

## *Is Shiroi Howaito? English Loanword Modifiers in Contemporary Japanese*

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### **Abstract**

Historical contact between English and Japanese led to the extensive introduction of English-based lexicon. Although, the Japanese language had successfully incorporated Chinese-based written system and a considerable number of Chinese loanwords, the contact with the English language due to the political and historical factors was drastic and uncontrollable.

According to different estimates loanwords constitute about 10% of Contemporary Japanese Lexicon and this percentage keeps increasing due to the constant borrowing from English. The inflow of loanwords results in the increase of near synonymic pairs (with one word being of native or Sino-Japanese origin, and another being of English origin). There is a number of problems loanwords cause to speakers and learners of Japanese, as well as to Japanese learners of English. Stanlaw (2010) singles out several problems that English loanwords pose for the learners of Japanese, such as, ‘Students believe English loanwords mean the same thing as their original words do in English.’ or ‘English loanwords seem to reflect a Japanese copy-cat mentality’.

Present research aims at clarifying the use of the particular group of English loanwords – English adjectives-based loanword modifiers<sup>1</sup>. Based on the data from Balanced Corpus of Contemporary Written Japanese (BCCWJ by National Institute of Japanese Language and Linguistics) we demonstrate the constraints on the use of loanword modifiers and argue that the extensive borrowing of English words is one of the ways for the Japanese culture to differentiate between similar phenomena of native and foreign origin.

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<sup>1</sup> In this paper we use the terms adjectives-based loanword modifiers, loanword adjectival modifiers, adjectival modifiers, *gairaigo* modifiers interchangeably.

## Introduction

The contact between English and Japanese that started in the mid-19<sup>th</sup> century and drastically increased after WWII led to the extensive borrowing of English words into Contemporary Japanese vocabulary. For many decades the problem of active lexical borrowing from English and other European languages into Contemporary Japanese has been addressed from various perspectives. Some researchers were interested in the processes of English loanwords assimilation (Kay, 1995; Irwin, 2011), others studied semantic changes in loanwords (Daulton, 2008), and still others focused on the sociolinguistic nature of this phenomenon (Loveday, 1986, 1996). Most of the previous studies are dealing with loanword nouns, however, adjective-based loanword modifiers, i.e., words that are adjectives in the donor language (mostly English), and often used as adjectival modifiers in the recipient language (Japanese), were not sufficiently studied.

There is an important difference between loanword nouns and loanword adjectival modifiers. While loanword nouns are considerably more numerous than adjectival modifiers (which is the case, when lexical borrowing happens in most languages), most of loanword nouns are used to fill lexical gaps (refer to Section 2). Therefore, they have clear usage constraints, and do not have near synonyms in the recipient language, i.e., Japanese.

On the other hand, most loanword adjectival modifiers do not introduce any conceptually new phenomena, and, therefore, they may have at least one corresponding native or Sino-Japanese near synonym. Therefore, the problem of the constraints imposed upon the use of loanword adjectival modifiers, and the differentiation between loanword modifiers and the corresponding near synonyms of other origin requires a deeper research.

For example, there are a lot of near synonymic pairs like *hotto* and *atsui* meaning ‘hot’, *gurē* and *haiiro* meaning ‘grey’, *rongu* and *nagai* meaning ‘long’, etc. The differentiation between previously mentioned near synonyms poses a serious problem for both native speakers and learners of Japanese. Native speakers are overwhelmed with the abundance of foreign language-based lexicon, while the learners of Japanese do not poses a native speakers’ introspection to choose the appropriate near synonym.

This paper aims to investigate the tendencies of collocation patterns of loanword adjectival modifiers of English origin with the help of data from the Balanced Corpus of Contemporary Written Japanese (BCCWJ). We try to detect the connection between the origin of the adjectival modifiers and the origin of the nouns they are used to modify.

Firstly, we will give a brief description of etymological strata of Contemporary Japanese, and illustrate how it results in the problem of near synonyms in section 2. Then, in section 3, we will introduce some related previous studies and their limitations. Sections 4 and 5 are devoted to the description of the hypothesis, testing it on corpus data, and analyzing the results. Finally, in section 6 we will present some discussion of the results and explain the limitations of the present study.

### **Etymological Strata of Contemporary Japanese Lexicon and the Problem of Near Synonyms**

The structure of the Japanese lexicon<sup>2</sup> is a complex and rapidly developing system. Japanese vocabulary is traditionally divided into three main strata of words (Irwin, 2011) based on their origin: 1) *wago*<sup>3</sup> – native Japanese words; 2) *kango* – words of Chinese origin; and 3) *gairaigo* - words borrowed from English and other languages (mostly European, but not only), excluding Chinese. In this paper we mostly follow Irwin's (2011) general description of each stratum as presented below.

