Nonrestrictive Adnominal Clauses and Text Genre in Japanese

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Abstract

This paper clarifies the differences in the distribution of nonrestrictive relative clauses among different text genres in Japanese by using a parsed corpus with syntactic and semantic information, the NINJAL Parsed Corpus of Modern Japanese (NPCMJ). Conventional corpora based on morphological information are difficult to quantify by specifying an arbitrary syntactic environment. In contrast, the NPCMJ, a corpus with syntactic and semantic information, can be used to specify the syntactic environment of the clause and the lexical properties of the head noun and to search for adnominal constructions. The results of this survey demonstrate that nonrestrictive relative clauses in Japanese occur more frequently in expository texts than in literary texts, and in the former text genre, they tend to be associated with the function of adding information to the head noun (rather than to the main clause as a whole). This distribution is explained by the characteristics of expository texts: the frequent occurrence of discourse-new proper nouns.*

Keywords: NPCMJ, corpus, adnominal clause, nonrestrictive use, text genre

1. Introduction

This study aims to clarify the distribution and function of nonrestrictive relative clauses in actual discourse by surveying the NINJAL Parsed Corpus of Modern Japanese (NPCMJ) and, in doing so, connect stylistic study with grammatical study using a method different from conventional approaches. The NPCMJ is a Japanese parsed corpus with syntactic and semantic information (treebank), and every sentence in this corpus is annotated with syntactic structure. It is not easy to search for constructions such as relative clauses using conventional corpora because the syntactic relationship must be specified to find such types of constructions. Relative clauses in Japanese, especially nonrestrictive relative clauses, have unique features that can provide a useful perspective for typological research. However, no quantitative study has investigated and clarified the actual distribution and use of Japanese nonrestrictive relative clauses. The NPCMJ corpus is useful for surveying the actual data of nonrestrictive relative clauses (for details of the survey method employed in this study, see Section 3.1).

Nonrestrictive relative clauses have various relationships with the matrix clause, depending on the context. For example, the relative clause in (1a) has a contrastive relationship with the matrix clause, and the relative clause in (1b) has a causal relationship with the matrix clause[1] (for

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[1] The list of abbreviations used in this paper is given in the appendix.

clarity, the relative clauses and the noun phrases containing them are marked by brackets in the Japanese sentences and in the glosses).

(1) a. [[Shūkyō-ni   nanno kanshin-mo   mot-tei-nakat-ta]$_{REL}$ watashi]-ga
        [[religion-DAT   any   interest-even   have-PROG-NEG-PAST]$_{REL}$ I]-NOM
        shūkyō-kankei-no   hon-o   yon-da
        religion-relation-GEN book-ACC read-PAST
        'I did not have any interest in religion, but I read a religious book.'
    b. [[Basu-ni   nori-okure-ta]$_{REL}$ boku]-wa   hitori-de   arui-ta
        [[bus-DAT   take-miss-PAST]$_{REL}$ I]-TOP   single-INS   walk-PAST
        'Because I missed the bus, I walked alone.'

The Japanese relative clauses in (1a) and (1b) are adnominal constructions syntactically, but they seem to function as 'adverbial' clauses, such as contrastive and causal clauses, semantically. In fact, both relative clauses can be paraphrased into adverbial clauses. This study analyzes the characteristic usage of Japanese nonrestrictive relative clauses, as in (1), in actual discourse.

2. Premise
2.1 Restrictive and Nonrestrictive Relative Clauses in Japanese
Relative clauses in English have restrictive and nonrestrictive uses.

(2) a. They interviewed every student who had lent money to the victim.
    b. They interviewed Jill, who had lent money to the victim.

<div align="right">(Huddleston, Pullum and Peterson 2002: 1058)</div>

The relative clause in (2a), *who had lent money to the victim*, functions as a restrictor of the quantificational head noun phrase *every student*. In contrast, the relative clause in (2b) does not have a restrictive function with respect to the head noun phrase *Jill*. This difference is due to the semantic properties of the head noun phrases *every student* (quantified noun phrase) and *Jill* (proper noun).

Similarly, relative clauses in Japanese have the two aforementioned semantic functions.

(3) a. Watashi-wa   [[gengogaku-o   kenkyū-suru]$_{REL}$ hito]-ni   akogare-teiru
        I-TOP   [[linguistics-ACC study]$_{REL}$ person]-DAT   admire-PROG
        'I admire persons who study linguistics.'
    b. Watashi-wa   [[gengogaku-o   kenkyū-suru]$_{REL}$ Tarō]-ni   akogare-teiru
        I-TOP   [[linguistics-ACC study]$_{REL}$ Tarō]-DAT   admire-PROG
        'I admire Tarō, who studies linguistics.'

In (3a), the relative clause *gengogaku-o kenkyū-suru* ('study linguistics') modifies the indefinite *hito* ('persons') restrictively. In contrast, the same relative clause in (3b) has no restrictive interpretation with respect to the definite *Tarō*. As shown in (3), the semantic functions of these Japanese relative clauses are nearly the same as those in English.

