, 2017, p. 130)						

We see that whereas *anti-humanist*, for instance, was first attested in 1904, the adjectival usage of its base *humanist* had been attested in 1790. Given these attestation dates, it is possible to argue that *anti-* attaches to the denominal adjective *humanist*, as Naya (2017) does. However, as Naya (2017) himself points out in his note 7, it is questionable whether the examples labeled “adjective” in the *OED* are truly adjectives. The *OED* cites the example in (33) as the first attestation of the adjectival use of *humanist*.

- (33) Paul of Samosate was the first proposer of the humanist notion.
 (*OED*, s.v. *humanist*; cited from Naya, 2017, p. 129)

Note that in this example, *humanist* is used as a prenominal modifier of the noun *notion*. The same pattern can be observed in other examples shown in the *OED* entry for *humanist*, as exemplified in (34).

- (34) a. the humanist theory
 b. humanist wedding
 c. Humanist enthusiasm
 d. a good humanist script
 (*OED*, s.v. *humanist*)

As discussed in Section 2, functioning as a prenominal modifier is inadequate to indicate the adjectival status of a given word. To cite Pullum and Huddleston (2002, p. 537) once again, “it is not only adjectives that can function as pre-head modifier in the structure of nominal.” Accordingly, it is reasonable to regard the prenominal use of *humanist* as a noun.

This view of the categorial status of *humanist* (and the other examples in (31) and (32)) is preferable to Naya's (2017) original view in that it works well together with the analysis of *anti-/pro-* words we are developing in this paper; nouns as such can be prenominal modifiers. In other words, adjectival status is not a necessary condition for prenominal modification. Therefore, departing from Naya's (2017) view of the words in (29) and (30), we argue that they should be analyzed as words in which *anti-/pro-* is affixed to nouns, not adjectives. In this sense, they are grouped together with the *anti-/pro-* words in (3) and (4). This new view provides a unified approach to the categorial status of the relevant prefixed words.

5. Concluding Remarks

Starting from Naya's (2017) basic idea that the prefixes *anti-* and *pro-* are not capable of changing nouns into adjectives, this study explored the categorial status of *anti-/pro-* words and modified his analysis in the following two respects. First, we argued that the predicative examples with nominal bases are not adjectives but *nouns* whose modified targets have been deleted as a result of contrast evoked by the prefixes. Second, we argued that examples such as *anti-humanist* are nouns as well, although they are labeled *adjectives* in the *OED* even when used as prenominal modifiers. To conclude, the *anti-/pro-* words in question are nouns whose prefixes are not related to adjectivalization; we can understand their categorial status without recourse to N-to-A conversion regardless of whether they are used prenominally or predicatively.

The question we need to ask next is why nouns can be prenominal modifiers without changing into adjectives. Seen from a broader perspective, the answer seems to lie in characteristics of English. As pointed out repeatedly in this paper, adjectives are not the only category of words functioning as prenominal modifiers. On the contrary, a wide variety of elements can occur in prenominal position in English (see Levi, 1978, p. 57); in addition to nouns, adverbial and sentential elements can be prenominal modifiers, as exemplified in (35) and (36).

- | | | |
|------|---|-------------------------------|
| (35) | a. She travelled to many <i>far-away</i> places. | [‘The places are far away.’] |
| | b. I have this strange <i>under-the-weather</i> feeling. | [‘I feel under the weather’] |
| | | (Quirk et al., 1985, p. 1336) |
| (36) | a. a <i>do-it-yourself</i> job | (Quirk et al., 1985, p. 1337) |
| | b. a <i>call-it-what-you-like-but-I-call-it-chutzpah</i> attitude | (Levi, 1978, p. 57) |

Accordingly, the question should be paraphrased as follows: Why can such a variety of elements serve as prenominal modifiers? While we do not have a clear answer to this question, we point out that this characteristic may be related to diachronic change in English. In Old English, an inflection-rich language, adjectives “always agreed in case, number and gender with the nouns they modified” (Hogg, 1992, p. 138). However, this inflection has been lost in the history of English and adjectives function as prenominal modifiers without any special endings in Present-Day English. Given this change, we may assume that once such special markers are not required, other categories than adjectives may then occur in prenominal position. In this way, the inflection-freeness may be counted as one factor allowing for prenominal modification by a wide variety of elements. To answer the question above, this kind of diachronic perspective should be taken into consideration.^[2] The consideration in this line will be a first step to better understand the categorial status of prefixed words and their prenominal modification function.