As it was previously mentioned, the variety of lexical strata of the Contemporary Japanese lexicon results in numerous near synonyms of different origin. For example, the concept COLOR can be expressed by at least three words of different origin: native - *iro* (色・いろ), Sino-Japanese – *shikisai* (色彩) and English-based loanword - *karā* (カラー), written in different scripts: *kanji* (Chinese ideographic characters) or *hiragana* (a type of Japanese syllabary), *kanji* (Chinese ideographic characters), and *katakana* (a type of Japanese syllabary), respectively.

*Orthography* is one of the ways of differentiating between near synonyms of different origin, the choice of particular orthographic style, and, therefore, one of the near synonyms can be motivated by a number of reasons, such as register conventions, target audience, stylistic effect etc.

There is also a historically developed stylistic constraint differentiating the use of

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<sup>2</sup> In this paper the terms 'lexicon' and 'vocabulary' are used interchangeably.

<sup>3</sup> There are several transliteration systems, but in the present research we will follow Hepburn transliteration system to write Japanese words.

native and Sino-Japanese near synonyms. Since a lot of Sino-Japanese vocabulary was introduced via written sources from China in different historical periods, there is a strong tendency to use Sino-Japanese lexicon in written speech, as opposed to the use of native vocabulary in spoken Japanese.

There are slightly different numbers given on the percentage of loanwords in Contemporary Japanese lexicon, however most of the researchers would agree that no less than 8% of contemporary Japanese vocabulary is of English origin (e.g. Stanlaw, 1982), and the number of loanwords is growing. Daulton (2008) states that “English words have become especially important since WWII, and these loanwords have become genuine parts of the Japanese lexicon, found in daily conversation and the world of letters” (Daulton, 2008, p.11). With the introduction of new technology and sciences as well as new Western-based life style *gairaigo* can be found in all registers of Contemporary Japanese. Therefore, *gairaigo* near synonyms seem to compete with both native and Sino-Japanese near synonyms.

On the one hand, excessive and inappropriate use of loanword near synonyms over native near synonyms can cause distress and misunderstanding among Japanese native speakers as well. In 2013 Japan’s broadcasting company NHK was sued over use of English words by one of its viewers, who was claiming that the use of loanword near synonyms over native ones complicates the understanding and is unnecessary in many cases.

On the other hand, the appropriate choice and use of near synonyms is very challenging for learners of Japanese. Stanlaw (Stanlaw, 2010) demonstrates four problems that English loanwords cause for learners of Japanese, who are English native speakers or have some command of English. For example, one of the problems is that “Students believe English loanwords mean the same thing as their original words do in English.” Another problem is that some “Students believe an English loanword can just substitute for a native Japanese term.” To some learners of Japanese “English loanwords seem simply random and arbitrary.” or “seem to reflect a Japanese copy-cat mentality.” (Stanlaw, 2010, p. 53-56) Thus, the appropriate use of English loanwords is a multi-facet and acute problem for both naïve speakers and learner of Japanese.

To summarize this section, Contemporary Japanese has a complex structure integrating words of different origin, which results in the abundance of near synonyms. Although corresponding native vs. Sino-Japanese near synonyms have worked out the

differentiation in their functions due to the peculiarities of cultural contact and long history of assimilation, English-origin near synonyms in many cases still do not have clear-cut constraints on their use and are perceived as ‘competing’ with both native and Sino-Japanese near synonyms.

### **Limitations of Previous Studies of Gairaigo in Contemporary Japanese**

In the Introduction we already mentioned that loanwords in Japanese had been a topic of various studies by both native and foreign linguists. The main approaches to the research related to loanwords include phonetic and morphological assimilation of *gairaigo* (Kay 1995, Irwin 2011, etc.); semantic changes (Daulton 2008, etc.); influence of *gairaigo* on the Japanese language acquisition (Stanlaw 2010, Rebuck, etc.), and sociolinguistic impact and influence (Loveday 1986, 1996, etc.).

Since the function of English loanwords is tightly interconnected with the development of the Japanese society, one of the attempts to address the problem of differentiation between loanwords (*gairaigo*) as opposed to native (*wago*) and/or Sino-Japanese (*kango*) near synonyms was by Loveday (1996), who suggested that the occurrence of the near synonymic pairs *wago/kango* vs. *gairaigo* is the result of the “*Westernization of Japanese culture*” and these pairs exist “*in semantic opposition where a word referring to a Western phenomenon is English-based and ‘complementary’ with a word deriving from (Sino-) Japanese and referring to a related version of the phenomenon belonging to native culture*” (Loveday, 1996, p. 81). Thus, loanwords and native and/or Sino-Japanese near synonyms have different phenomena they refer to in the reality.