However, unlike English, restrictive and nonrestrictive uses in Japanese have no apparent morphological features.[2] The function of Japanese relative clauses is clarified when these clauses

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[2] In English restrictive use, relative pronouns are sometimes omitted.

are omitted.

(3') a. Watashi-wa hito-ni   akogare-teiru
      I-TOP   person-DAT   admire-PROG
      'I admire persons.'
    b. Watashi-wa Tarō-ni   akogare-teiru
      I-TOP   Tarō-DAT   admire-PROG
      'I admire Tarō.'

Although (3'b) omits the relative clause from (3b), the interpretations of (3'b) and (3b) are almost the same. In contrast, the interpretations of (3'a) and (3a) are not the same. That is, the two types of relative clauses differ in terms of whether they contribute information to the main assertion of the sentence.

To achieve the objective of the corpus search in this study, establishing a syntactic criterion is necessary to distinguish between restrictive and nonrestrictive relative clauses. To classify instances of nonrestrictive relative clauses clearly and simply, for the present study, the following condition for the distinction between restrictive and nonrestrictive uses is stipulated:

(4) If the head noun phrase of a relative clause is indefinite, the relative clause is restrictive, and if the head is definite, the relative clause is nonrestrictive.[3]

The distinction between restrictive and nonrestrictive clauses is not absolute in every language. However, some authors have argued that Japanese relative clauses also have this semantic and syntactic distinction (cf. Kamio 1983; Miyake 2011).

2.2 Semantic Functions of Nonrestrictive Relative Clauses in Japanese

This section introduces Masuoka's (1995) classification, which is the most comprehensive descriptive classification of Japanese nonrestrictive relative clauses. On the basis of the relationships with matrix clauses, Masuoka (1995) classified nonrestrictive relative clauses into two types: "nonrestrictive relative clauses adding information to the matrix clause" and "nonrestrictive relative clauses adding information to the head noun"[4] (hereafter, we refer to these nonrestric-

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[3] The relationship between the interpretations of relative clauses and the definiteness of the head noun is, in reality, a complicated matter. Definite noun phrases are sometimes modified restrictively. For example, if relative clauses show temporary properties, the definite head noun can be restricted.

(i) Watashi-wa [[sūtsu-o   ki-ta]$_{REL}$ Tarō]-ga   suki-da.
     I-TOP   [[suit-ACC   wear-RES]$_{REL}$ Tarō]-NOM   like
     'I like the Tarō wearing a suit.'

However, relative clauses such as (i) are not frequent in actual examples. Therefore, this study takes (4) as a convenient criterion for classifying relative clauses into restrictive and nonrestrictive uses. For a detailed descriptive study of this type of relative clause, see Miyoshi (2017, 2020a).

[4] Strictly speaking, nonrestrictive relative clauses stand in head-modifier relation to the noun phrases as a whole and not to the lexical heads in the noun phrases. Therefore, one might think that "head noun" here should more appropriately be called "head noun phrase." However, since the relevant distinction is reflected at the lexical level in all of the examples that were retrieved from the corpus (as an opposition between N and NPR in the NPCMJ), in the following discussions, this paper simply calls the heads modified by nonrestrictive relative clauses "head nouns" for convenience.

tive uses as "matrix clause type" and "head noun type," respectively). The matrix clause type is subdivided into four semantic types. In the following examples, every a-example is the original sentence shown by Masuoka (1995), and every b-example is the simplified and glossed version of the a-example.

(i) Matrix clause type
Contrast

(5) a. 宗教については何の関心も持っていなかった私が，宗教関係の書物をひもとく
機会を持つことができた…。　　　　　　　　　　　　　　（Masuoka 1995: 140）
'I had not had any interest in religion, but I happened to have an opportunity to read a religious book….'

　b. [[Shūkyō-ni　　nanno　kanshin-mo　　mot-tei-nakat-ta]_{REL}　　watashi]-ga
[[religion-DAT　any　　interest-even　have-PROG-NEG-PAST]_{REL}　I]-NOM
shūkyō-kankei-no　　　hon-o　　　yon-da
religion-relation-GEN　book-ACC　read-PAST
'I did not have any interest in religion, but I read a religious book.'　　　(=[1a])

contrastive

lit. 'I, who did not have any interest in religion, read a religious book.'

Sequence

(6) a. 控室に戻った私は，…時間を過ぎたことを，係の人にわびた。
　　　　　　　　　　　　　　　　　　　　　　　　　　（Masuoka 1995: 141）
'Right after I returned to the waiting room, … I apologized to the person in charge for the delay.'

　b. [[Hikaeshitsu-ni　　modot-ta]_{REL}　watashi]-wa　kakari-no　　hito-ni
[[waiting.room-DAT　return-PAST]_{REL}　I]-TOP　　　charge-GEN　person-DAT
ayamat-ta
apologize-PAST
'Right after I returned to the waiting room, I apologized to the person in charge.'

sequential

lit. 'I, who returned to the waiting room, apologized to the person in charge.'

