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2 Lexical categories

1 Introduction

Lexical items play different grammatical roles depending on the categories they belong to. Along with the distinction of the vocabulary strata – Native Japanese (NS), Sino-Japanese (SJ), Foreign (F), and Mimetic (M) – the proper classification of lexical categories (word classes) is essential to discovering any grammatical rules and principles in Japanese grammar. In the domestic grammatical tradition, consideration of word classes has a long history starting as early as in the late 1600s, and TŌJŌ Gimon (東条義門, 1786–1843) is generally credited with establishing the fundamental bipartition of word classes into *yōgen* (inflecting class) and *taigen* (non-inflecting class) that persists today. This bipartition is based on the morphological criterion of the presence or absence of inflectional endings, with *yōgen* (inflecting class) comprising verbs and adjectives, and *taigen* (non-inflecting class) nouns. Such a polar opposition, however, will be called into question if there are categories that fall in between the two poles. In fact, contemporary Japanese offers at least two categories that appear to be located between the two, namely Verbal Nouns (VN) and Adjectival Nouns (AN). The present chapter will survey the characteristics of Japanese lexical categories from generative and cognitive perspectives, with due attention to the proper treatment of VNs and ANs in the system of Japanese word classes.

School grammar (Japanese grammar taught at high schools) represents perhaps the most widely spread classification of Japanese lexical categories, which are divided into two major groups: *jiritsugo* or "independent categories" in Table 1 and *fuzokugo* or "dependent categories" in Table 2.

Table 1: Independent-form categories in school grammar

verb (*dōshi*)	adjective (*keiyōshi*)	adjectival noun (*keiyōdōshi*)	noun (*meishi*)
yomu 'read'	*utukusii* 'beautiful'	*sizuka da* 'quiet'	*hito* 'person'
agaru 'climb'	*kanasii* 'sad'	*kirei da* 'pretty'	*anata* 'you'
kuru 'come'	*yoi* 'good'	*derikeeto da* 'delicate'	*terebi* 'TV'
suru 'do'		*barabara da* 'separate'	*wanwan* 'doggie'
adverb (*fukushi*)	**prenominal modifier** (*rentaishi*)	**conjunction** (*setsuzokushi*)	**interjection** (*kantōshi*)
hakkiri 'clearly'	*arayuru* 'every'	*sikasi* 'but'	*hai* 'yes'
sukosi 'a little'	*aru* 'a certain',	*mata* 'or'	*aa* 'oh'
	ano 'that'		
	ookina 'big'		

Table 2: Dependent-form categories in school grammar

auxiliary (*jodōshi*)	particle (*joshi*)
(s)ase 'causative', *-(r)are* 'passive', *-nai/ nu* 'negative', *-(y)oo* 'hortative', *-tai* 'desiderative', *-masu* 'polite', *-ta/ da* 'past, perfect', *soo da* 'reportive', *-mai* 'negative expectative', *yoo da* 'modality (uncertainty)', *-rasii* 'modality (hearsay)', *-da/ desu* 'copula', etc.	1. case: *ga* (NOM), *no* (GEN), *o* (ACC), *to* (COM), *kara* (ABL)', de (INST), etc. 2. conjunctive: *keredo* 'though', *ga* 'but', *ba* 'if', *node* 'since', etc. 3. adverbial: *wa* (TOP), *mo* 'also', *sae* 'even', *sika* 'only', etc. 4. sentence-final: *na(a)* 'exclamatory', *zo* 'emphatic', *yo* 'assertive', etc.

In regard to vocabulary strata, verbs and adjectives are confined to Native Japanese words. Nouns could be Native Japanese (*kuruma* 'car'), Sino-Japanese (*gakkoo* 'school'), foreign (*terebi* 'TV'), or mimetic (*wanwan* 'doggie') (and verbal nouns, which are not included in the list of lexical categories in school grammar, come from all the lexical strata, as in *dokusyo(-suru)* 'reading (SJ)', *otetudai(-suru)* 'help (NJ)', *tesuto(-suru)* 'test (F)', *tekuteku(-suru)* 'walk (M)'). Adjectival nouns are also found in all the lexical strata, as in *sizuka da/na* 'quiet (NJ)', *ganko da/na* 'stubborn (SJ)', *derikeeto da/na* 'delicate (F)', *barabara da/na* 'separate (M)'.

The classifications in Tables 1 and 2 are far from definitive, and many different views are available in the literature; e.g. in modern Japanese linguistics (couched in the Western linguistic paradigms), verbal nouns are often seen as constituting a major lexical category, alongside verbs, nouns, adjectives, adjectival nouns (see Martin 1975; Shibatani 1990), but they are included in the category of nouns in traditional Japanese grammar. It is not an easy task to sort out Japanese lexical categories, because, in Japanese, inflection/conjugation is exhibited in limited categories, and in many cases, no clear boundaries can be drawn between free and bound elements. Accordingly, a number of issues arise with regard to the question of how lexical categories are distinguished and how many categories should be recognized.

This chapter reviews a number of theoretical and descriptive issues on lexical categories. Section 2 briefly surveys the classification and terms of lexical categories discussed in traditional grammar. Section 3 provides a discussion from the generative perspective, addressing the question of how "adjectival nouns" and "verbal nouns" – neither of which fit into the classical cross-categorial feature system positing only two features – can be defined. It is also shown that certain adjectivally-inflecting elements traditionally classified as dependent auxiliaries count as lexical adjectives, despite their morphological status. Section 4 examines the nature of Japanese lexical categories from the cognitive-typological perspective. The structural organization of the overall lexical categorization of the language and its major lexical categories (Noun, Verb, Adjective, Verbal Noun, and Adjectival Noun) are characterized in terms of cross-linguistic markedness patterns and their functional motivations are identified.
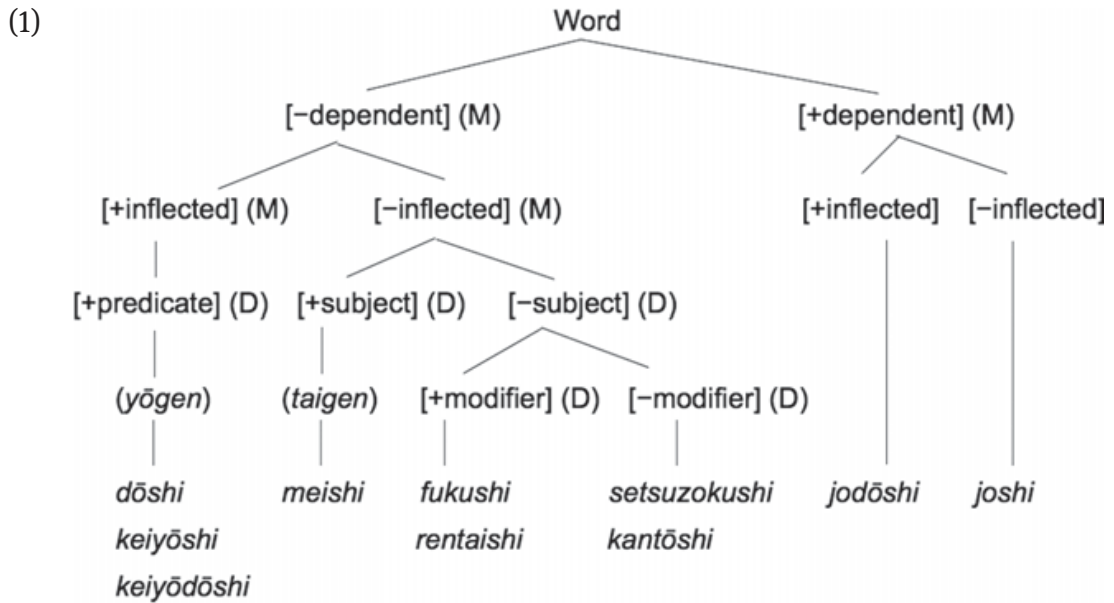
2 Parts of speech in traditional Japanese grammar

This section provides a concise survey of how parts of speech were analyzed by some pioneers of Japanese grammar in the domestic tradition of *Kokugogaku* philology. Parts of speech were mentioned in grammar books written by European missionaries who visited Japan (e.g. Rodriguez 1604–08), and in the pre-modern era (17th to 19th centuries), *Kokugaku* scholars (FUJITANI Nariakira 富士谷成章, MOTOORI Haruniwa 本居春庭, and others) made various attempts to classify inflecting words. Among them, Fujitani (1778) proposed a sophisticated "parts of speech" system of dissecting sentences into four major parts of *na* (noun), *yosohi* (predicate), *ayuhi* (particle, auxiliary), and *kazashi* (adverb and others), while TŌJŌ Gimon (1841), mentioned in Section 1, established the distinction of inflecting and non-inflecting word classes, i.e. *yōgen* and *taigen*. Later, in the late 19th century, ŌTSUKI Fumihiko 大槻文彦 (1889) proposed a system of eight parts of speech in line with the Western tradition of modern linguistics in another important work investigating the notion of "word" and "parts of speech". Subsequently, in the 20th century, the early giants of Japanese grammar (YAMADA Yoshio 山田孝雄, MATSUSHITA Daizaburō 松下大三郎, HASHIMOTO Shinkichi 橋本進吉, and TOKIEDA Motoki 時枝誠記) also proposed different views on parts of speech, which are still influential and debated today.

Among others, Hashimoto's ideas about lexical categories were incorporated in school grammar (Monbushō 1947) and are taught even today. As noted in the Introduction, the inventory of lexical categories includes *dōshi* (verb), *keiyōshi* (adjective), *keiyōdōshi* (adjectival noun), *meishi* (noun), *fukushi* (adverb), *rentaishi* (prenominal modifier), *setsuzokushi* (conjunction), *kantōshi* (interjection), *jodōshi* (auxiliary) and *joshi* (particle). The listed categories are categorized by two distinct sets of criteria, morphological and distributional (or syntactic), as represented in the taxonomy structure of (1), where M stands for morphological criteria and D for distributional criteria.[1]
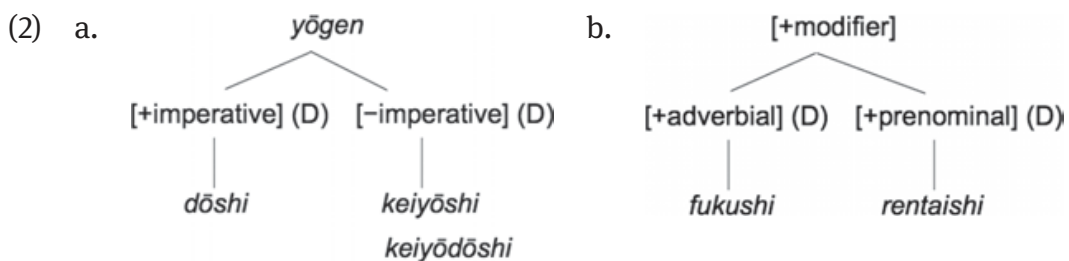
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1 Categories are distinguished by making use of a feature system here, although this is not a common practice in school grammar. In generative linguistic research, and also in traditional Japanese grammar, lexical/grammatical categories (word classes, parts of speech) are distinguished on the basis of their shared morphological and syntactic properties. Semantic criteria are not commonly used for this purpose because, in many, if not all, cases, they are not considered to demarcate categories in a reliable manner. For instance, the semantic criterion taking noun and verb to denote an entity and an event, respectively, does not distinguish *nagare* 'flow (n.)' as in *mizu no nagare* 'water flow' from *nagareru* 'flow (v.)', both of which denote events in one way or another; *nagare* refers to an event, and yet functions as a noun.

(1)

```
                                    Word
                    _____/_____
                   /                                  \
          [−dependent] (M)                      [+dependent] (M)
           _____/_____                        ____/\____
          /              \                       /          \
 [+inflected] (M)   [−inflected] (M)      [+inflected]   [−inflected]
        |               __/\__                  |             |
 [+predicate] (D)  [+subject] (D) [−subject] (D)
        |               |          __/\__
     (yōgen)         (taigen)     /      \
        |               |    [+modifier] (D) [−modifier] (D)
      dōshi          meishi      |              |
     keiyōshi                 fukushi       setsuzokushi    jodōshi     joshi
   keiyōdōshi                rentaishi       kantōshi
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In (1), words are first divided into two major groups, depending on whether they are dependent or independent ([±dependent]). Both categories are further partitioned into two classes, according to whether they inflect or not ([±inflected]). All the inflecting categories are identified as predicates [+predicate], and non-inflecting categories are divided into two sub-types, depending on whether or not they can function as subjects ([±subject]). Non-inflecting categories that cannot act as subjects are further divided into two classes, depending on whether they can serve as modifiers [±modifier].