In this study we will call Loveday’s hypothesis the Hypothesis of Referential Foreign vs. Native Dichotomy (HRFND). According to Loveday, Contemporary Japanese has a relatively clear-cut opposition between *wago/kango* vs. *gairaigo* near synonyms for concrete nouns, i.e., *gairaigo* concrete nouns are used to name foreign phenomena, while (Sino-) Japanese words are used to name native phenomena. For example, *futon* (‘quilted bedding’) vs. *beddo* (‘bed’), etc.

Loveday’s hypothesis and the examples he provides deal with near synonymic concrete nouns. However, it is not clear how to apply HRFND to the differentiation of abstract nouns or adjectival modifiers. The examples provided are also quite limited and based on questionnaires and mass-media usage. Thus, the general tendency of loanwords use in Contemporary Japanese is not fully illuminated.

Another interesting approach was introduced by Rebeck (2002), who tried to single out 3 main functions of English loanwords. The functions of loanwords in Contemporary Japanese include:

① Filling ‘lexical gap’: naming ‘things or ideas when no equivalent native word exists’, e.g. *rajio* (‘radio’), *roketto* (‘rocket’).

② ‘Substitute for native equivalents to achieve some kind of special effect’. This function includes a number of sub-functions such as ‘conveying “Western qualities”’, ‘using English to be trendy and modern’, ‘triggering “ethnocentric stereotypes”’, ‘changing the image’ of something old fashioned, ‘telling East from West’, and ‘providing supplementary vocabulary’.

③ Euphemistic function: using loanwords ‘because the native equivalent sounds too direct’ or it has ‘negative evaluation’, e.g., *shirubaa* (silver for ‘senior citizen, pensioner’, instead of a more explicit terms, like *roujin* ‘old person’ or *nenkin seikatsusha* ‘pensioner’).

Although function ① is clear, since it is one of the main functions of loanwords across languages, it is questionable if there is a valid point for differentiating functions ② and ③. We can consider that euphemism is also ‘some kind of special effect’, because it allows of referring to some phenomena in a polite and indirect way. Rebeck as well as Loveday gives mostly examples with loanword nouns, and does not consider other categories. If we look more carefully at the sub-functions of function ②, we can see that they are not consistent, and some of them, such as ‘providing supplementary vocabulary’ is overlapping with function ①.

Therefore, we can say that most of the previous studies are focused on loanword nouns, but loanword adjectival modifiers and their collocations are not investigated thoroughly. In addition, a lot of previous studies are based either on questionnaires or newspapers/magazines data. Finally, most of the studies are descriptive and do not provide any guidelines or constraints for learners of the Japanese language on functions and use of loanwords that have native or Sino-Japanese near synonyms.

### **Present Research: Research Questions and Working Hypothesis**

In the previous sections we demonstrated that, although English loanwords had been investigated from various perspectives, so far not enough attention was given to loanword adjectival modifiers and their collocations.

Therefore, in the present research we will address the problem of usage constraints of English-origin loanword modifiers in Contemporary Japanese. We will try to clarify the following research questions. What kind of nouns are loanword adjectival

modifiers are used to modify? Is there any tendency? Can we determine the constraints of the usage of loanword (*gairaigo*) modifiers?

To address these issues Bordilovskaya (2012) conducted a corpus study which illuminated that most loanword color terms were more frequently used to modify loanword nouns rather than nouns of other origin. On the basis of the findings it was assumed that there was a tendency for homogeneity of the origin of members of collocations with some *gairaigo* modifiers in Contemporary Japanese (Bordilovskaya, 2012). This assumption is at the core of Homogeneous Collocation Hypothesis for *Gairaigo* Modifiers (HCHGM is a reformulated version of the extended Hypothesis of Foreign vs. Native Dichotomy (eHFND in Bordilovskaya, 2012).

The scope of the current study is the English-origin loanword modifiers introduced into the Japanese language during Meiji period (1868 - 1912). Therefore, we will test HCHGM on a group of *gairaigo* modifiers having comparable assimilation background. Moreover, HCHGM will also be tested on loanword adjectival modifiers regardless of their semantic field to see if HCHGM is applicable to *gairaigo* modifiers other than color terms.

Borrowing of adjectival modifiers for the description of the qualities of foreign-originated phenomena as opposed to native/long-term assimilated ones can be explained by the fact that Japanese culture and language have a historically elaborated opposition between cultural ‘nativeness’ and ‘foreignness’, which includes not only phenomena introduced to Japan from foreign cultures, but also a kind of inventory used for the description of the qualities of those phenomena, since they are perceived as not being equally corresponding to the similar ones existing in Japanese culture. It can be found on the level of nouns and loanword adjectival modifiers. For example, *gohan* (cooked rice served in a traditional bowl) vs. *raisu* (cooked rice served on a flat European plate), when used referring to ‘cooked rice’ the form of the representation of it (the way the cooked rice is served) can be one of the factors triggering the ‘foreignness’.