Cause/Reason

(7) a. 最後のバスに乗りおくれた僕はしようがなく橘寺をうしろにして一人でてくて
く歩きました。　　　　　　　　　　　　　　　　　　（Masuoka 1995: 141）
'Because I missed the last bus, there was nothing else I could do, so I walked alone with Tachibana temple behind.'

　b. [[Basu-ni　　nori-okure-ta]_{REL}　　boku]-wa　hitori-de　　arui-ta
[[bus-DAT　　take-miss-PAST]_{REL}　I]-TOP　　　single-INS　walk-PAST
'Because I missed the bus, I walked alone.'　　　　　　　　　　　　　（=[1b]）

causal

lit. 'I, who missed the bus, walked alone.'

Accompanying circumstance

(8)　a.　「いいお天気だわあ。」と，門柱に軽く寄りかかるようにして空を見あげていた由美が言った。　　　　　　　　　　　　　　　　　　　　　（Masuoka 1995:142）

'While she was looking up at the sky as she leaned against the gate, Yumi said, "It's good weather."'

　　　b.　[[Sora-o　　mi-age-tei-ta] _{REL}　　　　　Yumi]-ga　　　　it-ta
　　　　　[[sky-ACC　look-up-PROG-PAST]]_{REL}　Yumi]-NOM　say-PAST

'While Yumi was looking up at the sky, she said ("It's good weather.")'

accompanying

lit. 'Yumi, who was looking up at the sky, said ("It's good weather.")'

In the matrix clause type in (5–8), the nonrestrictive relative clauses have certain semantic relationships with the matrix clauses. Masuoka (1995) demonstrated that four subclasses—"contrast," "sequence," "cause/reason," and "accompanying circumstance"—are found in the matrix clause type. For example, the nonrestrictive relative clause in (5b) *shūkyō-ni nanno kanshin-mo mot-tei-nakat-ta* ('who did not have any interest in religion') is syntactically only an adnominal construction (cf. literal translation). However, semantically, this nonrestrictive relative clause stands in a contrastive relation to the matrix clause, as should be clear from the English translation. Similarly, the other nonrestrictive relative clauses in (6–8) are adnominal constructions syntactically but seem to have 'adverbial' functions, such as "sequence," "cause/reason," and "accompanying circumstance," semantically.

　　　The head noun type is exemplified by the following example:

(ii) Head noun type

(9)　a.　コカイン密輸事件で逮捕，送検された角川書店社長の角川春樹容疑者は，…異色の俳人として名が通っている。　　　　　　　　　　　　（Masuoka 1995: 142）

'Haruki Kadokawa, the president of Kadokawa Shoten—who was arrested and committed for the case of smuggling cocaine—is famous as an extraordinary haiku poet.'

　　　b.　[[Kokain-mitsuyu-jiken-de　　taihosa-re-ta]_{REL}　　　Kadokawa Haruki]-wa
　　　　　[[cocaine-smuggling-case-INS　arrest-PASS-PAST] _{REL}　Kadokawa Haruki]-TOP
　　　　　haijin-toshite　　yūmei-da.
　　　　　haiku.poet-as　　famous-be

'Haruki Kadokawa, who was arrested for the case of smuggling cocaine, is famous as a

adding information to the head noun

haiku poet.'

In (9b), the nonrestrictive relative clause *kokain-mitsuyu-jiken-de taiho-sa-re-ta* ('who was arrested for the case of smuggling cocaine') only adds information to the head noun *Haruki Kadokawa* and has no adverbial relationship to the matrix clause *haijin-toshite yūmei-da* ('is famous as a haiku poet'), unlike the examples in (5–8).

　　　Figure 1 summarizes Masuoka's classification.

$$
\text{Nonrestrictive relative clauses}
\begin{cases}
\text{Matrix clause type} \begin{cases} \text{Contrast} \\ \text{Sequence} \\ \text{Cause/Reason} \\ \text{Accompanying circumstance} \end{cases} \\
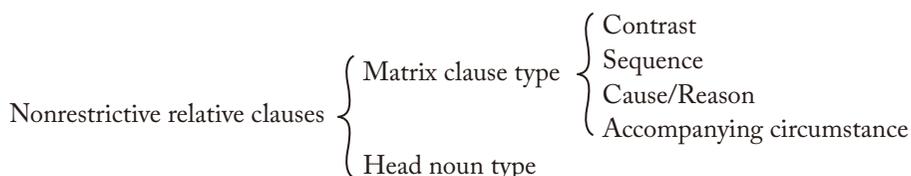\\
\text{Head noun type}
\end{cases}
$$

Figure 1: Classification of nonrestrictive relative clauses (Masuoka 1995)

In this classification, nonrestrictive relative clauses are first divided into the "matrix clause type" and the "head noun type," with the former subdivided into four types. The "matrix clause type," such as "contrast," functions to add information to matrix clauses in various adverbial relationships. The head noun type's function is simply to add information to the head noun.