The predicative group marked with [+predicate], which comprises verbs, adjectives, and adjectival nouns, is traditionally labeled *yōgen* 'predicative', and nouns are the sole member of the class labeled *taigen* 'nominal'. *Yōgen* is divided into two types, as in (2a), which are distinguished according to whether or not they have imperative inflections (represented as [±imperative]).

(2)   a.

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                 yōgen                          b.         [+modifier]
             ____/\____                                  ____/\____
            /          \                                /          \
 [+imperative] (D)  [−imperative] (D)      [+adverbial] (D)  [+prenominal] (D)
        |               |                          |              |
      dōshi          keiyōshi                    fukushi        rentaishi
                    keiyōdōshi
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Modifiers are divided into *fukushi* (adverbial) and *rentaishi* (prenominal modifier), which are distinguished by the kind of element modified. *Setsuzokushi* is used for connecting clauses, and *kantōshi* for forming 'exclamatives', which may or may not be single-word sentences.

Of the categories listed above, *keiyōdōshi* (adjectival noun), *rentaishi* (prenominal modifier), *jodōshi* (auxiliary), and *joshi* (particle) call for special mention, as they are not commonly found in European languages or are different from their European counterparts. *Keiyōdōshi*, referred to in this chapter as "adjectival noun" (a term coined by Martin 1975), is chosen for the sake of consistency over competing English translations, and the expression consists of a stem and an inflectional ending. The inflectional endings of *keiyōdōshi* (e.g. adnominal *na* and conclusive *da*) are morphologically distinct from those of adjectives (e.g. adnominal and conclusive *-i*). As explained below, the category of *keiyōdōshi* poses a perennial question for both *Kokugogaku* and Japanese linguistics in line with the Western tradition. *Rentaishi* ('prenominal modifier'), which is often given the alternative term 'prenominal adjective', include not only demonstratives like *ano* 'that', but also such adnominal expressions as *aru* 'a certain', *iwayuru* 'so-called', *taisita* 'considerable', *tiisana* 'tiny', and *ookina* 'big' that occur only in prenominal position. *Jodōshi* ('auxiliary'), perhaps the most undeveloped, problematic category in traditional grammar, is actually a conglomeration of heterogeneous dependent elements that are agglutinated to the preceding predicative elements, such as suffixes of passive, causative, honorification, spontaneity, and potential, as well as functional endings of tense, negation, modality (see Chapter 13 [Takezawa, this volume] for inflection). Finally, various particles labeled as *joshi* are dependent elements that follow noun phrases, clauses, and the like (but are not agglutinated to them).

Although the classifications in school grammar are said to be largely based on work by Hashimoto (1934, 1948), Hashimoto (1934) actually presented a finer-grained classification including not only *jiritsugo* (independent category) but also *fuzokugo* (dependent category), as in *yōgen* (verb, adjective), *taigen* (noun, pronoun, numeral), *fukushi* (adverb), *rentaishi* (prenominal modifier), *setsuzokushi* (conjunction), *kantōshi* (interjection), *jodōshi* (auxiliary), as well as *joshi* (particle), a category that includes various types of particles such as adverbial, nominal, conjunctive, coordinate, quasi-adverb, case, *kakari*, sentence-final, and interjective particles. (In school grammar, *keiyōdōshi* is treated as an established lexical category (cf. Hashimoto 1948), but in his earlier work (Hashimoto 1934), Hashimoto eschews including *keiyōdōshi* in the list of *yōgen* as an independent lexical category in modern Japanese, reserving the judgment on the issue as to whether it should be analyzed as a simple word or a complex expression, although he argues explicitly for its unique status there.)

The question of how words are classified involves a fundamental and yet highly subtle issue, one that remains far from settled even today. The debates in the *Kokugogaku* tradition largely center around the two somewhat related questions: (i) whether it is plausible to posit *keiyōdōshi* (adjectival noun) as an independent category, and (ii) how many parts of speech need to be recognized. Answers to these questions may vary, depending not only on how much emphasis one places on what kinds of criteria (morphological or distributional), but also on what kind of language one analyzes (classical or modern). In traditional grammar, it was customary to

consider category classifications based on classical Japanese or a mixture of classical and modern Japanese. The first question concerning *keiyōdōshi* is rooted in the structure of classical Japanese. The name *keiyōdōshi* (lit. 'adjectival verb') derives from its characteristic forms in classical Japanese, X-*nari* and X-*tari*, which exhibited verbal inflections and inflected even for the imperative. In modern Japanese, where the classical *nari* and *tari* have disappeared, however, *keiyōdōshi* has lost such erstwhile verbal behavior. Hashimoto (1948) claimed that *keiyōdōshi* constitutes a lexical category standing all on its own (although this view was only implied in Hashimoto (1934)). On the other hand, Yamada (1908, 1936) considered this categorization unnecessary on the grounds that the classical *nari* and *tari* originate historically from *ni ari* [LOC be] and *to ari* [COMP be], where *ari* 'be' is a verb of existence. On Yamada's view, *keiyōdōshi* is thus composed of what he calls *fukuyōgen* 'subpredicate' (words that are neither inflected as predicates nor function as grammatical arguments) followed by predicates of existence (*sonzaishi* 'existential' in Yamada's terminology).

In modern Japanese, *keiyōdōshi* is "inflected" with the endings *na* in adnominal form and *da* in conclusive form. The ending *na* comes from the classical combined form *ni + ari* [LOC + be], and the *da* ending is identical in form to the copula *da* as in *Nihon no syuto wa Tookyoo da* [Japan GEN capital TOP Tokyo COP] 'The capital of Japan is Tokyo.' This and other considerations led Tokieda (1950) to analyze *keiyōdōshi* into a special type of nominal followed by the copula. The view that the inflectional ending of *keiyōdōshi* is nothing but the copula is shared by Bloch (1946) and Okutsu (1978). On the other hand, Mikami (1953), inspired by Sakuma (1951), holds that adjectives and adjectival nouns make up a larger class of adjectivals, the former represented as i-*keiyōshi* (*i*-adjective) and the latter as na-*keiyōshi* (*na*-adjective). The terms "i-*keiyōshi*" and "na-*keiyōshi*" are standardly used today in textbooks for teaching Japanese as a foreign language, whereas "*keiyōshi* (adjective)" and "*keiyōdōshi* (adjectival noun)" are taught in domestic school grammar. The nature of the two adjectival categories will be discussed in great detail in the subsequent sections of this chapter (see also Chapter 14 [Kageyama, this volume] for the morphological status of the *na/da* ending in *keiyōdōshi*).

The writings of such great grammarians as Hashimoto, Yamada, Matsushita, and Tokieda present diverse answers to the second question of how many parts of speech should be distinguished. Although there is general agreement on the usefulness of the fundamental distinction between *taigen* (nominal) and *yōgen* (predicative), these grammarians disagree on the classification of major categories and functional categories. Yamada (1908, 1936) identifies four categories consisting of *taigen*, *yōgen*, *fukushi* (adverb), and *joshi* (particle) but does not regard auxiliaries as an independent class. Matsushita (1924, 1930) does not identify auxiliaries and particles as categories, because they are dependent, thus upholding the classification of *meishi* (noun), *dōshi* (verb), *fukutaishi* (adjective), *fukushi* (adverb), and *kandōshi* (exclama-

tive). Tokieda (1950) includes *taigen*, *yōgen*, *daimeishi* (pronoun), *rentaishi* (prenominal modifier), and *fukushi* (adverb) as "core" lexical categories.

The various classifications that have been proposed in *Kokugogaku* are not without problems from the perspective of modern linguistics. One characteristic feature of traditional Japanese grammar is that lexical categories are first divided into two major classes according to whether they count as free or bound forms in morphological terms. In fact, in all the classifications noted above, morphological criteria take precedence over distributional criteria, but it is not entirely clear whether this should be considered the optimal way of characterizing lexical categories.

In particular, the agglutinative character of Japanese makes it difficult to tell whether dependent elements appearing after main predicates should be analyzed as auxiliaries or inflectional suffixes. A number of issues arise from this fact. One such issue concerns the question of whether the element *da* combined with adjectival noun stems should be regarded as a copula or an inflectional suffix (see Section 4). Copulas are dependent elements, but often regarded as non-affixal, unlike other auxiliaries, leading to the issue over whether adjectival nouns constitute single or complex words. Another question is how the past (or perfective) tense marker should be classified. Traditionally, it is often classified as an auxiliary, distinct from the present tense element, which is taken to be part of an inflectional form, while Bloch (1946) identifies both present and past tense markers as inflectional suffixes. The typological character of Japanese as an agglutinative language also raises an issue over whether there should be a tight correlation between the distinction of "agglutinated" versus "non-agglutinated (free)" forms and the "lexical" versus "functional" distinction (see Section 3).

3 Lexical categories in the generative perspective

We are now in a position to discuss how "adjectival nouns" and "verbal nouns" can be described from the generative perspective. It is shown in this section that adjectivally-inflecting auxiliaries sometimes display syntactic behavior shared with lexical adjectives, and that in Japanese, the categorical distinction of "lexical" and "functional" categories is not tightly correlated with the morphological status of words.

3.1 Criteria for classifying major categories

In generative grammar, mainly two kinds of distributional criteria – morphological and syntactic – are used to identify categories (see, e.g. Carnie 2007). The morphological criteria are based on inflections and derivations. Different inflectional forms

are usually found depending on their categories: in Japanese, verbs have inflectional forms distinct from those found in adjectives or adjectival nouns, and nouns do not inflect for person and number. The derivational criteria work more or less in a similar way. In Japanese, adjectives as well as adjectival nouns can be identified as falling into the adjective class by looking at whether the suffix *–sa* can be attached, since it derives a noun from an adjectival expression. The syntactic (or distributional) criteria are also usable for categorizing words, because different categories have different syntactic distributions. A noun can appear in the frame ___ *ga nai* [___ NOM NEG] 'there is no ___', but the same slot cannot be filled by an adjective, an adjectival noun, a verb, or a postposition; e.g., *hon* 'book' is identified as a noun, because it can appear in this frame.

Lexical categories consist of a number of word classes, which include the major categories of noun (N), verb (V), adjective (A), preposition/postposition (P) (i.e. content words), as well as several other minor categories (i.e. function words). In Chomsky (1970), the lexical categories are not conceived of as primitives, but are defined by implementing cross-categorial features, i.e. the four major categories of V, N, A, and P in English are characterized in terms of the features [±V, ±N].

(3) a. V: [+V, −N]   b. N: [−V, +N]   c. A: [+V, +N]   d. P: [−V, −N]

One obvious advantage of the cross-categorial feature system, compared with positing just distinct categories (or having simple binary classifications), is that it allows us to capture commonalities across categories. In Chomsky's system, the maximal number of categories that can be defined with the features is four. On the empirical level, however, it is obvious that the cross-categorial feature system used to define the categories in English often cannot be straightforwardly carried over to other languages, including Japanese. (Even in English, no consensus has been reached about the classification of major lexical categories (content words), and in particular, the exact categorical status of 'preposition' is often called into question; Emonds (1985) and Baker (2003) suggest that prepositions fall into the class of functional categories).

Japanese is often seen as possessing verbal nouns and adjectival nouns as major lexical categories, alongside verbs, nouns, and adjectives (see Martin 1975, Shibatani 1990). Apparently, Japanese has more categories than can be defined by the features, so the feature system has raised an issue over how lexical categories should be defined. Kageyama (1982) suggests that the lexical categories in Japanese be defined with reference to the feature [±A], in addition to [±V, ±N] (see also Kageyama 1993).