In other words, HCHGM suggests that *gairaigo* adjectival modifiers (excluding ones which were not borrowed to fill ‘lexical gaps’) are used for the description of the qualities of foreign-originated phenomena and, thus, they are more likely to modify *gairaigo* nouns. Therefore, *gairaigo* modifier (GM) + *gairaigo* noun (GN) collocations are preferred over other patterns of collocations. Schematically the realization of HCHGM can be represented as shown in Figure 1.

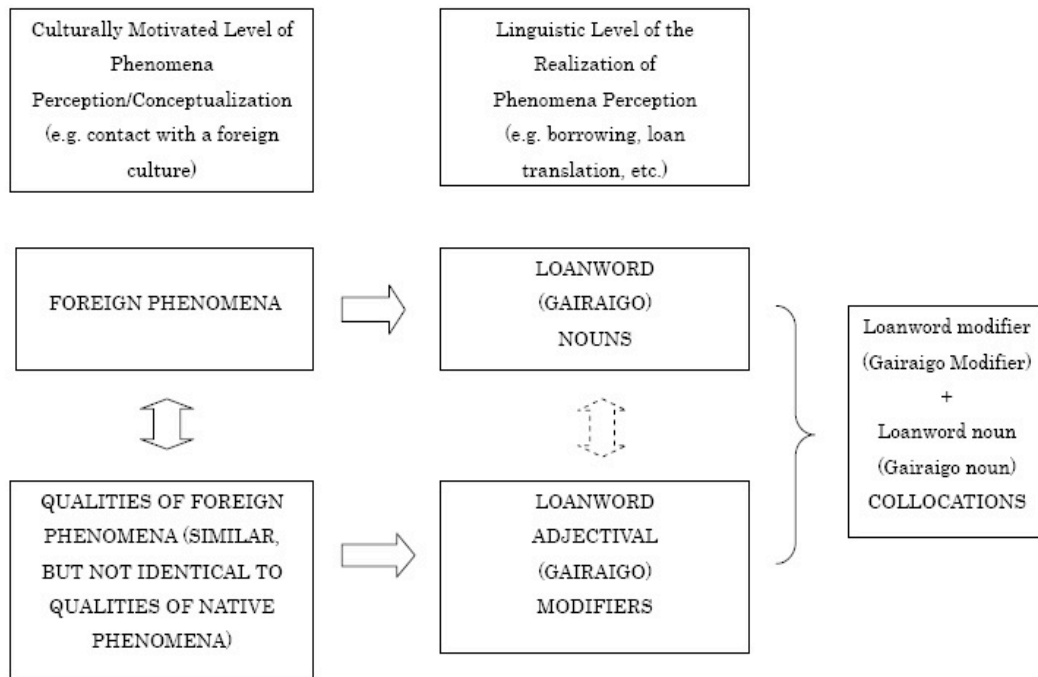


Figure 1 Schematic Representation of HCHGM

Thus, following HCHGM *buraun no jaketto* (brown jacket) and *hotto no kafe ratte* (hot café latte) would present more native-like collocations than *buraun no haori* (Japanese traditional jacket) and *atsui kafe ratte*.

The important difference between the original Loveday's HRFND hypothesis and our HCHGM hypothesis is that the former one refers to the difference in usage of separate words (concrete nouns), while the later one considers collocations - combinations of adjectival modifiers and nouns. HCHGM offers a broader look at the problem of *gairaigo* modifiers' function in the Contemporary Japanese and deals with a linguistic level.

### Testing of HCHGM on BCCWJ: Methodology and Results

In this section we will investigate the tendencies of *gairaigo* modifiers borrowed in Meiji period and still in use in Contemporary Japanese based on the etymology of the nouns they are used to modify. We will focus on combinations of loanword (*gairaigo*) modifiers + nouns, and we will try to demonstrate that the etymological factor has the influence on the choice of the partner in such combinations. For the purpose of the present research we call such combinations - collocations, since the constituting elements are found in the immediate closeness to one another, i.e. co-occur in the texts.



### **Methodology**

The main method of data collection of this study is a corpus analysis. In the present research we use data from BCCWJ<sup>4</sup> by National Institute for Japanese Language and Linguistics (NINJAL), because it presents a model of Contemporary Japanese reflecting its general tendencies and it is balanced across registers.

We examine the following pattern common for *gairaigo* adjectivals for modifying nouns in Contemporary Japanese:

- ① *Gairaigo* Modifier + Linker (‘-no-’ or ‘-na-’) + Noun.

Nouns found in the above mentioned collocation patterns can be native – *wago* nouns, Sino-Japanese – *kango* nouns, or loanword – *gairaigo* nouns<sup>5</sup>.