The aforementioned features of Japanese nonrestrictive relative clauses suggest that nonrestrictive relative clauses in Japanese (at least the matrix clause type) function as elements that supplement the propositions of the matrix clauses with adverbial meanings. These relationships between propositions are similar to those in English clauses introduced by *although* and *because*. In other words, Masuoka's classification suggests that nonrestrictive relative clauses in Japanese not only have adnominal functions but also show a universal semantic structure between propositions, such as logical or temporal relationships. Notably, these relationships between nonrestrictive relative and matrix clauses in Japanese strongly resemble the coherence relationships proposed by Kehler (2002). Kehler categorized coherence relations into resemblance, cause–effect, and contiguity, and these broader categories are subclassified into adverbial relations such as contrastive and causal relations (in a narrower sense). Given this relationship to a broader theory of coherence relations, closely analyzing Japanese nonrestrictive relative clauses can contribute to typological research on the interface among syntax, semantics, and pragmatics. Notably, the literature has reported that nonrestrictive relative clauses in Japanese cover a wider range of adverbial functions than their counterparts in other languages such as English and Chinese (Horie and Pardeshi 2009). Therefore, closely analyzing their function in actual discourse is a particularly crucial task.

In addition to the aforementioned goal of clarifying the properties of nonrestrictive relative clauses in actual discourse, this study aims to introduce a new method of corpus studies. Although many methodologies of quantitative studies have been demonstrated by Tanomura (ed.) (2014), these studies have involved only morphological and lexical indicators for retrieving data from corpora, such as Sugimoto's (2014) case study on compound particles (e.g., *ni-yot-te* 'by') using morphological information in the Balanced Corpus of Contemporary Written Japanese (BCCWJ). An investigation of the distribution of syntactic structures can supply new methodologies and data to quantitative studies, such as in stylistics. The present study attempts to take the first step in this direction.

3. Survey and Analysis

Before explaining the survey method, we introduce the NPCMJ, the corpus employed in the present study. To enhance versatility, the NPCMJ does not commit to a particular formal theory and has a neutral and flat annotation schema following the Penn Historical Corpus (cf. Santorini 2010). For example, the Japanese sentence *sugu minna-wa te-o age-mashi-ta* ('everyone raised

their hands immediately') is tagged as in Figure 2.

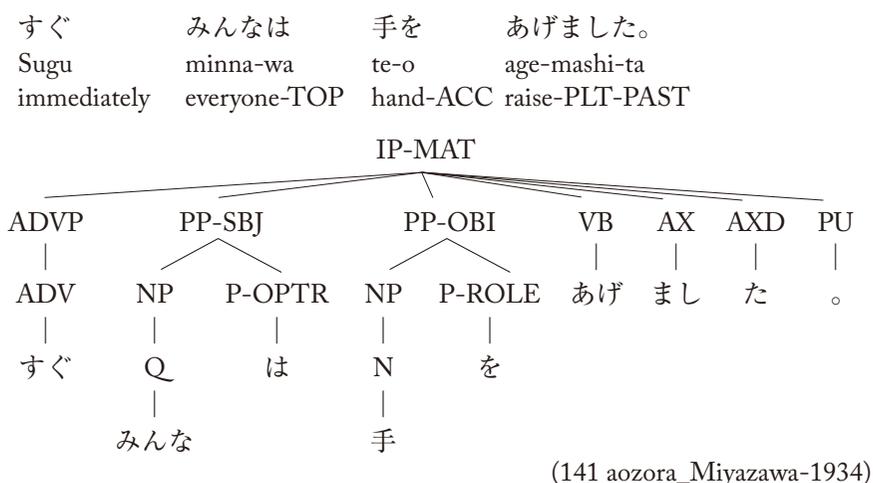| すぐ	みんなは	手を	あげました。
Sugu	minna-wa	te-o	age-mashi-ta
immediately	everyone-TOP	hand-ACC	raise-PLT-PAST

(141 aozora_Miyazawa-1934)

Figure 2: Annotation of the NPCMJ

As shown in Figure 2, in the NPCMJ, when elements such as subject and object noun phrases (tagged as PP-SBJ and PP-OB1, respectively), adverb phrases (ADVP), and verb phrases (VB) occur in the same clause, they are treated as sisters. The syntactic structures of the NPCMJ, as shown in Figure 2, can be searched for by using an expression called TGrep-lite,[5] which represents syntactic relationships such as sister or dominance relationships. By combining these expressions, the complex syntactic environments in the NPCMJ can be surveyed. This study attempts to clarify the distributions of nonrestrictive relative clauses of the "matrix clause type" and the "head noun type" by employing NPCMJ and TGrep-lite expressions.

3.1 Survey Method

To compare the distributions of the "matrix clause type" and the "head noun type," we must restrict the search to syntactic environments in which both subtypes of the nonrestrictive relative clauses are found. For this purpose, the following search expression was used in this survey:

(10) Search formula for a nonrestrictive relative clause:
[IP-REL] $ ([NPR] > ([NP] > ([PP] > [^IP])))[6]

In the search expression in (10), the right side of "$" (sister relation) literally means that some "NPR" (proper noun) is dominated by some "NP" and that the "NP" is dominated by a "PP"

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[5] TGrep-lite is a tool based on TGrep (cf. Pito 1994) and customized to search in the NPCMJ on the online interface. The notation of TGrep-lite is simplified from the original TGrep program for usability; however, this search expression language has sufficient performance and expressiveness to search complex syntactic structures.