(4) a. verb: [+V, −N, −A]   b. noun: [−V, +N, −A]
     c. adjective: [−V, −N, +A]   d. adjectival noun: [−V, +N, +A]
     e. verbal noun: [+V, +N, −A]

Note that in (4), adjectives are characterized as [–N, –V], unlike Chomsky's feature characterization [+V, +N]. They are characterized negatively by the respective features because [+A] is added. In Kageyama (1982), adjectival nouns are claimed to constitute an independent lexical category, on the grounds that they display dual behavior as nouns and adjectives. To be concrete, adjectival nouns pattern with adjectives, in undergoing nominalization with the addition of the suffix –*sa*, which derives nouns from adjectives.

(5)   a.   *sizuka-sa*   b.   *utukusi-sa*   c.   **tabe-sa*   d.   **enpitu-sa*
      quiet-NMLZ   beautiful-NMLZ   eat-NMLZ   pencil-NMLZ
      'quietness'   'beauty'   'eat-ness'   'pencil-ness'

On the other hand, adjectival nouns differ from adjectives, in that the former, but not the latter, allow their stems to be combine with the affix –*rasii*. Adjectival nouns pattern with nouns, since both of their stems can be combined with -*rasii*, as in (6).

(6)   a.   *sizuka-rasii*   b.   **utukusi-rasii*   c.   *gakkoo-rasii*
      quiet-looking   beautiful-looking   school-looking
      'look quiet'   'look beautiful'   'look like a school'

Neither nouns and adjectives show exactly the same behavior as adjectival nouns, so adjectival nouns are characterized as [–V, +N, +A] in Kageyama's system.

In Kageyama (1982), verbal nouns are regarded as constituting a category distinct from the categories of noun and adjective, on the basis that verbal nouns serve not only as arguments occurring with case particles, but also as predicates when combined with *suru* 'do' (and the latter is not possible with nouns; e.g. **enpitu-suru* 'pencil-do'). (Note that verbal nouns can behave as predicates without *suru* when they are combined with the suffix –*tyuu*, -*sai*, -*ori* and the like (see Kageyama 1993)).

(7)   a.   *soodan-suru*   b.   *soodan*   *o*   *motikakeru*
      consultation-do   consultation   ACC   bring.up
      'consult'   'ask for consultation'

Accordingly, verbal nouns are assigned the feature [+V, +N, –A], which is distinct from nouns specified as [–V, +N, –A]. In his analysis, the commonalities shared by nouns and verbal nouns are captured by the feature [+N], whereas the properties which verbal nouns share with verbs are characterized by the feature [+V] (and verbal nouns and verbs are assigned [–A], as they do not possess properties shared with adjectives).

While Kageyama (1982) postulates the feature [±A], which is not implemented in Chomsky (1970), Miyagawa (1987) advances an alternative analysis in an attempt to

dispense with this extra adjectival feature and proposes an alternative characterization of the lexical categories.

(8) a. verb: [+V, −N]   b.   noun, verbal noun: [−V, +N]

  c. adjective: [+V]   d.   adjectival noun: [+V, +N]

In Miyagawa's analysis, adjectives are conceived of as possessing the feature [+V], while the feature [±N] being neutralized. In contrast, adjectival nouns are associated with both [+V] and [+N]. One indication that adjectival nouns, but not adjectives, are associated with [+N] is found in the adjectival nouns' ability to occur with copula, in an analogous way with nouns, as in (9).[2]

(9) a. *kirei   da* b. *sensei   da* c. **utukusi   da*
     pretty   COP   teacher   COP   beautiful   COP
     'be pretty'   'be a teacher'   'be beautiful'

Further, on the basis that adjectival nouns can be combined with *soo* 'looking, likely', alongside verbs and adjectives, Miyagawa defends the position that adjectival nouns are assigned the feature [+V].

(10) a. *sizuka-soo*   b. *utukusi-soo*   c. *tabe-soo*   d. **gakkoo-soo*
      quiet-looking   beautiful-looking   eat-looking   school-looking
      'likely quiet'   'likely beautiful'   'likely to eat' 'likely school'

Miyagawa claims that the generalization that adjectival nouns, adjectives, and verbs can combine with *soo* 'looking, likely' can be optimally characterized by assuming that these three categories have the feature [+V] in common.

   In Miyagawa's analysis, adjectival nouns are characterized as having [+N, +V], whereas adjectives, which are marked by the feature [+V], are neutral with respect to the feature [±N]. One problem with the proposed characterization is that the nominalizing affix *-sa* attaches to both adjectival nouns and adjectives, to the exclusion of verbs and nouns, as we have seen in (5). Miyagawa claims that this distribution can be captured on the assumption that *-sa* can be attached to a category with [+V] that does not assign any case (i.e. verbs belong to the category that assigns case, but adjectival nouns and adjectives do not). Under this proposal, adjectives

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2 The adnominal form of the copula *da* is *no* when the preceding element is a noun, but the copula has the form *na* when it is preceded by an adjectival noun. In Miyagawa's analysis, the difference in morphological inflection between nouns and adjectival nouns is taken care of by adjustment rules. Miyagawa provides two more arguments which he claim can be used to distinguish adjectival nouns from adjectives, i.e. the attachment of *mitai* 'seem' and *reba* 'if'. Ohkado (1991) points out some problems in using them as diagnostics, however.

and adjectival nouns can be classed together by virtue of the case requirement imposed on the categories to which *-sa* attaches, without recourse to the additional feature [±A].

Another claim made by Miyagawa is that verbal nouns are equated with nouns in terms of categorical features, the difference being reduced to the question of theta role assignment. According to Miyagawa, the fact that *suru* 'do' directly attaches to verbal nouns, but not nouns like *enpitu* (*enpitu-suru [pencil-do]), comes from the condition that *suru* needs to inherit a theta role from a combined theta role assigner, which he assumes is imposed independently of the category of the theta role assigner. If a noun does not have any theta role to assign, as in *enpitu*, the resulting N-*suru* is not capable of acting as a predicate, and hence is unacceptable. This analysis allows us to account for the fact that verbal nouns (equipped with theta roles to be assigned), but not simple nouns, can occur with the verb *suru*, without any need to set up the extra lexical category of verbal noun.

Both Kageyama and Miyagawa attempt to capture generalizations across the major lexical categories (content words) in terms of cross-categorial features. Even though the issue concerns the status of major lexical categories, there are also minor categories (function words), which are often identified with the categorical feature [+F] (or [−L]) instead of [+L] assigned to a major lexical category (Abney 1987; Fukui 1986). Needless to say, just as English has minor functional categories such as pronouns, auxiliary verbs, etc., so too does Japanese, which leads to another issue. We will turn to this discussion in the next section.

3.2 From major to minor categories

In Japanese, auxiliaries, which are inflecting suffixal/agglutinative elements attaching to predicates, are dependent categories, and many of them are likely to be categorized as functional categories. Nevertheless, it is also true that some, if not all, have an obvious link to major lexical categories, partly because the former have often been derived from the latter via grammaticalization (see Hopper and Traugott 1993), as can be inferred from the fact that auxiliaries often retain their morphological forms of the original categories from which they are derived; some display adjectival properties (or inflections) (e.g. the desiderative *ta(i)* 'want', the hearsay *rasi(i)* 'likely'), and others display verbal behavior (e.g. the passive *rare(ru)*, the causative *sase(ru)*).

The fact that auxiliaries can be divided into verbal and adjectival types can also be discerned conspicuously by looking at what supportive verb is inserted when tense is separated from them, as in (11).

(11) a. *{yomi/yom-are/yom-ase}*   *mo*   *su-ru*
       {read/read-PASS/read-CAUSE}   also   do-PRS
       (lit.) 'do also {read/be read/cause to read}'

     b. *{utukusiku/nomi-taku}*   *mo*   *ar-u*
       {beautiful/drink-want}   also   be-PRS
       (lit.) 'be also {beautiful/want to drink}'

The supportive verb *suru* 'do' is inserted to the left of tense for morphological support when an adverbial particle separates the tense from the passive *rare* and the causative *sase*, just like the main verb *yomu* 'read'. This fact suggests that the auxiliaries *rare* and *sase* belong to the verbal class (cf. Kishimoto 2013). In contrast, when tense is separated from an adjective like *utukusii* 'beautiful' or the desiderative auxiliary *tai*, the supportive verb *aru* appears to the left of the tense marker. Since both elements pattern together, this fact shows that the auxiliary *tai* belongs to the adjectival type.

In traditional Japanese linguistics, inflecting elements that are dependent, i.e. those that cannot appear in isolation, are categorized as auxiliaries (by definition). Given that major lexical categories are independent forms, it is tempting to think that auxiliaries are assimilated to functional categories. Nevertheless, the fact of the matter is that auxiliaries constitute a heterogeneous class, and it will be shown below that some agglutinated auxiliaries showing adjectival inflection may be categorized as lexical adjectives. By appealing to distributional/syntactic criteria, it is argued that the morphological distinction of "agglutinated" versus "non-agglutinated (free)" forms does not directly correlate with the distinction between "lexical" and "functional" categories, and that bound morphemes can be lexical (or content) morphemes, which should fall into the major lexical class.

To be concrete, *tai* 'want', which is categorized as an auxiliary in traditional Japanese linguistics (Konoshima 1973; Kitahara 1981; and many others), is similar in meaning to the adjective *hosii* 'want' (or the verb *hossuru* 'want'), the most obvious difference between the two being that the former is an agglutinative element [+Aggl], and the latter a free form [−Aggl]. The auxiliary *tai* needs to combine with a verb, but *hosii* stands as a syntactically independent element, as in (12).

(12) a. *Watasi*   *wa*   *okane*   *ga*   *hosi-i.*
       1.sg   TOP   money   NOM   want PRS
       'I want money.'

     b. *Watasi*   *wa*   *osake*   *ga*   *nomi-ta-i.*
       1.sg   TOP   sake   NOM   drink-want-PRS
       'I want to drink sake.'

The auxiliary *tai* can be separated from the preceding verb with an appropriate morphological adjustment, i.e. with the addition of dummy verb *suru* to the left of *tai* (e.g. *kangae-tai* [think-want] 'want to think' → *kangae wa si-tai* [think TOP do-want]), and differs from a derivational affix like *-sa* (as in *kata-sa* [solid-ness]), which can never be separated from its host. Both *tai* and *hosii*, despite the difference in their morphological status, function as lexical adjectives, i.e. predicates specified for [+Adj, +Pred], as confirmed by the fact that they can appear as predicates embedded under the verb *omou* 'think', which takes a small clause complement.

(13) a. *Watasi wa [sono okane o amari hosiku] omowa-nakat-ta.*
          1.sg TOP that money ACC much want think-NEG PST
          'I did not want that money very much.'

  b. *Watasi wa [osake o nomi-taku] omo-u.*
      1.sg TOP sake ACC drink-want think-PRS
      'I think that I want to drink sake.'

Note that the small clause complement selected by *omou* can have an adjective (and also an adjectival noun) as its predicate (Kishimoto 2007, 2008).

(14) *Ken wa [sono kodomo o {kawaiku/sinsetu-ni}] omot-ta.*
      Ken TOP that child ACC {cute/kind} think-PST
      'Ken thought that child {cute/kind}.'

Example (13b) is acceptable because *nomi-tai* 'want to drink' is an adjectival predicate, with the structure *complement verb + lexical adjective* (*tai*), i.e. the auxiliary *tai* in (13b) functions as a fully lexical adjective with the feature [+Adj, +Pred, +Aggl], despite the fact that it is a morphologically dependent (agglutinative) element. By contrast, (15) is excluded because the embedded predicate has the sequence of *verb + function word* (*nai*), i.e. the verb is negated by the function word *nai*.

(15) **Ken wa [sono kuruma o ure-naku] omot-ta.*
      Ken TOP that car ACC sell.can-NEG think-PST
      'Ken thought that car unlikely to be sold.'

In (15), the negative *nai*, which inflects like an adjective, is a functional category, which can be labeled as [–Pred, +Aggl] (i.e. [–Pred] → [–Adj, –Pred]), and thus, it is not allowed to occur in the small-clause complement when it is combined with a verb.

The difference in the grammatical status of *tai* and *nai* can also be confirmed by embedding them under *hosii* 'want'. When *nomi-tai* and *noma-nai* are embedded under *hosii*, a difference in acceptability emerges, as in (16).