Based on Sanseido’s Concise Dictionary of Katakana Words (2005) and Kadogawa Dictionary of Loan-words (1977), we compiled a list 101 of *gairaigo* adjectival modifiers (adjectives in English) borrowed from English during Meiji period (1868-1912). We investigated BCCWJ for the collocation patterns of 101 *gairaigo* modifiers described in ① taking into consideration only the original meaning(s) of modifiers introduced in Meiji period. We excluded the cases of semantic change, etc. Data collection was conducted in May – August 2015. Out of 101 loanword modifiers only 47 had a frequency of more than five tokens of *gairaigo* modifiers + noun collocations in BCCWJ.

### **Results**

The results of the BCCWJ corpus search for 47 loanword adjectival modifiers are presented in Table 1 (see Appendix 1) and Figure 2 below. Figure 2 demonstrates the distribution of *gairaigo* modifiers collocations with nouns of different origin: *gairaigo*, *wago* and *kango*. *Gairaigo* nouns are color-coded in blue, *wago* nouns in red, and *kango* in green.

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<sup>4</sup> <http://www.ninjal.ac.jp/english/products/bccwj/>

<sup>5</sup> Hybrid words were excluded from the results, however, their attestations were insignificant

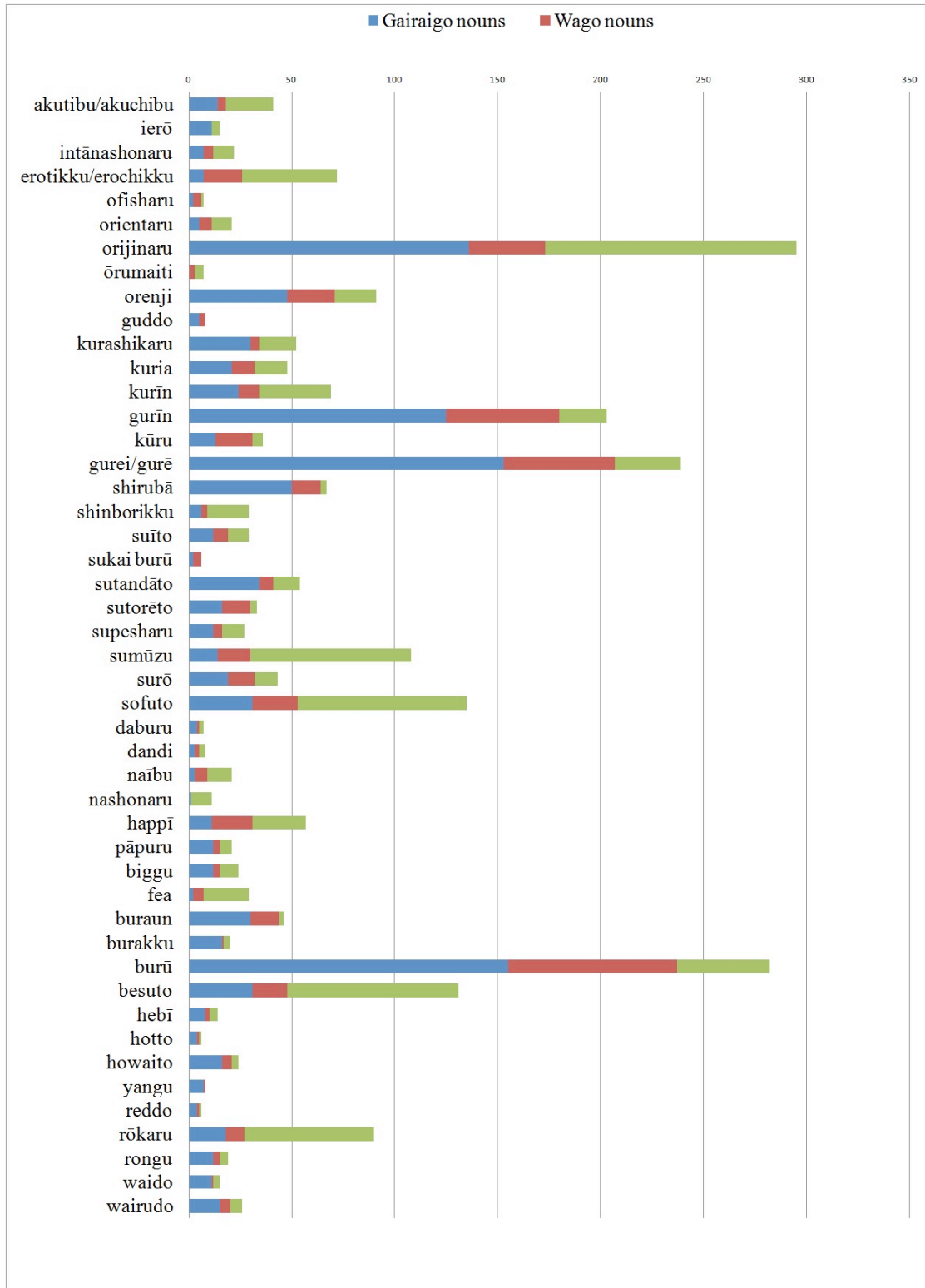


Figure 2 Testing of HCHGM on Loanword Adjectival Modifiers

There are two main tendencies for the collocation patterns of *gairaigo* modifiers: they are mostly used to modify either *gairaigo* nouns or *kango* nouns. We will look at two patterns of collocations separately, depending on the origin of nouns found in

collocations.

