

# Nominative-marked Phrases in Japanese Tough Constructions

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## Abstract

In this paper we conduct a detailed examination of the tough construction in Japanese with the main focus on some types of nominative case particles *ga*. They are correlated with the difference not only in the nominative-genitive case alternation but also in the semantic or pragmatic interpretation. Based on these data, we discuss the categories of the nominative case particles and derivations for tough predicates within the framework of Combinatory Categorical Grammar.

## 1 Introduction

In English, it is well known that infinitival clauses can be used after certain adjectives that express *easiness* as (1), *difficulty* as (2) and so on.

- (1) a. It is easy to please John.  
b. John is easy to please.
- (2) a. It is hard for the students to read this paper.  
b. This paper is hard for the students to read.

Sentences (1a) and (1b) convey the same meaning: *John* is interpreted as an EXPERIENCER or a recipient of the action of pleasing, regardless of whether it is the object of the verb *please* in the complement clause as (1a), or it is the subject of the matrix clause with the object of *please* missing as (1b). From the beginning of transformational grammar, much attention has been paid to the so-called *tough construction* (1b) and (2b) (Postal, 1971; Chomsky, 1973; among others).

In Japanese, it has often been noted in the literature on transformational generative grammar that sentence (3)<sup>1</sup> below shares syntactic properties with the tough sentences listed in (1b) and (2b).

- (3) Gakusei-ni-wa kono zisyo-ga  
student-for-TOP this dictionary-NOM  
tukai-yasui.  
use-easy  
'This dictionary is easy for students to use.'  
(Inoue, 2004:76)

Different from English, phrase(s) other than the direct object of the main predicate can be marked with nominative case *ga* in Japanese tough sentences, as we will see below. To account for such a difference, we will argue that there are two types of nominative case marking in Japanese.

The organization of this paper will be as follows: In section 2 and 3, we will observe several types and properties of Japanese tough construction. In section 4 and 5, we will show that there are two types of the nominative case particle *ga* and their formal analysis. Section 6 will conclude our paper.

## 2 Tough Construction in Japanese

The tough construction in Japanese is a sentence that involves a main predicate with adjectives such as *yasui* 'easy' or *nikui* 'hard', 'difficult', or 'tough'. According to Inoue (1978; 2004), there are four types of tough constructions in Japanese:

<sup>1</sup>Examples cited from other papers are slightly modified because of lack of space. In (3), for example, *tukai-yasui* (use-easy) is originally glossed on as *tukai-yasu-i* (use-easy-PRES) and the PRES(ENT) tense is not relevant to our discussion.

- (4) a. Type I (=3)  
 b. Type II  
 Saikin watasi-wa koon-de  
 recently I-TOP high-pitched notes-in  
 utai-nikui.  
 sing-hard  
 ‘To sing high-pitched notes has recently  
 been hard for me.’ (Inoue, 2004:76)
- c. Type III  
 Senzai-wa yu-ni toke-yasui.  
 detergent-TOP warm water-in dissolve-easy  
 (lit.)\*‘Detergent is easy to dissolve in warm  
 water.’ (ibid.:82)
- d. Type IV  
 Awatemono-wa ziko-o  
 hasty people-TOP accident-ACC  
 okosi-yasui.  
 cause-tend to  
 ‘Hasty people tend to cause accidents.’  
 (ibid.:85)

In Type I, the direct object of the main predicate is marked with nominative case. In Type II, in contrast, the direct object of the main predicate cannot be marked with nominative. In Type III, it expresses the speaker’s judgment towards the easiness and difficulties of an action/event. In Type IV, in contrast, it expresses the speaker’s judgment toward the tendencies of an action/event. For the detailed discussion of these characteristics, see Inoue (1978; 2004).