(16) a. *Watasi wa [Ken ga osake ga nomi-taku-te] hosi-i.
         1.sg   TOP Ken NOM sake   NOM drink-want-GER   want PRS
         'I want Ken to want to drink sake.'

     b. Watasi   wa [Ken ga osake o   noma-nai-de] hosi-i.
        1.sg   TOP Ken NOM sake   ACC drink-NEG GER want PRS
        'I want Ken not to drink sake.'

Note that when a negated verb is embedded under *hosii*, the *nai-de* form instead of the *naku-te* form must be used. The verbal *te*-form *nai-de* can be formed only when it is preceded by a verb, but the *naku-te* form is available for both negated verbs and adjectives (see e.g. Kuno 1973). The contrast in acceptability between (16a) and (16b) comes from the requirement that the complement clause selected by *hosii* should be verbal, but not adjectival. This is confirmed by (17).

(17) a. Watasi   wa [sono kuruma ga ure-te] hosi-i.
        1.sg   TOP that   car   NOM sell.can-GER want PRS
        'I want that car to be sold.'

     b. *Watasi wa [kodomo ga itumo kawaiku-te] hosi-i.
        1.sg   TOP child   NOM always cute-GER   want-PRS
        'I want the child to be cute at all times.'

Thus, the difference in acceptability between (16a) and (16b) suggests that *nomi-tai* has the constituent structure *verb + adjective*, and *noma-nai*, the structure *verb + function word*. The data show that certain adjectivally-inflecting auxiliaries may be construed as lexical adjectives, even though they are morphologically dependent.

   Notably, predicates identified as morphologically free can be either lexical or functional. In traditional grammar, the existential/possessive *nai*, which is the negative form of the verb *aru*, is claimed to be an "adjective" mainly for morphological reasons, but the examples in (18) illustrate that it does not function as a lexical adjective.

(18) a. *Ken wa [soko ni hon o   naku] omot-ta.
        Ken TOP there LOC book ACC NEG   think-PST
        'Ken thought the book not to be there'

     b. *Watasi wa [soko ni hon ga {naku-te/nai-de}] hosi-i.
        1.sg   TOP there LOC book NOM {NEG GER/NEG GER} want PRS
        'I want the book to not to be there.'

The existential/possessive *nai* is not allowed to appear in the context where an adjective can appear, nor can it occur in the syntactic context where a verb is

allowed. This suggests that the existential/possessive *nai* should belong to the functional class, despite the fact that it is a non-agglutinated form morphologically; hence this element should be marked as [−Pred, −Aggl].

In the literature on Japanese, a number of opinions are available as to how *nai* should be related to *aru* (see Hashimoto 1969; Yamaguchi 2004; Kato 1985; and many others). But if the existential/possessive *nai* – the negative counterpart of *aru* 'be' – is a functional element, as noted above, a reasonable analysis would be that, as suggested by Kato (1985), the negative form *nai* is derived from *ara-nai* by dropping the verb part *ara-*, owing to the fact that *aru* somehow lacks an inflectional form **ara-* in contemporary Japanese. It is worth noting here that archaic negative expressions like *ara-nu* and *ara-zu* do inclde the verb form *ara-*, which must be deleted when combined with *nai*. Note further that the verbal negator *nai* can only have the *te*-form *naku-te*, unlike the verbal negation which can have both *naku-te* and *nai-de*, because the verb is dropped.

The regular negator *nai* combined with verbs does not have the properties of a lexical adjective, despite its adjectival inflection, and serves as a functional predicate. It is plausible to say here that this type of *nai* acquires status as a functional category via the process of decategorialization – a shift from [+Adj, +Pred] to [−Adj, +Pred] (i.e. the loss of 'adjective' status), and further, to [−Pred] (the loss of 'predicate' status) In this case, the functional shift of *nai* has taken place while retaining its inflection. (Note that major lexical categories are often grammaticalized into minor categories while preserving their inflectional patterns; see e.g. Brinton and Traugott 2005). Interestingly, there are cases where negative *nai* retains the status as a lexical adjective, as exemplified by *warikire-nai* 'unsatisfactory' and *abunage ga nai* 'without danger'.

(19) a. *Ken wa [sono kettei   o   warikire-naku] omot-ta.*
       Ken TOP that   decision ACC satisfy-NEG   think-PST
       'Ken thought that decision to be unsatisfactory.'

   b. **Watasi wa [Ken ni   sono kettei   ga   warikire-nai-de] hosi-i.*
       1.sg   TOP Ken DAT that decision NOM satisfy-NEG GER want PRS
       'I want Ken to want to drink sake.'

   c. *Watasi wa [kare no   unten o   abunage ga   naku] omo-u.*
       1.sg   TOP he   GEN driving ACC danger NOM null think-PRS
       'I think his driving without danger.'

As shown in (19a, c), *warikire-nai* and *abunage ga nai* can be legitimately embedded as a small clause predicate under *omou* (and *warikire-nai* cannot be embedded under *hosii*, as in (19b)). The data suggest that negative *nai*s associated with these

expressions function as lexical adjectives, i.e. [+Adj, +Pred]. Nevertheless, their morphological status differs, as we can see from (20).[3]

(20)   a.   *warikire   mo   si-nai*   b.   *(nan   no)   abunage   mo   nai*
                satisfy   also   do-NEG   any   GEN   danger   also   null
                'not also be satisfied'   'also without (any) danger'

In both cases in (20), an adverbial particle can be added to the front of *nai*. In (20a), the supportive verb *suru* occurs to the left of *nai*, which shows that *nai* is an agglutinated element, i.e. [+Aggl]. In (20b), no supportive element is necessary, since *nai* here is a non-agglutinated form, i.e. [–Aggl], just like the existential/possessive *nai*. Both instances of *nai* in (20) are categorized as adjectives by the syntactic criteria, as verified by (19a, c). This shows that *nai* can be a lexical adjective, regardless of whether it is agglutinated or not, i.e. *nai* appearing in *warikire-nai* is specified as [+Adj, +Pred, +Aggl], and *nai* appearing in *abunage ga nai* as [+Adj, +Pred, –Aggl].

It is worthy of note that Japanese has a deverbal predicate as well. The predicate *iru* 'need' provides a case in point. This predicate shows verbal inflection. Even though *iru* counts as a verbal, at least, in morphological terms (cf. Backhouse 2009), it cannot be embedded under *hosii* 'want'.

(21)   **Watasi   wa   [Ken   {ga/ni}   okane   ga   it-te]   hosi-i.*
             1.sg   TOP   Ken   {NOM/DAT}   money   NOM   need-GER   want   PRS
             'I want Ken to need money.'

As discussed by Kishimoto (2005), any kind of lexical verb can appear in the embedded clause introduced by *hosii*.[4] Then, (21) shows that *iru* 'need' does not act as a lexical verb, even though it behaves as a predicate with an argument structure determining the thematic status of their arguments. This suggests that *iru* 'need' serves as a predicate devoid of its categorical property as a verb, i.e. [–V, +Pred,

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3 These adjectival expressions do not have affirmative forms, as in **warikireru* and **abunage ga aru*. *Abunage ga nai* serves as an idiomatic adjective, so it can be easily embedded under *omou* even though *abunage* bears nominative case marking. On the other hand, when *nai* serves as a grammatical negator, it has an affirmative counterpart, as (ia) shows, and the clause cannot be embedded under *omou* 'think', as in (ib).

(i)   a.   *Kare   ga   yuuki   ga   {na i/ar u}.*
               he   NOM   courage   NOM   {NEG-PRS/be PRS}
               'He {does not have/has} courage.'

      b.   **Watasi   wa   [kare   o   yuuki   ga   naku]   omo u.*
               1.sg   TOP   he   ACC   courage   NOM   NEG   think PRS
               'I think him without courage.'

4 In (21), any type of lexical verb can appear in the subordinate clause, because this clause involves simple embedding. Thus, non self controlable verbs, as well as stative verbs, can be used as the predicates of the embedded clause, as shown in (i).

−Aggl], as opposed to an ordinary verb labeled as [+V, +Pred, −Aggl]. Furthermore, the negative marker *nai* combined with *iru* 'need' behaves differently from the regular negator *nai* (associated with ordinary verbs), which is identified as a functional category, as shown in (22).

(22) a. **Watasi   wa   [Ken   {ga/ni}   okane   ga   ira-nai-de]   hosi-i.*
       1.sg   TOP Ken {NOM/DAT} money NOM need NEG GER want PRS
       'I want Ken to need money.'

    b. *Watasi   wa   [sono   okane   o   ira-naku]   omot-ta.*
       1.sg   TOP that   money ACC need-NEG think-PST
       'I thought that money unnecessary.'

Since *ira-nai* 'need not' can be embedded under *omou*, but not under *hosii*, the negative *nai* associated with *iru* 'need' must count as a lexical adjective, i.e. [+A, +Pred, +Aggl], illustrating that *nai* can be a lexical adjective even if it is a bound form. The facts of the negative *nai* illustrate that there is no necessary connection between the "lexical" versus "functional" distinction, on the one hand, and the "agglutinated" versus "non-agglutinated" distinction, on the other.

    Let us now turn to the discussion of the predicate *sugiru*, which carries the meaning of 'exceed' or 'pass', for further illustration of the fact that categories cannot be identified solely in morphological terms. Note first that *sugiru* can be used as a main verb, as in (23).

(23) a. *Zikan   ga   sugi-ru.*   b. *Hatugen   no   do   ga   sugi-ru.*
       time   NOM pass-PRS   statement GEN degree NOM excess-PRS
       'Time passes.'   'The statement is too excessive.'

Sugiru can also appear as part of compound verbs, as shown in (24).

(i) a. *Watasi   wa   [gohan   ga   suguni   deki te]   hosi i.*
      1.sg   TOP rice   NOM immediately make GER want-PRS
      'I want the meal to be ready immediately.'

   b. *Watasi   wa   [soko   ni   hon   ga   at te]   hosi i.*
      1.sg   TOP there LOC book NOM be GER want-PRS
      'I want the book to be there.'

When *hosii* takes a control clause as its complement clause, however, it is not possible to emedd a non self controllable verb, as in (ii).

(ii) **Watasi   wa   gohan   ni   [PRO suguni   deki te]   hosi i.*
    1.sg   TOP rice   DAT   immediately make GER want-PRS
    'I want the meal to be ready immediately.'

In (ii), the dative argument serves as a controller that controls PRO. The unacceptability of (ii) comes from the 'self controllability' condition imposed on control constructions.

(24) a. *Kuruma ga toori-sugi-ru.* b. *Ken ga gohan o tabe-sugi-ru.*
     car   NOM go-pass-PRS   Ken NOM rice   ACC eat-exceed-PRS
     'Cars pass by.'   'Ken eats too much rice.'

The complex predicate *toori-sugiru* 'pass by' in (24a), where *sugiru* carries the sense of 'pass', is a lexical compound which does not have a constituent structure transparent to the syntax, but *tabe-sugiru* 'eat too much' is a syntactic compound with a transparent syntactic structure. The *soo suru* 'do so' replacement test in (25), which is often used to assess the syntactic transparency of verbal constituents (Kageyama 1993), indicates that the two kinds of compound verbs indeed have distinct constituent structures.

(25) a. *Ken ga gohan o tabe-sugi-ta. Mari mo soo si-sugi-ta.*
     Ken NOM rice ACC eat-exceed-PST Mari also so do-exceed-PST
     'Ken ate rice too much. Mari did so, too (=ate rice too much).'

    b. *Ken ga toori-sugi-ta. #Mari mo soo si-sugi-ta.*
      Ken NOM go-pass-PST Mari also so do-pass-PST
      'Ken passed by. Mari did so, too (≠passed by).'

The difference is further corroborated by the fact that *sugiru* expressing the sense of 'exceed' can be productively combined with any type of verb, while the verb *sugiru*, which carries the meaning of 'pass', cannot.