Collocation pattern, when loanword adjectival modifiers are used to modify loanword nouns can be considered to be in coherence with HCHGM, because this collocation pattern demonstrates the tendency for homogeneity of the origin of its members. In other words, *gairaigo* modifiers that prefer this homogeneous collocation pattern have an etymological constraint on their use and can be considered as a restrained type of loanword modifiers.

*Gairaigo* modifiers that are frequently used to modify *gairaigo* nouns rather than *wago* or *kango* nouns are *ierō* ('yellow'), *orijinaru* (original), *orenji* ('orange' in the meaning of 'orange color'), *guddo* ('good'), *kurashikaru* ('classical'), *kuria* ('clear'), *gurīn* ('green'), *kūru* ('cool' in the meaning of 'cold' referring to temperature and colors), *gurē/gurei* ('gray'), *shirubā* ('silver'), *sutandāto* ('standard'), *pāpuru* ('purple'), *buraun* ('brown'), *burakku* ('black'), *burū* ('blue'), *hebī* ('heavy'), *hotto* ('hot'), *howaito* ('white'), *yangu* ('young'), *reddo* ('red'), *rongu* ('long'), *waido* ('wide'), *wairudo* ('wild'). Most of loanword modifiers following this collocation pattern refer to physical qualities of phenomena, especially those, that can be easily identified visually or by other senses (such as color, size, age, temperature, etc). For example, *kuuru na beesu* ('cool base'), *buraun no botomu* ('brown bottom'), *yangu no redisu* ('young ladies'), etc.

Loanword modifiers that are more often found modifying *kango* nouns are *akutibu/akuchibu*<sup>6</sup> ('active'), *erochikku/erotikku* ('erotic'), *kurīn* ('clean'), *shimborikku* ('symbolic'), *sumūzu* ('smooth'), *sofuto* ('soft'), *naību* ('naive'), *nashonaru* ('national'), *fea* ('fair'), *besuto* ('best'), *rōkaru* ('local'). Interestingly *gairaigo* adjectival modifiers followed by *kango* nouns refer to more abstract qualities or qualities that can be difficult to identify by senses, especially visually. This is in coherence with the general historically developed tendency of the Japanese lexicon, in which *kango* words are generally refer to abstract phenomena, scientific terms, etc. For example, *shimborikku na hyougen* ('symbolic expression'), *nashonaru na kikan* ('national institution'), etc.

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<sup>6</sup> Some of *gairaigo* modifiers demonstrate different orthographical representation due to the peculiarities of the Japanese phonological and writing systems. For example, according to dictionaries loanword for 'active' can be written as アクテ**ィ**ブ *akutibu* or アク**チ**ブ *akuchibu*, demonstrating 2 different ways of representing the donor language [ti] syllable.

Another peculiarity of the *kango* nouns found in collocations with *gairaigo* modifiers is that some of those Sino-Japanese nouns are relatively new Sino-Japanese coinages like *kaisha* ('company'), created in Meiji period for newly introduced foreign notions (Frellesvig, 2010).

A number of *gairaigo* modifiers did not demonstrate any preference for a particular type of nouns to modify. Such modifiers were relatively equally found modifying *gairaigo* and *kango* nouns (*biggu* 'big'), or *gairaigo*, *wago* and *kango* nouns (*ofisharu* 'official', *suīto* 'sweet', *sutorēto* 'straight', *happī* 'happy', *surō* 'slow'). On the one hand, this can be partially attributed to the sample presented in BCCWJ. Nevertheless, even when *gairaigo* modifiers were used to modify *wago* nouns, those nouns referred not to Japanese cultural phenomena, but culturally neutral ones, e.g. *ofisharu na tegami* ('official letter'), *surō na ugoki* ('slow movement') etc.

The results of BCCWJ search for the collocation patterns with a loanword modifier being used to modify a noun with a help of linkers '-na-' or '-no-' demonstrated that there is a group of *gairaigo* modifiers explicitly following HCHGM. At the level of collocations such loanword adjectival modifiers are used to modify *gairaigo* nouns, rather than *wago* or *kango* nouns, therefore, they support the tendency for homogeneity of the origin of the members of collocations. Therefore, we suggest that this type of loanword modifier has a clear-cut etymological constraint on the choice of their collocation partners. Thus, we can call this type of loanword modifiers an etymologically constrained collocation type.