[6] The search expression in (10) cannot find relative clauses that have pronouns as head nouns, but, in fact, pronouns are also definite noun phrases. However, because the instances are few and Japanese pronouns have special features stylistically (see Miyoshi 2020b), this survey excluded nonrestrictive relative clauses that have pronouns as head nouns.

(particle phrase) that is dominated by an "^IP" (any clause) directly. The totality of (10) enables us to search for relative clauses that have a proper noun as the head noun, where the proper noun is a direct argument of some predicate.

The search expression in (10) has two important features that corpora annotated with morphological information alone cannot realize. First, this search expression excludes a syntactic configuration such as (11b), enabling us to restrict the search to syntactic configurations such as (11a). These constructions correspond to examples such as (12) and (13).

(11) a. Examples to search

b. Examples to exclude
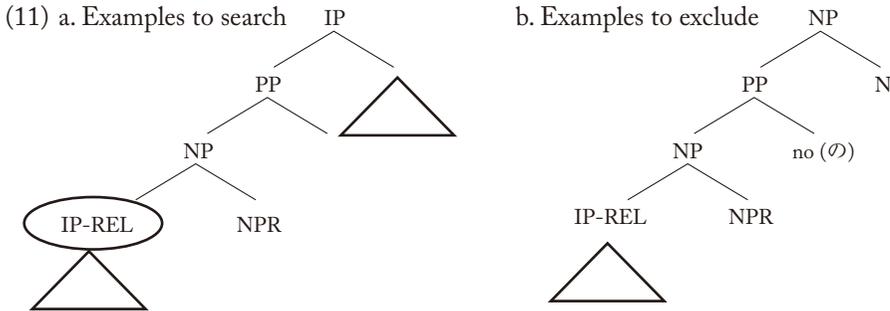
(12) [[Kinō   kaigi-de   shōkaisa-re-ta]$_{REL}$ Tarō]-wa   omoshirokat-ta
     [[yesterday meeting-LOC introduce-PASS-PAST]$_{REL}$ Tarō]-TOP amusing-PAST
     'Tarō, who was introduced at the meeting yesterday, was amusing.'

(13) a. [[Kinō   kaigi-de   shōkaisa-re-ta]$_{REL}$ Tarō-no   sakuhin]-wa
        [[yesterday meeting-LOC introduce-PASS-PAST]$_{REL}$ Tarō-GEN   work]-TOP
        omoshiroka-ta
        amusing-PAST
        'Tarō's work, which was introduced at the meeting yesterday, was amusing.'

     b. [[Kinō   kaigi-de   shōkaisa-re-ta]$_{REL}$ Tarō]-no   sakuhin-wa
        [[yesterday meeting-LOC introduce-PASS-PAST]$_{REL}$ Tarō]-GEN work-TOP
        omoshiroka-ta
        amusing-PAST
        'Tarō was introduced at the meeting yesterday, and his work was amusing.'

With a simpler search expression, "[IP-REL] $ [NPR]" (which represents "relative clauses that have a proper noun as the head noun"), (12) and (13) would both be included in the search results. However, while the relative clause in (12) has only structure (11a), the relative clause in (13) is potentially ambiguous between the two structures in (11a) and (11b), and the structure in (11b) is irrelevant for the present study. That is, the Japanese relative clause (13) *kinō kaigi-de shōkaisa-re-ta kare-no sakuhin-wa omoshirokat-ta* has two interpretations (see the English translations given in [13a] and [13b]), depending on whether the relative clause modifies *Tarō* or *sakuhin* (work).[7] The constituent structures shown in (13a) and (13b) correspond to (11a) and (11b), respectively. Relative clauses such as that in (13b) do not have a relationship with

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[7] In the NPCNJ's annotation, these constructions are formally distinguished. However, identifying the correct structures in actual examples can be difficult.

the matrix clauses, but relative clauses such as that in (13a) can have some relationship with the matrix clauses or head nouns. In other words, (13a) and (13b) are different in status in that, unlike (13a), (13b) is always interpreted as the head noun type. To exclude ambiguous examples such as (13), this study conducted its survey using the search expression in (10).

The second feature of the search expression in (10) is that it can exclude examples such as (14).

(14) a.　[[Tarō-ga　　shinu]$_{\text{EMB}}$　<u>jiken</u>]-ga　　　oki-ta
　　　　[[Tarō-NOM　die]$_{\text{EMB}}$　　incident]-NOM　happen-PAST
　　　　'The incident of Tarō's death happened.'
　　b.　[[Tarō-ga　　shinu]$_{\text{EMB}}$　<u>mae</u>]-ni　　　kare-to　at-ta
　　　　[[Tarō-NOM　die]$_{\text{EMB}}$　　before]-TEM　he-COM　meet-PAST
　　　　'I met Tarō before he died.'