    When the excessive *sugiru* 'exceed' is combined with a verb, the entire complex is often regarded as forming a syntactic V-V compound (Kageyama 1993; Yumoto 2005; Kishimoto 2009). Nevertheless, *sugiru* possesses properties different from those of other verbs appearing in syntactic compounds (e.g. *kakeru* 'start', *naosu* 'repeat'). As shown in (26), *sugiru* 'exceed' can combine with a verb, a noun, an adjective, an adjectival noun, or a negated verb to form a complex compound, but the verb *naosu* 'repeat' can be directly combined with a verb only.

(26) a. *Kare wa {tabe/kodomo/sizuka/isogasi/sira-na}-sugi-ru.*
     he   TOP {eat/child/quiet/busy/know-NEG}-exceed-PRS
     'He {eats too much/is too childish/is too quiet/is too busy/knows too little}.'

    b. *Kare wa {tabe/*kodomo/*sizuka/*isogasi}-naosi-ta.*
     he   TOP {eat/child/quiet/busy}-repeat-PST
     'He repeated {the act of eating/*child/*quiet/*busy}.'

Arguably, *sugiru* is the only verbal predicate (or to be more precise, the only verbally-inflecting predicate) that can be combined with elements other than verbs to give rise to syntactic compound predicates. Importantly, the excessive *sugiru* forming a syntactically analyzable compound with a verb, a noun, or an adjective is devoid of its verbal property, i.e. it does not act like a verb. This is evidenced by the fact that it cannot be nominalized by *kata*-suffixation.

(27) a. *ryoori   no   tabe-{kake/naosi}-kata*
            dish   GEN   walk-{start/repair}-way
            'the way of {starting to eat the dishes/eating the dishes again}'

     b. *gohan   no   tabe-sase-kata*
            rice   GEN   eat-CAUS-way
            'the way of making (someone) eat rice'

     c. *kare   no   nagu-rare-kata*
            he   GEN   hit-PASS-way
            'the way of his being hit'

     d. **kare   no   {kodomo/karu/tabe}-sugi-kata*
            he   GEN   {child/light/eat}-exceed-way
            'the way of his {being too childish/being too light/eating too much}'

Since the nominalizing suffix *-kata* 'way' can be attached to a verbal element, compound verbs can be nominalized with the addition of the suffix *-kata*, as in (27a). The causative and passive suffixes *sase* and *rare*, which can be labeled as [+V, +Pred, +Aggl], can also host this suffix, as in (27b) and (27c), showing that the morphological status of bound versus free form does not affect the possibility of *kata*-suffixation. Nevertheless, V-*sugiru* compounds cannot be nominalized with the suffix *-kata*, as in (27d). In this connection, observe that *kata*-nominalization is permitted if *sugiru* is not part of a syntactic compound, as in (28).

(28) a. *(kuruma no)   toori-sugi-kata* b. *zikan   no   sugi-kata*
            car   GEN   go-pass-way   time   GEN   pass-way
            'the way of cars' passing by'   'the way of time passing'

     c. *hatugen   no   do   no   sugi-kata*
            statement GEN degree GEN exceed-way
            'the way of making too extreme statements'

The fact that V-*sugiru* compounds in (27d) resist *kata*-nominalization suggests that the morphological dependent *sugiru* appearing in syntactic compounds does not function as a lexical verb, having the status as [−Pred, +Aggl]. In the light of the data (27), it is reasonable to state that the predicate *sugiru* forming a syntactic compound verb has undergone grammaticalization, and now serve as a functional element.

    In this section, we have discussed the issue of a correlation between the classification of lexical categories and their morphological forms. In Japanese, auxiliaries following a main predicate are formed into a morphologically tight unit via agglutination. On the basis of certain syntactic criteria, it has been seen that auxiliaries fall into either lexical or functional categories, which suggests that the categorial status of predicative elements does not strictly correlate with a morphological distinction

between "agglutinated" versus "non-agglutinated" forms. This in turn shows that morphological criteria are not necessarily reliable for the purpose of drawing a line between lexical and functional categories in Japanese.

4 Lexical categories from the cognitive-typological perspective

Cognitive linguistics places a focus on the nature and functional motivations of linguistic categorization. Linguistic typology (or simply, typology) examines attested patterns of variation across languages. This section will present an analysis of lexical categories in Japanese representing the collaboration of the two approaches.

4.1 Basics in the cognitive-typological approach to categorization

Usage-based cognitive linguistic investigations have repeatedly found that gradience is observed, when examined without contrary predilection, in almost every aspect of linguistic phenomena. In analyzing lexical category structures and organizations, cognitive approaches thus do not assume, a priori, "classical models" of categories, in which categories are discrete and phenomena are either inside of or outside of a given category (Lakoff 1987; Langacker 1987). Gradience, or lack of discreteness, however, does not mean chaos without any generalizations. It often implies "prototype" motivations in category organization (Rosch 1978; Taylor 1989). A prototype is a privileged subset of members of a category that represent the best exemplars of the category. The theoretical concept of a prototype is often relevant to and shared by typological approaches to linguistic categories.

Typological or cross-linguistic approaches are characterized by their acceptance of the fact of linguistic diversity that linguistic categories of particular languages can be irreducibly language-particular. Croft (1991, 2001) presents a theory based on a prototype approach to cross-linguistic grammatical patterns and has developed a universal definition (in the form of markedness patterns in typology) of the major lexical categories that is not constrained by the peculiarities of a particular language. To see how this theory can be applied in typologically characterizing lexical categories in Japanese, Uehara (1998) is introduced here. To indicate those points of departure of the cognitive-typological approach from the previous traditional and generative approaches, Uehara (1998) surveyed formal and structural criteria used to identify the so-called five "major" lexical categories of Japanese in eight past analyses, all of which explicitly discuss their grammatical behaviors (Hashimoto 1948; Kuno 1973; Martin 1975; Teramura 1982; Kageyama 1982; Miyagawa 1987; Shibatani 1990; Ohkado 1991). Having pointed out some problems arising

from language-particular aspects of their grammatical behaviors, Uehara discusses what contributions the cognitive-typological theory can make. Specifically, he adopts Croft's treatment of pragmatic (propositional) functions and reinterprets the formal and structural criteria used in the previous methods in cognitive-typological terms to provide a typological characterization of the lexical category structure of Japanese.

The five categories investigated as the "major" lexical categories in Japanese are Noun, Adjectival Noun, Adjective, Verbal Noun, and Verb,[5] and capitalization is used throughout this section to indicate that these categories in question are language-specific categories assessed in terms of some language-internal properties. These five categories are assumed to all be lexical categories with a relatively large membership, more or less distinct from one another in terms of their linguistic structural and/or semantic properties. They are termed the five "large" lexical categories (compared with words in minor lexical categories like *doodoo* 'dignified' or *onazi* 'identical, the same') in this section, to save the title "major" until they, or some other lexical categories, are assessed to be appropriate for it in cross-linguistic terms.

As one of the problems arising from language-specific aspects of lexical categories, Uehara (1998) points out that the criteria for defining these basic lexical categories are based on concepts which themselves are not well defined. Defining some language-specific properties of the Japanese language in terms of the concepts applicable to, say, English, does not secure sound characterizations of them, but rather brings about confusing situations for descriptive purposes. This is observed in apparent contradictions among the criteria proposed for the same AN category membership. One such pair is shown in (29). Each criterion is followed by those works that propose it.

(29)   a.   ANs can inflect (-*na* prenominally, -*da* sentence-finally).
            [Hashimoto 1948, Kageyama 1982]

       b.   ANs do not inflect and need a copula (e.g. *da*), and take *na* before N.
            [Kuno 1973, Teramura 1982, Martin 1975, Miyagawa 1987, Shibatani 1990]

With the same criterion of inflection, ANs are inflectional according to some (notice the use of hyphens) in (29a) while ANs are non-inflectional in others (notice the same forms without hyphens) in (29b). This suggests that it is necessary to know what kind of grammatical behavior in Japanese each analysis treats as "inflection" before inflection can be used as a criterion for category membership of the language. In fact, it is of prime importance in characterizing the overall structure of lexical

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5 These category labels are used throughout this chapter to be consistent, but different labels (not to mention their names in Japanese) are found for the same categories in different analyses. For instance, the term "Nominal Adjective" is used in Kuno (1973) and its Japanese close equivalent "meiyōshi" in Teramura (1982) for "Adjectival Noun" here.

categories in Japanese to examine what counts as inflection in Japanese and define it in terms of some intra-linguistic facts, which is done in the next section.

The other, more fundamental problem found in the previous approaches to lexical categories in Japanese, according to Uehara (1998), is the lack of a principled basis of choosing the criteria for lexical categorization. The criteria for a single category of Adjectival Nouns, for example, are various and numerous; even when the same criteria are collapsed together there still remain 19 different criteria by eight analyses. This lack of a principled basis virtually allows a scholar to privilege certain preferred criteria, whose data are hard to interpret typologically. This part of the section will briefly illustrate this and explicate how Croft's (1991, 2001) theory helps one to reinterpret them in cross-linguistic terms.

After presenting his data as to the inflection criterion (see (29b) above) for his argument for a certain lexical feature (cf. Section 3) for ANs in Japanese, Miyagawa (1987) presents, as another piece of evidence, the data reproduced in (30), to show that "the conditional *(ke)reba* attaches to V and A, but not to AN and N" (pp. 43–45):

(30)   a.   AN   *sizuka-reba*   'if quiet'

      b.   N   *sensei-reba*   'if a teacher'

      c.   A   *utukusi-ke-reba*   'if beautiful'

      d.   V   *tabe-reba*   'if (you) eat'

This part of his data can illustrate two accounts on which typological considerations can be implemented. The first concerns the theory of typological markedness (Greenberg 1966). By simply mentioning the form of the conditional as "*(ke)reba*", Miyagawa dismisses a structural difference between As and Vs, which can be observed in his data in (30), that *ke-reba* is for As while *reba* is used for Vs. In other words, for the forms indicating the same function of conditional, As always require an extra marking *ke* to the form for Vs. In the typological markedness terms, Vs are structurally "unmarked" (or "the least marked", in case there are more than two types) for conditionals while As are structurally "marked" (or "more marked" in comparison). This markedness criterion is crucial in linguistic typology for discovering cross-linguistic patterns, and is used in cross-linguistic approaches to lexical categories as well, as will be seen for those in Japanese later (see Croft 2001 for discussion of the other, "behavioral potential" markedness criterion, which is also used in typology but is omitted here due to space constraints).

The other point concerns the principle governing the selection of criteria for lexical categorization in cross-linguistic studies. Although Miyagawa's criterion above says "the conditional *(ke)reba* does not attach to AN and N" as seen in (30), it does not mean that they never take conditionals. They do, and the conditional form of the copula *nara(ba)* is used with them instead. So Miyagawa's paradigm in

(30) above could be supplemented with the data in (31) below for a descriptively fuller picture for cross-linguistic comparison.

(31) a. AN *sizuka nara(ba)* [quiet COP] 'if quiet' (cf. 30a)

  b. N *sensei nara(ba)* [teacher COP] 'if a teacher' (cf. 30b)

What this criterion of conditionals by Miyagawa boils down to, then, is the same as his first one in (29b): whether some lexical item inflects itself or needs a copula in predication. Interestingly, this criterion as to the forms of lexical items in predication is among those criteria most commonly used (often in disguise) by the previous analyses surveyed, and at the same time it is one of the criteria used in Croft's cross-linguistic approaches to major lexical categories as well. The difference between the two, most naturally, is that some specific forms of the language (e.g. *(ke)reba* in (30) above) are used in the former, while in the latter such criteria are phrased in general, cross-linguistically applicable terms. Thus the criterion in question is rendered in the cognitive-typological approach as the (structural) markedness criterion of the lexical roots in the constructions indicating the pragmatic function of "predication".

In addition to predication, the cognitive-typological approach employs "reference" and "modification" as the pragmatic functions directly relevant to the cross-linguistic identification of major lexical categories. Again, constructions indicating reference and modification are found among the groups of structural criteria commonly used and/or (often implicitly) repeated in the surveyed previous analyses of the five large lexical categories in Japanese. They are of course expressed in more or less language-specific ways, such as "can function as subject (or object)" or "can take case particles" for reference and "take *na* prenominally" (as in (29) above) for modification.