Another group of *gairaigo* modifiers has demonstrated the tendency to modify *kango* nouns or *wago* nouns. However, the *wago* or *kango* nouns found in such collocations refer to culturally neutral phenomena or to phenomena introduced from foreign cultures. Thus, we can suggest that although the loanword modifiers following this collocation pattern are not following HCHGM explicitly at the level of the word origins, but there is still triggering Foreign Culture Frame at the level of concepts. In other words, loanword modifiers following second collocation pattern do not have an etymological constraint, but they are still constrained by the semantic meaning of the collocation partners (nouns), which should not refer to culturally Japanese phenomena. This type of *gairaigo* modifiers can be called a semantically constrained collocation type.

We can also formulate two major constraints on the use of loanwords in ‘-na-’ or ‘-no-’ linker collocations with nouns:

- Etymological linguistic constraint – stimulates to choose *gairaigo* modifier (if available) for a *gairaigo* noun, which also contributes to the homogeneous orthographical realization of the collocation (both members are written in *katakana*).
- Phenomena origin constraint – allows a loanword modifier to modify a noun that expresses either a foreign or a culturally neutral concept or object.

Thus, we can say that, although in case of a pair of loanword and native near synonyms like *howaito* and *shiroi*, which both could be used to refer to the same color, they will be differentiated in their use by the choice of nouns they will modify. Meanwhile native modifiers, like *shiroi* have a wider semantic field and theoretically can substitute loanword modifiers, a loanword modifier like *howaito* might seem more appropriate for the description of the qualities of foreign objects or phenomena from the Japanese language and culture perspectives.

## Conclusions, Discussion and Research Limitations

In present study we have introduced a new approach to the analysis of the constraints of the use of English origin loanword adjectival modifiers. Our findings allow us to suggest a new classification of loanword modifiers that incorporates HCHGM providing information necessary for foreign learners of Japanese, so that they can differentiate between *gairaigo* and *wago/kango* near synonymic modifiers and use them in a way which is balanced and easily processed by native speakers of Japanese. However, we cannot ignore the existence of counter examples, i.e., cases when *gairaigo* modifiers are used in collocations with *wago* nouns referring to native phenomena. Such collocations are possible when the writer/speaker tries to achieve a stylistic effect by violating the existing tendency to draw the attention of the audience. This can be found in advertising, product names, since Japanese culture has been in the process of experimenting and mixing old and new, traditional and cutting-edge, native and foreign. Nevertheless, it is probably unlikely to find unique traditional native modifiers (for example, color terms used in traditional *kimono* industry) used for the description of foreign-originated phenomena, for example, European style clothes introduced after Meiji period.

The present study is based on the data from BCCWJ, thus, the results are limited to the sample presented in one corpus. We suggest that the increase of data set can give more information about *gairaigo* collocation in Contemporary Japanese. It is also necessary to have a deeper insight into the assimilation processes diachronically to trace the historical processes of the assimilation of loanword modifiers.

## References

Bordilovskaya, A. (2012). A study of loan color terms collocation in modern Japanese. Paper presented at the *Proceedings of the 34th Annual Meeting of the Cognitive Science Society*, pp. 1362-1367.

Croft, W., & Cruse, D. A. (2004). *Cognitive linguistics*. New York: Cambridge University Press.

Daulton, F. E. (2008). *Japan's built-in lexicon of English-based loanwords*. Clevedon: Multilingual Matters.

Frellesvig, B. (2010). *A History of the Japanese language*. Cambridge: Cambridge University Press.

Irwin, M. (2011). *Loanwords in Japanese*. Amsterdam: John Benjamins Pub. Co.

Kay, G. (1995). English loanwords in Japanese. *World Englishes*, 14, 67-76.

Loveday, L. (1996). *Language contact in Japan: A socio-linguistic history*. Oxford: Clarendon Press.

Loveday, L. (1986). *Explorations in Japanese sociolinguistics*. Amsterdam, Philadelphia: J. Benjamins.

Rebuck, M. (2002). The function of English loanwords in Japanese. *NUCB Journal of Language, Culture and Communication*, 4(1), 53-64.

Stanlaw, J. (2004). *Japanese English: Language and culture contact*. Hong Kong: Hong Kong University Press.

Stanlaw, J. (2010). Japanese-English language and culture contact: How much English is found in Japanese, how is it used, and why should students and teachers care? *Journal CAJLE*, 11, 40-59.

### Appendix 1 Table 1 Testing of HCHG on Loanword Adjectival Modifiers

The words are arranged in the order of the Japanese syllabary.