These adnominal constructions are said to establish the "outer relation" in Teramura (1975–1978). The adnominal constructions of the outer relation have no gap in the adnominal clauses, unlike the adnominal clauses of the "inner relation," namely, relative clauses.[8] As discussed by Teramura, in the outer relation, the adnominal clauses and head nouns have different syntactic relationships from the inner relation, and to achieve the objectives of this study, the syntactic structures of the outer relation must be excluded from the search result. However, although the outer and inner relations are syntactically different, these cannot be distinguished in corpora based on morphological information because the two constructions are indistinguishable by the surface morphological forms alone. In contrast, the NPCMJ distinguishes the outer relation from the other type of adnominal construction; therefore, one can exclude the outer relation from the search targets. In the NPCMJ, adnominal clauses of the inner relation are annotated as "IP-REL," and adnominal clauses of the outer relation, such as (14), are annotated as "IP-EMB" (embedded clause). Thus, adnominal constructions of the outer relation are automatically excluded by the search expression "IP-REL" in (10).

The two features of the search expression in (10) demonstrate the strengths of the NPCMJ. Because conventional corpora comprise only morphological information, the aforementioned syntactic environments cannot be retrieved using such corpora. It is, of course, possible to approximate syntactic environments with morphological information alone when syntactically annotated corpora are not available. However, such work typically involves a considerable amount of time for manual classification. In contrast, a more powerful tool, the NPCMJ, can realize an impossible or time-consuming survey for conventional corpora.

3.2　Survey Results
This section presents the survey results of the search using the search expression in (10). The study surveyed expository and literary texts in the NPCMJ to clarify the distribution of non-restrictive relative clauses in actual discourse. This survey investigated newspaper articles in the

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[8] Teramura argued that adnominal clauses in Japanese should not be called "relative clauses." However, in reality, relative clauses in English are equivalent to the adnominal clauses of the inner relation in Japanese. In this paper, adnominal clauses of the inner relation are referred to as "relative clauses" for clarifying the correspondence between English and Japanese.

subcorpus "news" and novels in the subcorpus "aozora" (Aozora Bunko) as expository and literary texts, respectively. The former subcorpus contains 5981 trees and 90137 words, and the latter contains 12809 trees and 246708 words. Tables 1 and 2 present the total number of examples of nonrestrictive relative clauses and all relative clauses in each corpus.

Table 1: Total number of nonrestrictive relative clauses[9]

Text genre	Number
Newspaper	310
Novel	79

Table 2: Total number of relative clauses

Text genre	Number
Newspaper	3643
Novel	8777

From Tables 1 and 2, we can see that in newspapers, which are expository texts, nonrestrictive relative clauses occur more frequently than they do in novels. In newspapers, although the total number of relative clauses is 3643, the total number of examples of nonrestrictive relative clauses is 310. Notably, the total number of relative clauses in novels is 8777, and their total number of examples of nonrestrictive relative clauses is 79. The ratios of nonrestrictive relative clauses to total relative clauses in newspapers and novels are presented in Table 3.

Table 3: Text genres and nonrestrictive use

Text genre	Ratio of nonrestrictive use
Newspapers	8.5%
Novels	0.9%

As shown in Table 3, in newspapers and novels, the percentages of nonrestrictive relative clauses to all relative clauses are 8.5% and 0.9%, respectively. In other words, Table 3 demonstrates that neither figure is large but that nonrestrictive relative clauses occur more than nine times as frequently in newspapers as in novels. The below discussion attempts to clarify the factors that contribute to these distributions.

Based on the discussion in Section 2.2, all instances of nonrestrictive relative clauses retrieved from newspapers and novels were classified into the five classes in Masuoka's classification. When categorizing in this manner, the present survey referred to contextual information. The following sentences are attested data in the NPCMJ and instantiate each category identified by Masuoka (the IDs of the sentences assigned in the NPCMJ are shown in parentheses):

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[9] In Aozora Bunko, examples that have the following IDs are excluded because the texts are not novels.
  (i) a. Chiri-1955-7;JP/Chiri-1956-2;JP
      b. Kuroshima-1970;JP
      c. Nakaya-1900;JP
      d. Nomura-12-1954;JP/Nomura-19-1950;JP/Nomura-7-1954;JP
      e. Saito-1963;JP
      f. Yosano-1921;JP
The texts that have IDs in (i) are essays and inappropriate subjects for the present survey. Other misannotated examples are also excluded.

(i) Matrix clause type
Contrast
(15) a. のんきなメロスもだんだん不安になって来た。   (25_aozora_Dazai-2-1940)

　　 b. [[Nonki-na]$_{REL}$ Merosu]-mo　dandan　huan-ni　nat-te-ki-ta
　　　　 [[easygoing]$_{REL}$ Melos]-even　gradually uneasy　become-INC-PAST
　　　　 'Although Melos was easygoing, he had gradually been becoming uneasy.'

Sequence
(16) a. そうと知った甚内は心中覚悟の臍を決めた。   (388_aozora_Kunieda-1925;JP)

　　 b. [[Sō-to　　　shit-ta]$_{REL}$　　　Jinnai]-wa　　　shinjū-kakugo-no
　　　　 [[so-QUOT　know-PAST]$_{REL}$　Jinnai]-TOP　　double.suicide-preparation-GEN
　　　　 hozo-o　　　kime-ta
　　　　 navel-ACC　decide-PAST
　　　　 'Right after Jinnai knew the fact, he prepared himself for a double suicide.'