The pragmatic function as the basis of major category definitions is a propositional act, and it is thus referred to as "propositional" function hereafter in this chapter. A propositional act is analogous to an illocutionary speech act, but it is a speech act that structures information inside the proposition rather than modifying the proposition as a whole (Searle 1969). In performing a speech act, the speaker must perform a series of propositional acts. The most important of these are reference, predication (since these are required for every proposition), and (to a lesser extent) modification. The reference function is defined as "to get the hearer to identify an entity as what the speaker is talking *about*" (Croft 1991: 52). The predication function is to say "what the speaker intends to say about what he is talking about (the referent)" (Croft 1991: 52) to ascribe something to it, and the modification function is "to enrich the nominal image by an additional feature" (Croft 1991: 123).

Croft's (1991) cross-linguistic study on lexical categories found some patterns repeated across languages in the interaction of propositional function and semantic class. The semantic classes of objects, actions, and properties (taken originally from

the traditional approach) are only a small subset of the semantic classes of words found in human languages, and are defined in terms of four semantic properties of valency, stativity, persistence, and gradability (see Croft 1991). It is found that there is a prototypical correlation between the semantic class of object and the function of reference so that words denoting objects cross-linguistically take the prototypical markedness pattern for nouns, in which their lexical roots are the least marked for reference. A similar prototypical markedness pattern holds between actions and predication for verbs and between properties and modification for adjectives.

Such a prototypical correlation is most conspicuously revealed and illustrated in the structural markedness patterns in English shown in Table 3 below, slightly modified from Croft (1991:67) with English examples from Croft (1991:53):

Table 3: Typological correlations with English examples (from Croft 1991)

	Reference	**Modification**	**Predication**
Objects	UNMARKED NOUNS (vehicle)	genitive, PP's on nouns (vehicle's, *of/in*/etc. the vehicle)	predicate nominals (*be* a/the vehicle)
Properties	deadjectival nouns (tall*ness*)	UNMARKED ADJECTIVES (tall)	predicate adjectives (*be* tall)
Actions	action nominals, complements, infinitives, gerunds (destruc*tion*, *to* destroy)	participles, relative clauses (destroy*ing*, destroy*ed*)	UNMARKED VERBS (destroy)

4.2 Toward a formal definition of *katsuyō*-inflection in Japanese

This section addresses a basic, language-specific question postponed earlier: what does it mean to say that a word *inflects* in Japanese? The word *inflection* is a translation of "katsuyō" in Japanese, a traditional grammatical term. Past analyses by and large agree that Nouns do not inflect while Adjectives and Verbs inflect in Japanese. As for words in the AN category, however, as we saw above in the survey of past analyses in (29), there are two competing positions: one posits that ANs inflect and the other that ANs do not. This is illustrated below by the most basic (i.e. the present, affirmative, declarative) forms[6] of representative examples of each

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6 This form is attested by hearsay evidential markers, *soo da* 'it is said that' and *to iu koto da* 'it is the case that'.

(i) *Kirei( ) da {soo da/to iu koto da}.*
     pretty COP {it.is.said.that/it.is.the.case.that}
     '{It is said that/It is the case that} (it) is pretty.'

Also, the unmarked form prototypically appears before prototypical conjunctive clause particles like *kedo* 'although', and *kara* 'because'.

(ii) *kirei( ) da {kedo/kara}* …
     pretty COP {although/because}
     '{Although/Because} (it) is pretty, …'

category, where the use of hyphen indicates the inflectional status (note the zero pronominal nature of the Japanese language, where complement nouns can be implicit and predicates alone can form sentences, indicated by the capitalization of the first letter, in the example sentences in (32) and below):

(32) a. N   *Hon da.*   [book COP]   '(It) is a book.'
     b. AN   *Kirei(-)da.* [pretty-INFL/COP]   '(It) is pretty.'
     c. A   *Huru-i.*   [old-INFL]   '(It) is old.'
     d. V   *Tabe-ru.*   [eat-INFL]   '(It) eats (it).'

This disagreement as to the inflectional status of ANs, together with the controversy as to whether to establish a separate category of ANs, is observed not only in the survey above, but throughout the history of syntactic category analyses of Japanese, which dates back to FUJITANI Nariakira (1778). Fujitani first recognized ANs as a category called *ari-sama*, which is a subcategory of *sama*, which corresponds roughly to the Adjective category. Since then, two prominent traditional grammarians, Hashimoto and Tokieda, for example, took opposite sides (see Mizutani 1951 for a summary), and the controversy has continued up to the generative approaches (Kageyama 1982; Miyagawa 1987) as well, as seen above in (29). Therefore, what counts as *katsuyō*-inflection needs to be made clear before it can be used as a criterion in any lexical category analyses of Japanese.

The important question to ask is whether there is any linguistically salient contrast among the four kinds of predicates in (32). Uehara (1998) answers in the affirmative to this question, and demonstrates that the contrast between N and AN on the one hand and A and V on the other is a very salient one. The contrast shows up when one starts looking at the forms of predications with more marked functions than the basic, unmarked ones. Among notable instances of contrast is the reduplication for emphasis of predicates, which are shown in Table 4.

Table 4: Lexical roots in unmarked and emphatic predicates

	Unmarked predicates		Reduplication for emphasis	
N	*Hon da.*	'(It) is a book.'	*Hora! Hon, hon!*	'See! (It) IS a book!'
AN	*Kirei da.*	'(It) is pretty.'	*Hora! Kirei, kirei!*	'See! (It) IS pretty!'
A	*Huru i.*	'(It) is old.'	*Hora! *Huru, huru! => Huru i, huru i!*	'See! (It) IS old!'
V	*Tabe ru.*	'(It) eats (it).'	*Hora! *Tabe, tabe! => Tabe ru, tabe ru!*	'See! (It) DOES eat (it)!'

One contrast observed above is that the first elements (i.e., lexical roots) of N and AN predicates can stand alone in the emphatic predicative function while those of A and V predicates cannot. That is to say, A and V roots are "bound" morphemes unlike N and AN roots.

The same can be observed also in question predicates, direct or indirect, most of which involve the question particle *ka*. Table 5 below shows the most obvious case of contrast, in which in casual colloquial speech the lexical roots are used in questions without the question particle *ka* but with the question intonation.

Table 5: Lexical roots in unmarked and interrogative functions

	Unmarked predicates		Predicates in casual-style question	
N	*Hon da.*	'(It) is a book.'	*Hon ?*	'Is (it) a book?'
AN	*Kirei da.*	'(It) is pretty.'	*Kirei ?*	'Is (it) pretty?'
A	*Huru i.*	'(It) is old.'	**Huru ? => Huru i ?*	'Is (it) old?'
V	*Tabe ru.*	'(It) eats (it).'	**Tabe ? => Tabe ru ?*	'Does (it) eat (it)?'

The same pattern of contrast can be observed in the use of lexical roots with the question particle *ka*, with *ka sira* 'I wonder if . . . .' (mostly by female speakers) and with *ka doo ka* 'whether or not. . . .' (indirect/embedded questions), only the first of which is shown below in (33) due to space limitations:

(33) a. N   *Hon ka?*   'Is (it) a book?'
      b. AN   *Kirei ka?*   'Is (it) pretty?'
      c. A   **Huru ka? => Huru i ka?*   'Is (it) old?'
      d. V   **Tabe ka? => Tabe ru ka?*   'Does (it) eat (it)?'

The above examples demonstrate that the second elements of A and V predicates, *i* and *ru* (*u* in case of consonant-root Vs) respectively, are more tightly joined with their first element (i.e. "root"), than are those of N and AN predicates (i.e. *da*).

The other group of predicates that exhibit the same pattern of contrast are epistemic modality predicates, which are, again, predications with marked functions. They include *daroo* 'it is probable that', *desyoo* 'it is probable that (polite)', *ka mo sirenai* 'may be', *ni tigainai* 'surely, must be', and *mitai* (*da*) 'seem like'. Only the pattern with the lexical roots with *daroo* 'probable' is shown in (34) due to space limitations, but the same pattern holds with the other modality markers as well:

(34) a. N   *Hon daroo.*   '(It) is a book, probably.'
      b. AN   *Kirei daroo.*   '(It) is pretty, probably.'
      c. A   **Huru daroo. => Huru i daroo.*   '(It) is old, probably.'
      d. V   **Tabe daroo. => Tabe ru daroo.*   '(It) eats (it), probably.'

All the data presented here demonstrate that though all the basic predicate types in (32) seemingly are composed of two elements, there is a salient difference between N

and AN predicates on the one hand and A and V predicates on the other in the connectedness between the two elements of their predicates. In other words, the roots of A and V unmarked predicates are more "bound" to their following elements than those of N and AN predicates. With this contrast in mind, one can now safely use the "-" notation as in (35) below:

(35) a. N   *Hon da.*   [book COP]   '(It) is a book.'

      b. AN   *Kirei da.*   [pretty COP]   '(It) is pretty.'

      c. A   *Huru-i.*   [old-INFL]   '(It) is old.'

      d. V   *Tabe-ru.*   [eat-INFL]   '(It) eats (it).'

With this distinction in boundness as the language-internal basis for determining inflectional categories (A and V) and non-inflectional ones (N and AN) in Japanese, one may now proceed to typological characterization of the lexical categories in Japanese in the next section. However, there are two points worth noting here about this boundness distinction of the language, which will have direct relevance to our later discussions. These two points are discussed in the next two subsections, respectively.

4.2.1 Gradience in boundness

In the previous section we have focused on the salient contrast in boundness of lexical roots between N and AN on one hand and A and V on the other (see (35) above). However, this by no means implies that the morphological bound/free distinction itself is discrete. Instead, as will be seen below, the degree of boundness varies even among the members of inflectional categories (of bound lexical roots) and of the other, non-inflectional categories.

Both lexical roots of A (e.g. *huru-i* 'old') and V (e.g. *tabe-ru* 'go') are bound (i.e. 'not free') compared with those of Ns and ANs, in that their inflectional ending (-*i* and -(*r*)*u*, respectively) cannot be dropped in the context where the lexical roots of the latter can stand alone. A difference in the degree of boundness, however, shows up between the two inflectional lexical categories and indicates that A roots are the freer of the two. This is shown by the fact that the so-called "Adjectival conjugational ending drop construction" (Konno 2012) is available, which expresses "the speaker's immediate reaction to a given situation in which he/she is involved at the time of utterance" (Konno 2012). In that construction, as its name indicates, A roots are used without their inflectional ending -*i*. No construction with the same function is available for V roots, and even when occurring in similar functions they always require their ending −(*r*)*u*. This contrast is shown in (36) below:

(36) a. A *Huru!* 'Old!'   (<= *huru-i*)

  b. A *Dasa!* 'Uncool!'   (<= *dasa-i*)

  c. A *Kimoti-waru!* 'Disgusting!' (<= *kimoti-waru-i*)

  d. V *Wakar*(-u)!* '(It) makes sense!' (*wakar-u* 'understand')

  e. V *Simi*(-ru)!* '(My teeth) aches!' (*simi-ru* 'soak through')

It should be also noted that a phonological restriction renders many V roots inherently bound, unlike A roots. The lexical roots of Verbs may end with consonants (as in *k* of *ik-u* 'go' and *r* of *wakar-u* 'understand') or with vowels *i* or *e* (as in *oki-ru* 'arise' and *tabe-ru* 'eat'). The mora structure of Japanese does not allow syllable-final, non-moraic consonants. In other words, no lexical roots of consonant root Verbs can stand alone without their inflectional ending.

  The existence of the inflectional ending drop construction for A but not for V, together with the language's phonological restriction on the V (consonant) roots, suggest that the degrees of boundness of the bound A and V lexical roots can be shown as A > V, where the left side of > is freer.

  Moving on to the other side of the boundness distinction, namely, N and AN, one sees some similar difference in the degree of boundness between the two non-inflectional categories. This difference in boundness can be observed in their occurrences with case-marking particles. N roots can be directly followed by case-marking particles, while AN roots cannot and require a nominalizing suffix *sa* just like A roots, as in (37), where the notation *(sa)* means that *sa* is obligatory in this context.