	Loanword modifiers	Loanword nouns	Native Japanese nouns	Sino-Japanese nouns	Total (100%)
1	<i>akutibu/akuchibu</i> 'active'	14 (34%)	4 (10%)	23 (56%)	41
2	<i>ierō</i> 'yellow'	11 (73%)	0	4 (27%)	15
3	<i>intānashonaru</i> 'interantional'	7 (32%)	5 (22%)	10 (46%)	22
4	<i>erotikku/erochikku</i> 'erotic'	7 (10%)	19 (26%)	46 (64%)	72
5	<i>ofisharu</i> 'official'	2 (29%)	4 (57%)	1 (14%)	7
6	<i>orientaru</i> 'oriental'	5 (24%)	6 (29%)	10 (47%)	21
7	<i>orijinaru</i> 'orijinal'	136 (46%)	37 (12.5%)	122 (41.5%)	295
8	<i>ōrumaiti</i> 'all-mighty'	0	3 (43%)	4 (57%)	7
9	<i>orenji</i> 'orange'(color)	48 (53%)	23 (25%)	20 (22%)	91
10	<i>guddo</i> 'good'	5 (62.5%)	3 (37.5%)	0	8
11	<i>kurashikaru</i> 'classical'	30 (58%)	4 (8%)	18 (34%)	52
12	<i>kuria</i> 'clear'	21 (44%)	11 (23%)	16 (33%)	48
13	<i>kurīn</i> 'clean'	24 (35%)	10 (14%)	35 (51%)	69
14	<i>gurīn</i> 'green'	125 (62%)	55 (27%)	23 (11%)	203
15	<i>kūru</i> 'cool'	13 (36%)	18 (40%)	5 (14%)	36
16	<i>gurei/gurē</i> 'gray'	153 (64%)	54 (23%)	32 (13%)	239
17	<i>shirubā</i> 'silver'	50 (75%)	14 (21%)	3 (4%)	67
18	<i>shinborikku</i> 'symbolic'	6 (21%)	3 (10%)	20 (69%)	29
19	<i>suīto</i> 'sweet'	12 (41%)	7 (24%)	10 (35%)	29
20	<i>sukai burū</i> 'sky-blue'	2 (33%)	4 (67%)	0	6
21	<i>sutandāto</i> 'standard'	34 (63%)	7 (13%)	13 (24%)	54
22	<i>sutorēto</i> 'straight'	16 (49%)	14 (42%)	3 (9%)	33
23	<i>supesharu</i> 'special'	12 (48%)	4 (16%)	11 (44%)	27
24	<i>sumūzu</i> 'smooth'	14 (13%)	16 (15%)	78 (72%)	108
25	<i>surō</i> 'slow'	19 (44%)	13 (30%)	11 (26%)	43
26	<i>sofuto</i> 'soft'	31(23%)	22 (16%)	82 (61%)	135
27	<i>daburu</i> 'double'	4 (57%)	1 (14%)	2 (29%)	7
28	<i>dandi</i> 'dandy'	3 (37.5%)	2 (25%)	3 (37.5%)	8
29	<i>naību</i> 'naive'	3 (14%)	6 (29%)	12 (57%)	21
30	<i>nashonaru</i> 'national'	1 (9%)	0	10 (91%)	11



31	<i>happī</i> ‘happy’	11 (19%)	20 (35%)	26 (47%)	57
32	<i>pāpuru</i> ‘purple’	12 (57%)	3 (14%)	6 (29%)	21
33	<i>biggu</i> ‘big’	12 (50%)	3 (12.5%)	9 (37.5%)	24
34	<i>fea</i> ‘fair’	2 (7%)	5 (17%)	22 (76%)	29
35	<i>buraun</i> ‘brow’	30 (65%)	14 (30%)	2 (4%)	46
36	<i>burakku</i> ‘black’	16 (80%)	1 (5%)	3 (15%)	20
37	<i>burū</i> ‘blue’	155 (55%)	82 (29%)	45 (16%)	282
38	<i>besuto</i> ‘best’	31 (24%)	17 (13%)	83 (63%)	131
39	<i>hebī</i> ‘heavy’	8 (57%)	2 (14%)	4 (29%)	14
40	<i>hotto</i> ‘hot’	4 (66%)	1 (17%)	1 (17%)	6
41	<i>howaito</i> ‘white’	16 (67%)	5 (21%)	3 (12%)	24
42	<i>yangu</i> ‘young’	7 (87.5%)	1 (12.5%)	0	8
43	<i>reddo</i> ‘red’	4 (66%)	1 (17%)	1 (17%)	6
44	<i>rōkaru</i> ‘local’	18 (20%)	9 (10%)	63 (70%)	90
45	<i>rongu</i> ‘long’	12 (63%)	3 (16%)	4 (21%)	19
46	<i>waido</i> ‘wide’	11 (73%)	1 (7%)	3 (20%)	15
47	<i>wairudo</i> ‘wild’	15 (58%)	5 (19%)	6 (23%)	26