Kuroda (1987), admits only Type I as the genuine tough sentence. Type I, and not other types, may contain an EXPERIENCER argument, which can be marked by the morphologically complex postposition *nitotte* ‘for’. See the examples (5) and (6):

- (5) Masao-nitotte-wa Nihon-de-wa eigo-ga  
 Masao-for-TOP Japan-in-TOP English-NOM  
 hanasi-nikui.  
 speak-hard  
 ‘English is hard for Masao to speak in Japan.’  
 (Kuroda, 1987:234)
- (6) Masao-nitotte sono yuubinkyoku-kara-ga  
 Masao-for that post office-from-NOM  
 koutumi-o okuri-yasui.  
 package-ACC send-easy

‘It is easy for Masao to send packages from that  
 post office.’ (ibid.:235)

Following Kuroda’s (1987) analysis, we assume that there are two types of tough constructions in Japanese: Type I on the one hand, and Type II, III, and IV, on the other, and throughout this paper we focus on only Type I tough construction.

### 3 Distribution of the Nominative-marked Phrase(s)

#### 3.1 Nominative-marked Phrase Requirement

As noted by Inoue (1978), a phrase other than the subject in the embedded clause may have the nominative case particle. See the examples (7) and (8).

- (7) a.\*Kodomo-ni-wa suwari-nikui.  
 child-for-TOP sit-hard  
 (lit.)\*‘For a child is hard to sit.’  
 b. Kodomo-ni-wa ano isu-ga  
 child-for-TOP that chair-NOM  
 suwari-nikui.  
 sit-hard  
 ‘That chair is hard for a child to sit on.’  
 (Inoue, 2004:78)
- (8) a.\*Sensyu-ni-wa tobi-nikui.  
 athlete-for-TOP jump-hard  
 (lit.)\*‘For athletes are hard to jump.’  
 b. Sensyu-ni-wa kono  
 athlete-for-TOP this  
 dai-kara-ga tobi-nikui.  
 spring board-from-NOM jump-hard  
 ‘This springboard is hard for athletes to  
 jump from.’ (ibid.:78)

In (7) and (8), the main predicate is an intransitive verb, and without the phrase with the nominative case particle *ga*, the sentence is unacceptable.

In order to account for the contrast shown above, Inoue (1978) made a generalization as cited in (9):

- (9) If the complement predicate is not transitive, the complement sentence has at least one more NP or PP besides the subject. (Inoue, 1978:123)

Put in a different way, the requirement for Type I tough construction is that the phrase other than the subject must bear the nominative case particle *ga*.

### 3.2 A Nominative-marked Adjunct NP

Takezawa (1987) notes that in Type I tough construction, a phrase other than the argument of the main predicate can bear the nominative case particle. See the examples (10) and (11).

- (10) *kooitta ziko-ga (higaisya-nitotte)*  
 this kind of accident-NOM injured party-for  
*bakudaina* amount of *songaibaisyoo-o*  
 enormous compensation-ACC  
*seikyuusi-yasui.*  
 claim-easy  
 (lit.) 'This kind of accident is easy (for the  
 injured party) to claim an enormous amount  
 of compensation.' (Takezawa 1987:210)
- (11) *Kotosi (gakusei-nitotte-wa) gengogaku-ga*  
 this year students-for-TOP linguistics-NOM  
*ii sigoto-o mituke-nikui rasii.*  
 good job-ACC find-difficult seem  
 (lit.) 'It seems that this year, linguistics is diffi-  
 cult (for students) to find a good job.'  
 (ibid.)

In (10), for example, *kooitta ziko* 'this kind of accident' is not an argument of the main predicate *seikyuusuru* 'claim'. It is worth noting that *kooitta ziko* is marked with the nominative case particle only and does not bear any postpositions.