(37) a. N *hon {ga/o}* [book {NOM/ACC}]

  b. AN *kirei-*(sa) {ga/o}* [pretty-*(ness) {NOM/ACC}]

  c. A *huru-*(sa) {ga/o}* [old-*(ness) {NOM/ACC}]

This indicates that between the two non-inflectional categories of free lexical roots, N roots are the freer of the two (N > AN).

  Table 6 below summarizes the above discussion:

Table 6: Degrees in boundness of lexical roots

	inflectional ending drop construction	marked forms of predication	directly with case-marking particles
N	(ok)	ok	ok
AN	(ok)	ok	*
A	ok	*	*
V	*	*	*

Table 6 clearly demonstrates that the bound/free distinction is a matter of degree and the degrees in boundness of lexical roots of the four lexical categories can

be shown in the form of a cline in (38) below (functional motivations for the cline will be discussed later):

(38)   N > AN > A > V

This boundness cline provides a possible explanation of why some researchers, traditional and generative alike, postulate AN to be inflectional along with A and V: they assign the boundness level between N and AN for the non-inflectional/inflectional division, while others assign the one between AN and A.

　　As discussed in Section 4.2, however, the current analysis concurs with the latter (i.e. AN, as well as N, is non-inflectional). This is because the *katsuyō*-inflection in question is concerned with predication function, while the use with case-marking particles indicating the boundness level between N and AN is concerned with reference rather than predication (see the discussion above).

4.2.2 The boundness distinction as a cardinal formal property of Japanese

This contrast in boundness of lexical categories is such a characteristic property of the predicate structure of the language that it captures a generalization, and thus facilitates the description, of not only all the predicate patterns enumerated in Section 4.2, but also other structural patterns of the language, of which only two are noted here.

　　The first represents the interaction of lexical categories with the pragmatics of the language found in the difference between default/masculine and feminine styles in colloquial speech. The following in Table 7 is an illustration of the difference, by using a sequence of a predicate + a sentence final particle of assertion, *yo* 'I tell you':

Table 7: The boundness distinction and a style difference

	Default/Masculine style	Feminine style	meaning
N	*Hon da yo.*	*Hon yo.*	'(It) is a book, I tell you.'
AN	*Kirei da yo.*	*Kirei yo.*	'(It) is pretty, I tell you.'
A	*Huru i yo.*	*Huru i wa yo.*	'(It) is old, I tell you.'
V	*Tabe ru yo.*	*Tabe ru wa yo.*	'(It) eats (it), I tell you.'

Here also, we find one pattern for Nouns and Adjectival Nouns, and another for Adjectives and Verbs – a contrast which now we are able to capture by the epithets, "non-inflectional" and "inflectional" groups.

　　The other point concerns the productivity of lexical categories of the language: this boundness of the A and V roots is such that it has made these categories closed

classes while making the other, "free" (non-inflectional) roots the only source for new word coinage, even though cross-linguistically inflection does not always block new members and such major categories in other languages are often open classes. That is, when new terms are coined in Japanese, they become members of the A or V classes with great difficulty, and instead become members of open classes such as AN and N. A striking example of this pattern can be seen in the formation of loan words in the language. There are a large number of English adjectives that have been borrowed into the Japanese language, but they seldom, if ever, become Adjectives, but ANs. *Ritti* 'rich' (39a) and *ereganto* 'elegant' (39b) below are among such examples. In (39), the corresponding adnominal forms, which follow the AN but not the A pattern, are shown in square brackets.

(39) a. *Ano   hito   wa   ritti {da/*-i}.   [ritti {na/*-i}   hito]*
          that   person   TOP   rich   rich   person
          'That person is rich.'   'a rich person'

  b. *Hun'iki   ga   ereganto {da/*-i}.   [ereganto {na/*-i}   hun'iki]*
      atmosphere   NOM   elegant   elegant   atmosphere
      'The atmosphere is elegant.'   'an elegant atmosphere'

This is true also of English verbs borrowed into Japanese. They follow the very productive Verbal Noun pattern, i.e. VN + *suru*. The following are only some of the numerous instances of VN words from English[7]:

(40) *kopii   suru,   katto   suru,   anaunsu   suru,   hitto   suru*
      copy   do   cut   do   announce   do   hit   do
      'to copy'   'to cut'   'to announce'   'to make a hit'

In fact, the boundness of A and V roots has been a characteristic of the Japanese language throughout its history, so that one does not have to wait for the recent borrowings from English for the evidence of their closed class status. In its long history of contact with the Japanese language, Chinese vocabulary has flowed into the language, and loan words from Chinese constitute a major part of the vocabulary of the Japanese language, most of which are Ns, ANs and VNs (see Uehara (2003) for a scenario of the historical development of ANs into major category in present-day Japanese).

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7 There is another less productive, but still useful colloquial pattern of N+*r u* (e.g. *kopir u* 'to copy' from *kopii* 'copy' and *memor u* 'to take notes' from *memo* 'notes'). See Uehara (1998: Chap. 4) for more examples.

(41) a. AN *kantan na,* *kyodai na,* *kimyoo na,* *yuudai na*

            'simple'   'gigantic'   'strange'   'magnificent'

    b. VN *soodan suru,* *syoyuu suru,* *baisyuu suru,* *kenkyuu suru*

            'to consult'   'to possess'   'to purchase' 'to research'

Thus, the existence of the two categories that are often noted as categories "unique" to the Japanese language (Shibatani 1990), can be ascribed to this boundness of the two inflectional categories, Adjectives and Verbs.

4.3 Typological characterization of lexical categories in Japanese

Now that what counts as inflection in Japanese is clearly laid out, the structural criteria in Japanese for the major propositional functions of reference, modification and predication can be summarized as follows:

Reference: whether or not it takes nonzero morpheme(s) such as *sa* '-ness' when used with case-marking particles

Modification: whether or not it takes nonzero morpheme(s) such as *no* or *na* before N

Predication: whether it inflects, or does not inflect and requires non-zero morpheme(s) such as the copula or the dummy verb in the predicate

4.3.1 The five "large" lexical categories

The criteria listed above are used to typologically characterize the structural properties of the five lexical categories in Japanese, which are summarized in Table 8 below (the least marked forms (present, affirmative indicative) are listed):

Table 8: Structural properties of five "large" lexical categories in Japanese

	Reference (take case particles)	Modification (before N)	Predication (inflect)
N	ROOT	ROOT + *no*	ROOT + *da*
VN	ROOT (+*suru* + *koto/no*)	ROOT + *no/suru*	ROOT + *da/suru*
AN	ROOT *sa* '-ness'	ROOT + *na*	ROOT + *da*
A	ROOT *sa* '-ness'	ROOT *i*	ROOT *i*
V	ROOT *(r)u* + *koto/no*[8]	ROOT *(r)u*	ROOT *(r)u*

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8 Some may argue that the stem form (root *(i)*) of the Verbs (e.g. *tutum i* 'package' from *tutum u* 'to pack') be in the V reference cell in Table 8. Refer to Uehara (1998: Chap. 2), which points out that the stem forms are often bound (e.g. **tabe* from *tabe ru* 'to eat' and **k i* from *k uru* 'to come') and that when they are free, they typically refer to some objects involved in the actions (e.g. *tutum i* above) or some aspects of them (e.g. *kaer i* 'the time/occasion of one's returning' from *kaer u* 'to return'), rather than to the actions themselves, which are referred to by the form in the cell in question in Table 8 (i.e., ROOT *(r)u* + *koto/no*).

The above table of the structural properties of the five "large" lexical categories in Japanese demonstrates two respects in which propositional functions interact with Japanese lexical category organization. First, Table 8 shows no difference in structural markedness between modification and predication,[9] which indicates that modification has not played a major role in the category organization of the language in addition to what predication has already. This can be considered to be a reflection of the fact that the modification function is optional and secondary compared with the two major propositional functions, both of which are required in every proposition. Present-day Japanese thus can be characterized as one of the languages in which this secondary status of modification is structurally observed. (This point and its relevance to the non-prototypical statuses of A and AN in the language will be discussed later.) Second, following from the first, reference and predication have played major roles in the language's lexical categorization: Noun, at the top of the list of large categories in Table 8, is the least marked for reference and others are progressively more marked as they go down the list. The markedness order is reversed for predication, for which Verb at the bottom is the least marked. In other words, the boundness degree order in (38), which is the determining factor of the order of paradigms in Table 8, is motivated by the propositional functions of predication and reference. The most "bound" V roots and their structural paradigm are motivated by predication function, while the freest N roots and their paradigm are by reference function. The other lexical roots and their paradigms of intermediate levels of boundness are in between in that regard.

From the comparison of Table 8 with Table 3, where Croft's cross-linguistically attested, prototypical lexical category paradigms are exemplified with English noun, verb, and adjective, the following points regarding the five Japanese lexical categories are observable as their functional-typological characteristics (for detailed discussions of each point with concrete examples, refer to Uehara 1998):

(a) N exactly follows the prototypical nominal paradigm in the Objects row like English nouns, where the root is unmarked for reference but is more marked for modification and predication. VN is identical with N in its forms and markedness pattern, the only difference being the existence of an additional pattern with *suru* 'do' for VN. In other words, VNs are Ns with the additional ability to compound with *suru* into compound level Vs.

(b) Neither AN nor A in Japanese exactly follows the prototypical adjectival paradigm in the Properties row, which English adjectives follow: ANs are like English adjectives in reference and predication functions, but in modification, ANs differ from them and need an extra morpheme (like Ns). In that sense, ANs are structurally "nouny" adjectives (Wetzer 1992). On the other hand, Japanese As are like

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9 This structure for the present day Japanese can be ascribed to the loss of the formal distinction between adnominal and predicative forms that used to exist for many Verbs and Adjectives in Old Japanese. See the relevant discussion in Uehara (1998).

English adjectives only in modification (the least marked form of the inflection). Unlike English adjectives, Japanese As (like Vs) can stand by themselves (i.e., without taking the copula *da*) in predication. In that sense, As are "verby" adjectives (Wetzer 1992). As are as unmarked for reference as for modification.

(c) Except for modification, V in Japanese follows the prototypical verbal paradigm in the Actions row, which English verbs follow: Vs thus resemble English verbs in predication (unmarked) and in reference (more marked), but, unlike them, Japanese Vs are unmarked also in modification without requiring any extra morpheme (i.e., the same form as in predication).

Table 8 furthermore makes possible some observations regarding the way the five categories are inter-categorically related and, accordingly, how they are organized overall.

Verbal Noun constitutes a non-prototypical subcategory of Noun: VNs belong to the Noun category because they possess the same structural paradigm with Ns, and they are less-prototypical members of the Noun category because VNs in the additional structural pattern (ROOT + *suru*) are most marked for reference (ROOT + *suru* + *koto/no*). Adjectival Noun sides with N (rather than A): AN and N share the same markedness pattern (nonzero morphemes) in both modification and predication (and in the latter they even share the same form *da*). Thus, AN and N together can form a super-ordinate category in contrast with A and V, which are unmarked for both modification and predication. In the super-ordinate category subsuming N and AN, Ns are prototypical members while ANs are less prototypical ones, since only Ns are unmarked for reference.

Adjective and Verb present no contrast in structural markedness (both inflecting themselves without requiring any extra morpheme) with respect to predication and modification functions. In reference only, the two differ and V is the more marked. A and V in Japanese, unlike adjectives and verbs in English, are thus structurally very similar to each other, which suggests that they together form a superordinate category of which the two are subcategories, as opposed to the other three categories.

Thus, simply by looking at the structural characterizations of the five large lexical categories, we find the two super-ordinate categories of N (subsuming VN) and AN on the one hand, and V and A on the other. One may notice this major division corresponds to the non-inflectional/inflectional distinction based on the boundness as discussed in the previous sections. In other words, the boundness distinction constitutes the first "cut" into the lexical category structure of Japanese, thus characterizing it as the language with two, not three, "major" categories, of which the five large lexical categories are sub-classifications. It should be pointed out in passing, however, that this situation of Japanese is typologically not rare, where adjectives do not structurally constitute an independent category of its own, but become a subcategory of other major categories, and that it is not totally un-motivated considering the secondary status of modification compared to predication

and reference. In Chinese and Thai, for example, adjectives behave like 'stative verbs' (i.e. a subcategory of verbs), not requiring a copula in predication. In Korean, adjectives and verbs both inflect and share their inflectional endings (Uehara and Kumashiro 2007).