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Notes

- [1] This “conversion” is not accompanied by category changes. One might think that this type of operation should not be counted as conversion. However, this process can be regarded as at least *secondary conversion*, which changes secondary classes within a single syntactic category (e.g., from an intransitive verb to a transitive one). See Quirk et al. (1985, pp. 1563–1564) and Namiki (1985, pp. 73–75) for this word-formation process.
- [2] Another related question is: What semantic function does prenominal position have (cf. Feist, 2012)? If prenominal modification is not an exclusive feature of adjectives, we cannot understand it by studying the semantics of adjectives alone. In addition to the inherent semantic characteristics of modifiers, we should explore a semantic mechanism relating various elements to prenominal position, and further to their modified targets (see Ishida 2019 and Ishida & Naya to appear for related issues).

References

- Bauer, L. (1983). *English word-formation*. Cambridge: Cambridge University Press.
- Bauer, L., Lieber, R., & Plag I. (2013). *The Oxford reference guide to English morphology*. Oxford: Oxford University Press.
- Feist, J. (2012). *Premodifiers in English: Their Structure and Significance*. Cambridge: Cambridge University Press.
- Hogg, R. M. (1992). Phonology and morphology. In R. M. Hogg (Ed.), *The Cambridge history of the English language, Volume I: The beginnings to 1066* (pp. 67–167). Cambridge: Cambridge University Press.
- Ishida, T. (2019). Frame-based adjectives: A proposal for a third type of adjective. Poster presented at the 15th International Cognitive Linguistics Conference.
- Ishida, T. (to appear). Prefixed relational adjectives in English. *JELS*, 37.
- Ishida, T. & Naya, R. (to appear). Qualitative adjectives as reference modifiers in Japanese. Papers from the 20th National Conference of the Japanese Cognitive Linguistics Association.
- Levi, J. N. (1975). The syntax and semantics of nonpredicating adjectives in English. Doctoral dissertation, The University of Chicago.
- Levi, J. N. (1978). *The syntax and semantics of complex nominals*. New York: Academic Press.
- Marchand, H. (1969). *The categories and types of present-day English word-formation: A synchronic-diachronic approach* (2nd ed.). Munich: C. H. Beck.
- Nagano, A. (2011). The right-headedness of morphology and the status and development of category-determining prefixes in English. *English Language and Linguistics*, 15, 61–83.
- Nagano, A. (2016). Are relational adjectives possible cross-linguistically?: The case of Japanese. *Word Structure*, 9(1), 42–71.
- Nagano, A. (2017). Gendai eigo no haseisetsuji *en-* wa hontoni RHR no ihan ka? (Is the derivational suffix *en-* in Present-day English a true exception to RHR?). In T. Nishihara, S. Tanaka, N. Hayase, & T. Ono (Eds.), *Gendai gengo riron no saizensen* (The frontier of modern linguistic theories) (pp. 77–93). Tokyo: Kaitakusha.
- Nagano, A. (2018a). A conversion analysis of so-called coercion from relational to qualitative adjectives in English. *Word Structure*, 11(2), 185–210.
- Nagano, A. (2018b). How do relational adjectives change into qualitative adjectives? *JELS*, 35, 273–279.
- Namiki, T. (1985). *Gokeisei* (Word Formation). Tokyo: Taishukan.
- Naya, R. (2017). The apparent category-changing function of prefixes in English: A preliminary study of “adjectivalizing” prefixes. In Y. Ono & M. Shimada (Eds.), *Data Science in Collaboration, Volume 1* (pp. 125–134). Tsukuba: General Affairs Supporting Center, University of Tsukuba.
- OED: *Oxford English Dictionary* on-line. Oxford University Press. Retrieved from <http://www.oed.com/>
- Plag, I. (2003). *Word-formation in English*. Cambridge: Cambridge University Press.
- Pullum, G. K. & Huddleston, R. (2002). Adjectives and adverbs. In R. Huddleston & G. K. Pullum (Eds.), *The Cambridge grammar of the English language* (pp. 525–595). Cambridge: Cambridge University Press.
- Quirk, R., Greenbaum, S., Leech, G., & Svartvik, J. (1985). *A comprehensive grammar of the English language*. London: Longman.
- Shimada, M. & Nagano, A. (2018). Relational adjectives used predicatively (but not qualitatively): A comparative-structural approach. *Lexique*, 23, 62–89.
- Togano Y., Odagiri, N., & Ishida, T. (this volume) Prefixed relational adjectives and their predicativity in English. In Y. Ono & M. Shimada (Eds.), *Data Science in Collaboration, Volume 3* (pp. 11–21). Tsukuba: General Affairs Supporting Center, University of Tsukuba.
- Williams, E. (1981). On the notions ‘lexically related’ and ‘head of word’. *Linguistic Inquiry*, 12, 245–274.