Cause/Reason
(17) a. …得体のわからない赤星に盾衝く剣客がいなかった（ので，…）

　　　　　　　　　　　　　　　　　　　　　　　　 (20_aozora_Murou-1922;JP)

　　 b. [[Etai-no　　　wakaranai]$_{REL}$ Akaboshi]-ni　tatetsuku　kenkaku-ga
　　　　 [[identity-GEN　unknown]]$_{REL}$ Akaboshi]-DAT　defy　　　　swordsman-NOM
　　　　 i-nakat-ta
　　　　 be-NEG-PAST
　　　　 'Because Akahoshi was mysterious, there were no swordsmen who defied him.'

Accompanying circumstance
(18) a. …縄を打たれたセリヌンティウスは，徐々に釣り上げられてゆく。

　　　　　　　　　　　　　　　　　　　　　　　　 (413_aozora_Dazai-2-1940;JP)

　　 b. [[Nawa-o　　uta-re-ta]$_{REL}$　　　Serinuntiusu]-wa　jojo-ni　tsuri-age-rare-teiku
　　　　 [[rope-ACC　tie-PASS-RES]$_{REL}$　Selinuntius]-TOP　gradually hang-up-PASS-PROG
　　　　 'While Selinuntius was tied, he was gradually being hanged up.'

(ii) Head noun type
(19) a. 小笠原諸島（東京都）に生まれた新島は日々大きくなっている。
　　　　　　　　　　 (5_news_KAHOKU_8795;K201401010A0A106B00006;JP)

　　 b. [[Ogasawara-shotō (Tōkyō-to)-ni　　　　　umare-ta]$_{REL}$　　　Niijima]-wa
　　　　 [[Ogasawara-islands (Tōkyō-Metropolis)-DAT　be.born-PAST]$_{REL}$　Niijima]-TOP
　　　　 hibi　　　　ookiku　nat-teiru
　　　　 day. by. day　largely　become-PROG
　　　　 'Niijima, which has been born in the Ogasawara Islands (Tōkyō), is growing larger day-
　　　　 by-day.'

All five types in Masuoka's classification of nonrestrictive relative clauses are found in the attested data of the NPCMJ, which suggests that this classification is useful for studying the properties of nonrestrictive relative clauses in the NPCMJ. For example, *nonki-na* ('was easygoing') in (15) is

an adnominal element syntactically or morphologically, but this element has a contrastive function semantically with respect to the matrix clause.[10] Similarly, the other nonrestrictive relative clauses of the matrix clause type in (16–18) exist in an adverb-like relation to the matrix clauses, and the nonrestrictive relative clause of the head noun type in (19) adds background information to the head noun.

The distribution of nonrestrictive relative clauses in newspapers and novels is presented in Tables 4 and 5 (ratios are in parentheses).

Table 4: Nonrestrictive use in newspapers

Type of nonrestrictive use		Number	
Matrix clause type	Contrast	17	**69** (22.3%)
	Cause/Reason	36	
	Sequence	7	
	Accompanying circumstance	9	
Head noun type		**237** (76.5%)	
Other		4 (1.3%)[11]	
Total		310 (100%)	

Table 5: Nonrestrictive use in novels

Type of nonrestrictive use		Number	
Matrix clause type	Contrast	11	**45** (57.0%)
	Cause/Reason	9	
	Sequence	11	
	Accompanying circumstance	14	
Head noun type		**30** (38.0%)	
Other		4 (5.1%)	
Total		79 (100%)	

The result of the chi-square test based on the total numbers of the matrix clause types and head noun types in newspapers and novels (see the boldfaced numbers in Tables 4 and 5) is $p < 0.01$ and shows that the distributions of these types of nonrestrictive relative clauses are significantly different at the 1% level in the two text genres. Tables 4 and 5 demonstrate two interesting tendencies of expository and literary texts. First, in newspapers, 237 nonrestrictive relative clauses of the head noun type were identified (76.5% of the total). Second, in novels, nonrestrictive relative clauses of the head noun type accounted for 38.0%, and the matrix clause types accounted for 57.0%. Our summary of these tendencies is as follows: the expository texts (i.e., newspapers) contained more instances of the "head noun type," as in (19), than of the "matrix clause type." Although nonrestrictive relative clauses are infrequent in literary texts (i.e., the novels in Aozora Bunko), instances of nonrestrictive relative clauses in various "matrix clause types," as in (15–18), are observed, suggesting that functions and distributions of nonrestrictive relative clauses differ by genre.

A possible explanation for this tendency is that discourse-new terms or proper nouns fre-

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[10] Adnominal elements that have only one adjective are not always regarded as relative clauses. This survey considers (15) a relative clause because of the contrastive relationship between the adnominal element and the matrix clause.

[11] Restrictive relative clauses that have proper nouns as head nouns, such as in (i), are classified as "other" (see also note 3).