### 3.3 Multiple Nominative-marked Phrases

Kuroda (1987) notes that in Type I tough construction, more than one nominative case-marked phrase can cooccur in the sentence, as shown in (12) below:

- (12) a. *Kodomotati-nitotte-wa*  
 children-for-TOP  
*kono kaizyoo-de-wa baiorin-de*  
 this hall-in-TOP violin-on  
*sonata-ga hiki-yasui.*  
 sonata-NOM play-easy
- b. *Kodomotati-nitotte-wa*  
 children-for-TOP  
*kono kaizyoo-de baiorin-de*  
 this hall-in violin-on  
*sonata-ga hiki-yasui.*  
 sonata-NOM play-easy

- c. *Kodomotati-nitotte-wa*  
 children-for-TOP  
*kono kaizyoo-de-wa baiorin-(de)-ga*  
 this hall-in-TOP violin-on-NOM  
*sonata-ga hiki-yasui.*  
 sonata-NOM play-easy
- d. *Kodomotati-nitotte-wa*  
 children-for-TOP  
*kono kaizyoo-(de)-ga baiorin-de*  
 this hall-in-NOM violin-on  
*sonata-ga hiki-yasui.*  
 sonata-NOM play-easy
- e. *Kodomotati-nitotte-wa*  
 children-for-TOP  
*kono kaizyoo-(de)-ga baiorin-(de)-ga*  
 this hall-in-NOM violin-on-NOM  
*sonata-ga hiki-yasui.*  
 sonata-NOM play-easy  
 'It is easy for children to play sonatas on  
 violins in this hall.' (Kuroda 1987:248)

In (12), there are three phrases, *kono kaizyoo-(de-wa)* 'in this hall', *baiorin-(de)* 'on violin' and *sonata* 'sonata', that can bear the nominative case particle. Only *sonata* is a direct object of the main predicate *hiku* 'play', and the other two phrases *kaizyoo-(de-wa)* and *baiorin-de* are considered as adjuncts.

### 3.4 Summary

In this section, we have observed that in addition to the direct object of the main predicate, other adjuncts of the Type I tough construction can bear the nominative case particle whether they bear any postpositions or not.

## 4 Two Types of Nominative Case Particle

In section 3, we have observed that in addition to the direct object of the main predicate, other phrases, such as PPs, can bear the nominative case particle in the Type I tough construction.

The question that arises here is whether the nominative case particle in sentence (3) (repeated as (13a)), which the direct object of the main predicate bears is identical to the particle in sentence (6) (repeated as (13b)), which is assigned to PP.

- (13) a. Gakusei-ni-wa kono zisyo-ga  
 student-for-TOP this dictionary-NOM  
 tukai-yasui.  
 use-easy  
 ‘This dictionary is easy for students to use.’
- b. Masao-nitotte sono yuubinkyoku-kara-ga  
 Masao-for that post office-from-NOM  
 kozutumi-o okuri-yasui.  
 package-ACC send-easy  
 ‘It is easy for Masao to send packages from  
 that post office.’

To answer the question, we will carry out the diagnostics, which is whether the nominative case particle undergoes the case alternation.

#### 4.1 Nominative-Genitive Conversion

One of the prominent case alternations in Japanese is nominative-genitive conversion (henceforth NGC), which is also often called *ga-no* conversion. Such a grammatical process allows optional conversion between the two case particles *ga* and *no*, typically in relative clauses and noun-complement construction (Harada (1971; 1976): See also Miyagawa (1993); Hiraiwa (2001) for more recent discussion.)

Putting technical details aside, the type of evidence we give involves a complex NP with a head noun such as *riyuu* ‘reason’ as exemplified in (14).

- (14) a. Ken-ga/\*no kuru.  
 Ken-NOM/GEN come  
 ‘Ken comes.’
- b. Ken-ga/no kuru riyuu  
 Ken-NOM/GEN come reason  
 ‘the reason why Ken comes’

In embedded clause (14b), but not in main clause (14a), the nominative case particle *ga* is variably substituted for the genitive case particle *no*.

It is worth noting that the NGC does not change any grammatical nor thematic relations.<sup>2</sup> Thus, *Ken-ga* ‘Ken-NOM’ in (14a) and *Ken-no* ‘Ken-GEN’ in (14b) are the subject of each clause.