One of the two major lexical categories of Japanese subsuming the non-inflectional subcategories are termed the "Nominal" here, since N represents its prototype, following the cross-linguistic markedness pattern for nouns, while AN and VN represent extensions from N. The other major category subsuming the inflectional subcategories is termed the "Verbal" because Verb basically follows the prototypical pattern for verbs and represents its prototype.

The dichotomous Nominal/Verbal distinction draws the line between ANs and As in Table 8. Figure 1 below summarizes the discussions and schematically represents the overall lexical category structure of Japanese:
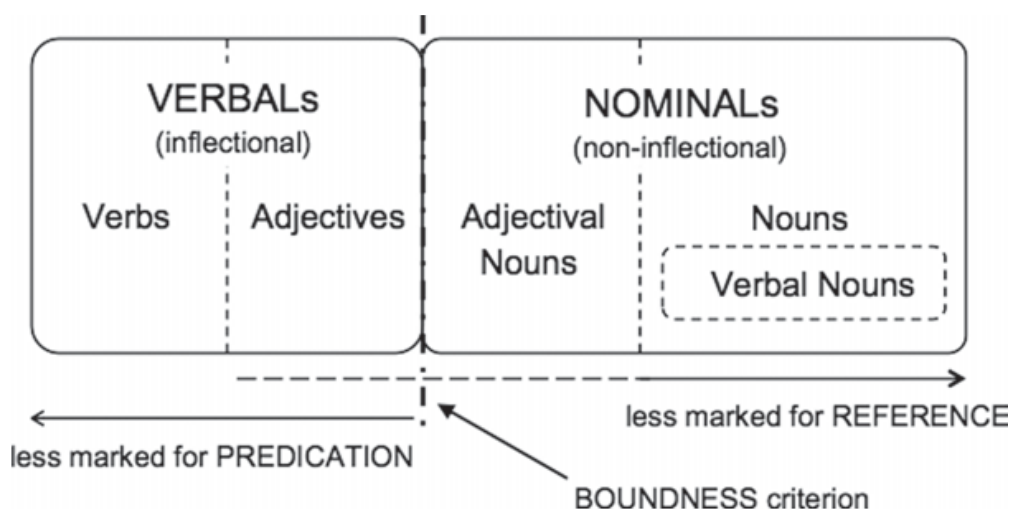
Figure 1: Lexical category organization in Japanese

4.3.2 Other approaches and other minor/non-prototypical subcategories

In the light of Table 8 and Figure 1, which capture typology-based structural characterizations of the 5 large lexical categories of Japanese and overall Japanese lexical category organization, respectively, one can readily assess various other approaches to them. They differ in which of the structural criteria are given greater weight than others, which semantic/functional criteria are additionally taken into consideration, and which granularity levels of distinctions are to be accounted for. Furthermore, with the 5 constructional paradigms in Table 8 as basic templates, one can also characterize other, minor lexical categories of the language as non-prototypical subcategories of them.

As noted in Section 2, Tokieda (1950) argues explicitly against setting up Adjectival Noun as an independent lexical category. But his argument, which leads to categorizing all ANs into his *taigen* category, the Nominal category in Figure 1, indicates that he weighs the commonalities between N and AN in the predication function over their differences in the reference and modification functions. In contrast, Hashimoto (1947) and Kageyama (1982), which describe AN as inflectional in (29a), attach no weight to the formal identity between AN and N in predication. Sakuma (1951) goes further to collapse A and AN together by giving more weight to semantic and functional, rather than structural, criteria, as indicated by the following quote from Sakuma (1951: 54): "it is reasonable to posit one lexical category by grouping Adjective and Adjectival Noun together by setting aside the morphological differences between them, because they resemble each other so completely in their meanings and functions (translation by SU)." He sets up a lexical category called *seijōgo*, which subsumes the two as its subcategories, and calls A the first *seijōgo* and AN the second *seijōgo*.

Some propose to take finer-grained distinctions into consideration to argue for an analysis that stands apart from the popular five major categories approach. One such analysis is found in Muraki (2012) and his previous works cited therein. Muraki's analysis can be characterized as an extension of Sakuma (1951) in that he posits the third "adjective" category on top of his first and second "adjective" categories, which respectively correspond to first and second *seijōgo* in Sakuma's approach and A and AN in Table 8 and Figure 1 above in the current approach. His third "adjective" takes *no* (instead of *na*) in modification and the copula *da* in predication, but is not used in reference (Muraki 2012: 149). He lists the following examples in their forms with *no*:[10]

(42)   *sinku no* 'crimson-colored',   *batugun no* 'outstanding/unrivaled',
       gokaku no 'evenly-matched',   *marugosi no* 'unarmed',
       mayakasi no 'fake'

His third "adjective" can be characterized as a non-prototypical subcategory of the Noun category, lying on its border with the AN category, in the current approach: it takes the forms of the N paradigm in Table 8 except it lacks the form in reference. Muraki's classification of the group of words as the third "adjective" after A and AN as the first and second ones, respectively, reflects their structural properties: among his three "adjectives", they are the least different from N.

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10 See also "precopular nouns" in Martin (1975). Words of Muraki's third "adjective" category listed here as well as many others such as *nama* 'raw' and *ippai* 'full' are discussed in Uehara (1998: Chap. 3) as those lexical items which are translated into adjectives in English but take *no* instead of *na* in modification.

Some other non-prototypical subcategories can be characterized as such, not by lacking a form or two of one paradigm, but by having forms of more than one paradigm, listed in Table 8. Uehara (1998: Ch. 3) discusses what he calls double-function cases of many words (typically denoting abstract concepts or human attributives) among ANs, such as *heiwa* 'peaceful/peace' and *kenkoo* 'healthy/health'. They are ANs (taking *na* in modification) but take *no* as well in modification and/or can take case-marking particles in reference as in (43), which indicates their ambivalent status between AN and N. Such ambivalent AN/N words constitute a non-prototypical subcategory of the Nominal category.

(43) a. **heiwa** *na* *kuni*
             country
    'a peaceful country' (AN)

    b. *kono kuni* *wa* **heiwa** *da.*
       this country TOP COP
       'This country is peaceful.' (AN)

    c. **heiwa** *no* *sisya*
             messanger
    'a messenger of peace' (N)

    d. **heiwa** *ga* *dai-iti* *da*
           NOM first COP
   'Peace comes first.' (N)

Also among non-prototypical members of the Nominal category are those words conventionalized with forms of the AN and VN paradigms, such as *manzoku na/suru* 'satisfactory/get satisfied' and *nangi na/suru* 'difficult/have difficulty' as in (44) below (See also the discussion of such Sino-words in Chapter 3 [Kobayashi, Yamashita and Kageyama, this volume]). In a similar vein, some lexical roots (e.g. *atataka* 'warm', *okasi* 'funny') can be characterized as having been conventionalized with forms of A and AN to various degrees, as in (45), where their forms in modification are followed by those in predication in square brackets (See also Uehara (1998:89) for the list of such words).

(44) a. **manzoku** *na* *kotae*
             answer
    'a satisfactory answer' (AN)

    b. *sono* *kotae* *ni* **manzoku** *suru*
       the answer with
       'be satisfied with the answer' (VN)

(45) a. **atataka** *{-i/na}* *hizasi*
                 sunlight
    'warm sunlight' (A/AN)

           [*hizasi* *ga* **atataka** *{-i/da}*]
           sunlight NOM
           'The sunlight is warm.' (A/AN)

    b. **okasi** *{-i/na}* *hanasi*
              story
    'a funny story' (A/AN)

           [*sono* *hanasi* *wa* **okasi** *{-i/*da}*]
           the story TOP
           'The story is funny.' (A)

The existence of such non-prototypical members/subcategories demonstrates that they have as their prototypes the five "large" lexical categories and their structural paradigms in Table 8. They are in turn prototypically organized as represented in Figure 1, where Noun and Verb are their prototypical cores, respectively motivated by propositional functions of reference and predication.

5 Conclusion and future research perspectives

In this chapter, some issues surrounding the Japanese lexical categories (parts of speech) have been discussed. In the literature on Japanese, words have been classified in a number of different ways, and the currently available proposals concerning their categorization differ significantly depending on what kind of perspective has been adopted. In traditional Japanese grammar, parts of speech are defined with an emphasis on their morphology. The point of divergence in traditional Japanese grammar lies in the morphological status of words, in relation to their categorization, and its major controversies concern the status of adjectival nouns and the treatment of minor categories (such as auxiliaries). On the other hand, the generative and cognitive-typological approaches aim to characterize categories from the perspective of language universals, although the former often takes them as a given while the latter motivates them by cross-linguistically attested data. The major difference between the two views lies in the fact that the generative approach takes lexical categories to be discrete, while the cognitive-typological approach does not a priori assume them to be, admitting of them being non-discrete entities, which often form a continuum.

In the generative framework, lexical categories are defined via cross-categorical features, which are claimed to be universal (i.e. they are regarded as valid across languages). In Japanese generative grammar, there have been issues on how the lexical categories should be defined in terms of cross-categorial features, since the language has more major lexical categories than can be defined by the simple feature system [±V, ±N], due to the presence of adjectival nouns and verbal nouns. Further, Japanese is an agglutinative language, where bound predicative elements (regardless of their categorial status) form a morphologically tight unit with the main predicate. Thus, some but not all predicative elements traditionally classified as dependent auxiliaries can be identified as major lexical categories. Besides, function words (belonging to functional categories) can be free or bound morphemes. These facts suggest that morphological criteria do not necessarily constitute reliable heuristics to distinguish between the major lexical and the functional categories of Japanese predicative elements.

In the cognitive-typological approach, words (and their categories) may be gradient, and the structural organization of five lexical categories in Japanese can be identified with reference to criteria utilized in a prototypical approach. Using cross-linguistically applicable markedness criteria, it has been shown that Japanese can be characterized as possessing two major lexical categories (inflectional and non-inflectional categories), which have the five lexical categories as their sub-categories. The dividing line between the two major categories is the boundness criterion, which is a linguistically salient contrast in morphological boundness and is used to define the inflection of the language. Inflectional and non-inflectional

categories are unmarked for the two major pragmatic functions of predication and reference, respectively.

It is worthwhile to note that nouns and verbs are taken as constituting rudimentary categories in all the approaches, which is naturally expected, given that both are likely universal categories cross-linguistically (cf. Whaley 1997). By contrast, some minor categories, which do not appear to be common or universal typologically, give rise to a number of controversies. In this regard, Japanese morphology is not necessarily effective in evaluating the category memberships; traditionally, categories are distinguished placing emphasis on morphological criteria, but as noted earlier, there is no tight correlation between the morphological distinction of "agglutinated/bound" and "free" and the distinction of "lexical" versus "functional". In addition, lexical items sometimes seem to have gradient properties or could be ambiguous in their class membership, in which case category labels cannot be assigned uniquely.

There are many theoretical issues that are worth pursuing for future research. The most prominent and yet fundamental issue concerns the criteria for distinguishing categories. The criteria primarily used for this purpose differ among the three approaches. Traditional Japanese grammar gives precedence to morphological criteria over syntactic ones. Generative grammar uses both morphological and syntactic criteria equally to distinguish categories, but cognitive grammar adopts semantic and functional criteria as well as structural ones. Then, the question inevitably arises as to what would be the optimal way of determining the status of lexical categories. Furthermore, in the classification of lexical categories, super-categories (such as *taigen* (nominal) and *yōgen* (predicative), which groups verbs, adjectives and adjectival nouns together) and sub-categories (as seen in the finer classifications of particles) are often posited. This raises the question of what level of classification is appropriate for capturing basic generalizations in Japanese grammar, and it still remains to be seen how fine-grained criteria should be used to identify lexical categories. It would also be interesting to see whether the generalization on lexical categories in standard Japanese applies to various dialects of Japanese, since dialects sometimes show curious properties that help us clarify issues that are not readily resolved only by considering standard Japanese (see e.g. Kudō 2004).

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