(i) a.…兄にも変った東京が見せてやり度いと思いましてね…　　(288_aozora_Edogawa-1929)
　　b.Ani-ni-mo　　　　　　　　[[kawat-ta]$_{REL}$　　Tōkyō]-ga　　　mise-teyari-tai-to
　　　older. brother-DAT-too　[[change-RES]$_{REL}$　Tōkyō]-NOM　show-BEN-want-QUOT
　　　omoi-mashi-te-ne
　　　think-PLT-FP
　　　'I want to show my older brother the changed Tōkyō too.'

quently occur in expository texts. In contrast, nonrestrictive relative clauses in literary texts such as novels have scene-setting functions or establish causal relationships among events. Additional support for this hypothesis comes from the data in Table 6, which shows the frequency of proper nouns in newspapers ("news") and novels ("aozora") in the NPCMJ.

Table 6: Frequency of proper nouns in novels and newspapers

Text genre	Running words	Different words	Type/token ratio
Newspaper	4434	2280	0.514
Novel	4757	1424	0.299

Type/token ratio = different words / running words

The type/token ratio (TTR) is obtained by dividing the total number of different words by the total number of running words. Here, TTR is an indicator of the variety of proper nouns used in novels and newspapers. The higher TTR in newspapers relative to novels reflects that repeated mentions of the same proper noun are less frequent in the former than in the latter. This tendency is consistent with the "head noun type," which frequently occurs in expository texts such as newspapers. Expository texts, by nature, introduce new entities more frequently than literary texts, and in such situations, accompanying explanations are often provided using nonrestrictive relative clauses.

The results of our survey of nonrestrictive relative clauses using the NPCMJ show the usefulness of this corpus. With conventional corpora with no syntactic annotation, it is extremely difficult to search for constructions such as nonrestrictive relative clauses by specifying the syntactic environment. The corpus study approach in this paper provides a new method for quantitative linguistic studies (for a grammar study using NPCMJ; see also Kubota and Kubota 2019, Miyoshi 2020b, Ido 2020).

4. Conclusions

This study has argued for the following:

(i)   In Japanese, nonrestrictive relative clauses occur more frequently in expository texts than in literary texts, and the proportion of the "head noun type" is significantly larger in the former than in the latter.

(ii) A possible explanation for (i) is that because discourse-new proper nouns occur frequently in expository texts, nonrestrictive relative clauses also occur frequently to supplement information on head nouns.

Finally, in further research, a study using the NPCMJ could be helpful for comparing Japanese nonrestrictive relative clauses and their translations into English. The method we adopted can be applied to contrastive or typological analysis in further research. For example, (20) is the translated version of (18) by James O'Brien.

(20) The cross had been raised, and Selinuntius, a rope wound about his body, was being slowly hoisted.   (Dazai (translated by O'Brien) 1989: 124)

What is of note here is that the translation in English does not have a relative clause, and the original relative clause, *nawa-o uta-re-ta* ('tied with rope'), is expressed as the independent paren-

thesis *a rope wound about his body* in the translated version. Horie and Pardeshi (2009) compared nonrestrictive relative clauses in Japanese and other languages using translation corpora. Because the NPCMJ includes foreign literary works translated into Japanese and Japanese literary works that have foreign language versions, for example, Franz Kafka's "*Die Verwandlung*" ("The Metamorphosis") and Osamu Dazai's "*Hashire Merosu*" ("Run, Melos"), it is expected to facilitate the type of cross-linguistic comparison conducted by Horie and Pardeshi, focusing on grammatical (rather than lexical) features. This further research direction is promising.

Appendix: Abbreviation list

ACC	accusative	*o*
BEN	benefactive	*teyaru*
COM	comitative	*to*
COP	copula	*da*
DAT	dative	*ni*
EMB	embedded clause	-
FP	final particle	*ne*
GEN	genitive	*no*
INC	inceptive	*kuru*
INS	instrumental	*de*
LOC	locative	*de*

NEG	negation	*nai*
NOM	nominative	*ga*
PASS	passive	*(ra)reru*
PAST	past	*ta*
PLT	polite	*masu*
PROG	progressive	*teiru/teiku*
QUOT	quotative	*to*
REL	relative clause	-
RES	resultative	*ta*
TEM	temporal	*ni*
TOP	topic	*wa*

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日本語における非制限的連体修飾節とテキストジャンル

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要旨

　本稿では，統語情報付きコーパスである NPCMJ を用いて，日本語の非制限的連体修飾構造に見られるテキストジャンル間の分布の差異を明らかにする。形態的情報に基づく従来のコーパスでは，任意の統語的環境を指定して連体修飾構造を量的に検索することは困難であった。一方で，統語・意味情報付きコーパスである NPCMJ を用いれば，主節環境や被修飾名詞の語彙的性質を指定したうえで連体修飾構造を検索することが可能になる。本研究の調査の結果，新聞などのいわゆる説明的文章においては「主名詞に対する情報付加」を行う非制限的連体修飾節が多く見られる一方で，小説などのいわゆる文学的文章においては，「主節に対する情報付加」を行う非制限的連体修飾節が相対的に多く見られた。このような分布は，新出の固有名詞が頻出するという説明的文章のテキストジャンル的特徴によって説明することが可能になると考えられる。

キーワード：NPCMJ，コーパス，連体修飾節，非制限的用法，テキストジャンル