<sup>2</sup>Miyagawa (1993) points out that there is a scope difference in the application of NGA. In gapless clauses the nominative-marked subject cannot take scope over the head noun, but the genitive-marked subject can take scope over the head noun. For the detailed discussion of this matter, see Miyagawa (1993).

#### 4.2 Availability of the NGC

With the diagnostics setting above, let us firstly consider the following sentences (15) in order to see how the NGC works in sentences (13).

- (15) a. Gakusei-nitotte kono  
 student-for this  
 zisyo-ga/no tukai-yasui riyuu  
 dictionary-NOM/GEN use-easy reason  
 ‘the reason why this dictionary is easy for  
 students to use.’
- b. Masao-nitotte sono  
 Masao-for that  
 yuubinkyoku-kara-ga/\*no kozutumi-o  
 post office-from-NOM/GEN package-ACC  
 okuri-yasui riyuu  
 send-easy reason  
 ‘the reason why that post office is easy for  
 Masao to send packages from.’

As illustrated in (15) above, the nominative case-marked NP *kono zisyo* ‘this dictionary’ in (15a) is the direct object of the main predicate, and the NGC is possible. However, the nominative case particle with the PP *sono yuubinkyoku-kara* ‘from that post office’ in (15b) cannot convert to the genitive case particle. The contrast in (15a) and (15b) shows that there are two kinds of nominative case particles in Japanese in which the NGC is possible in some cases.

With this in mind, let us then consider whether postpositions are sensitive to NGC. In (10a), for example, *kooitta ziko-ga* ‘this kind of accident’ is not an argument of the main predicate *seikyusuru* ‘claim’, and it also does not bear any postpositions.

One might predict that the nominative case particle in the sentences (10a) and (10b) can be substituted for the genitive case particle via the NGC. However, this prediction is not correct:

- (16) a. Kooitta ziko-ga/\*no  
 this kind of accident-NOM/GEN  
 (higaisya-nitotte) bakudaina  
 injured party-for enormous  
 songaibaisyoo-o  
 amount of compensation-ACC  
 seikyusui-yasui riyuu  
 claim-easy reason

(lit.) ‘the reason why this kind of accident is easy (for the injured party) to claim an enormous amount of compensation.’

- b. Kotosi (gakusei-nitotte-wa)  
 this year students-for-TOP  
 gengogaku-ga/\*no ii sigoto-o  
 linguistics-NOM/\*GEN good job-ACC  
 mituke-nikui rasii. riyuu  
 find-difficult seem reason  
 (lit.) ‘the reason why this year, linguistics is difficult (for students) to find a good job.’

The unacceptable sentences (16) above suggest that not only the nominative case particle with adjunct PP, but also the nominative case particle with adjunct NP cannot undergo the NGC.

Finally consider how the multiple nominative-marked phrases in sentences like (12) above interact with the NGC.

- (17) a.\*Kodomotati-nitotte  
 children-for  
 kono kaizyoo-(de)-no baiorin-(de)-ga  
 this hall-in-GEN violin-on-NOM  
 sonata-ga hiki-yasui riyuu  
 sonata-NOM play-easy reason
- b.\*Kodomotati-nitotte  
 children-for  
 kono kaizyoo-(de)-no baiorin-(de)-no  
 this hall-in-GEN violin-on-GEN  
 sonata-ga hiki-yasui riyuu  
 sonata-NOM play-easy reason
- c.\*Kodomotati-nitotte  
 children-for  
 kono kaizyoo-(de)-no baiorin-(de)-ga  
 this hall-in-GEN violin-on-NOM  
 sonata-no hiki-yasui riyuu  
 sonata-GEN play-easy reason
- d?.\*Kodomotati-nitotte  
 children-for  
 kono kaizyoo-(de)-no baiorin-(de)-no  
 this hall-in-GEN violin-on-GEN  
 sonata-no hiki-yasui riyuu  
 sonata-GEN play-easy reason

- e.\*Kodomotati-nitotte  
 children-for  
 kono kaizyoo-(de)-ga baiorin-(de)-no  
 this hall-in-NOM violin-on-GEN  
 sonata-no hiki-yasui riyuu  
 sonata-GEN play-easy reason

- f.\*Kodomotati-nitotte  
 children-for  
 kono kaizyoo-(de)-ga baiorin-(de)-no  
 this hall-in-NOM violin-on-GEN  
 sonata-ga hiki-yasui riyuu  
 sonata-GEN play-easy reason

- g. Kodomotati-nitotte  
 children-for  
 kono kaizyoo-(de)-ga baiorin-(de)-ga  
 this hall-in-NOM violin-on-NOM  
 sonata-no hiki-yasui riyuu  
 sonata-GEN play-easy reason  
 (lit.) ‘the reason why sonata is easy for children to play on violin in this hall’

In the acceptable sentence (17g), the NGC is only applied to the direct object of the main predicate. All the unacceptable sentences in (17a-f) show that the PP adjuncts fail to undergo the NGC.

### 4.3 Summary

We have examined how the NGC can be applied to the Type I tough constructions, and shown that there are two kinds of the nominative case particle in Japanese: the particle with the direct object of the main predicate undergoes the NGC but the particle with the NP/PP adjunct does not.

## 5 A Formal Analysis

### 5.1 Combinatory Categorical Grammar

In this section we will seek the answer to two questions within the framework of Combinatory Categorical Grammar (CCG) (Steedman, 1996; 2000) :

- (i) how can we account for the different behaviors of the two types of nominative case particles?  
 (ii) how can be the tough constructions dealt with?

In CCG, information about word order and valency is encoded in syntactic categories which are assigned to words. These categories specify the

number of arguments a word can take, as well as the relative position of arguments with respect to the head. They are also paired with a semantic interpretation. For instance, the category of the transitive verb *hiku* ‘play’ is as follows:

$$(18) \text{ hiku} := (S \setminus NP_n) \setminus NP_n : \lambda x \lambda y \text{ play}'xy$$

In addition to standard function application (19a,b) below, CCG allows constituents to combine via a set of combinatory rules, which are stated as schemata over categories (backward composition (19c) and forward type-raising (19d) in the following):

$$(19) \text{ a. } X/Y: f \quad Y: a \Rightarrow X: fa \quad (>) \\ \text{ b. } Y: a \quad X \setminus Y: f \Rightarrow X: fa \quad (<) \\ \text{ c. } Y \setminus Z: g \quad X \setminus Y: f \Rightarrow X \setminus Z: \lambda x.f(gx) \quad (< \mathbf{B}) \\ \text{ d. } X: a \Rightarrow T/(T \setminus X): \lambda f.f[a] \quad (> \mathbf{T})$$

The normal-form derivation of ordinary sentences such as (20) mainly requires function application (19a,b). See (21) below.

$$(20) \text{ Ken-ga} \quad \text{baiorin-de} \quad \text{sonata-o} \quad \text{hiku.} \\ \text{Ken-NOM} \quad \text{violin-on} \quad \text{sonata-ACC} \quad \text{play} \\ \text{'Ken plays sonata (on violin).}'$$

In (21), *Ken* ‘Ken’ and *sonata* ‘sonata’ are type-raised. Type-raising turns argument categories such as NP into functions over the functions that take them as arguments, such as the verbs, into the results of such functions. This operation can be strictly limited to argument categories NP, AP, PP, VP and S. One way to do this is to specify it in the morpho-lexicon, in the categories for proper names, determiners, and the like. Therefore it resembles the traditional operation of *case*.

PP *baiolin-de* ‘on violin’ is not an adjunct. Following Steedman (1996), we assume that adjuncts are also subcategorized for by verbs in some sense and that they are the most oblique (and optional) arguments of verbs.

It is worth noting that the category of the verb encodes the missing argument, i.e., PP as a feature, which is passed up through the derivation. Such a feature can be linked with another category by some semantic or pragmatic rules although it is not realized as a PP.

## 5.2 Tough Predicate

Let us now consider the following example (22) in which the direct object of the main predicate bears the nominative case particle:

$$(22) \text{ (Ken-nitotte-wa) } \dots \text{ sonata-ga} \quad \text{hiki-yasui.} \\ \text{Ken-for-TOP} \quad \text{sonata-NOM} \quad \text{play-easy} \\ \text{'Sonata is easy (for Ken) to play.'}$$

The following is the relevant part of the syntactic category (23) and the derivation the construction (24) with a tough adjective *yasui* ‘easy’:

$$(23) \text{ yasui} := (S \setminus NP_n) \setminus ((S \setminus NP_n) \setminus NP_o) \\ : \lambda p \lambda x. \text{easily}'(px. \text{one}')$$

Tough constructions involve syntactic complementation. Namely, the tough adjective *yasui* exemplified in (23) functions as a word with its own lexical contents, where the constant *one'* represents an arbitrary EXPERIENCER. Thus, the specification of the category is the same as English tough adjectives, except the word order information.

In (24), functional composition allows the complement verb to be an unboundedly large fragment, accounting for the unbounded character of the dependency involved. Different from English, the subject, or more precisely the nominative-marked phrase of the construction, is merged with the predicate by a semantic or pragmatic relation which we represent as *about(ness)*.

The specification of the particle is given below.

$$(25) \text{ -ga} := (S / (S \setminus NP_n)) \setminus N \\ : \lambda p \lambda q \exists x. px \wedge \text{about}'(x, qx)$$

This analysis accounts for the nominative-marked phrase requirement in Section 3.1 from the semantic or pragmatic viewpoint. The relevant data (7) is repeated with some modifications:

$$(26) \text{ a. } *[_\theta \text{ Kodomo-ni-wa}] [_\rho \ ] \text{ suwari-nikui.} \\ \text{child-for-TOP} \quad \text{sit-hard} \\ \text{(lit.)*‘For a child is hard to sit.’} \\ \text{ b. } [_\theta \text{ Kodomo-ni-wa}] [_\rho \ \text{ano isu-ga}] \\ \text{child-for-TOP} \quad \text{that} \quad \text{chair-NOM} \\ \text{suwari-nikui.} \\ \text{sit-hard} \\ \text{'That chair is hard for a child to sit on.'}$$



Different from the particle (25), (30) introduces an element which is not the argument of the predicate. Successive layers of *ga*-marked NPs, namely, multiple nominative constructions are derived recursively with the predication function encoded in (30).

## 6 Concluding Remarks

In this paper, we have proposed two types of nominative case particles in Japanese. They are correlated with the difference not only in the GNC but also in the semantic or pragmatic interpretation. Based on those data, we have shown the specification of the nominative case particles and the derivations for tough predicates within the CCG framework.

This analysis is related to the issue of the licensing of the nominative case particle in Japanese. Saito (1982) argues that the Japanese nominative case is an inherent Case. Takezawa (1987) offers an analysis that the nominative case is assigned by INFL within the GB framework, and extending Takezawa's analysis, Ura (1996) argues that nominative case is licensed by T under the minimalist assumptions. They all imply that there is only one nominative case licensing condition in Japanese.

Since the NGC behaves in a different way in tough sentences, we claim that there are two (or more) kinds of the nominative case licensing, which constitutes evidence against the former analyses.

In this paper, we only utilized the NGC as the diagnostics of such a case distinction and did not show any formal mechanisms of alternation. The condition of the case alternations, nominative-genitive (*ga-no*), accusative-nominative (*o-ga*) and dative-nominative (*ni-ga*), in Japanese are one of the most intriguing issues in Japanese syntax. We will leave the analyses of the issue for future work.

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