2 Lexical cohesion and text-organizing function in the Japanese text: A Japanese text linguistics proposal

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Abstract

This paper discusses the concepts of "text-organizing words" and "cohesion" and reports results of how they are used in some Japanese texts. These concepts are a part of the larger group of concepts of 'textuality' that establish a text as a text. Text-organizing words divide a stream of text, according to which they have the function of structuring the text (or a subsection thereof). Cohesion brings semantic consistency to the text (or a subsection thereof) by forms of language having relationships with each other. The relationship between text-organizing function and cohesion, in short, will be such that the former is realized by the latter. Here I bring forth the concept of "semantic segments" as a kind of work unit that semantically organizes the text.

Keywords: vocabulary, text-organization, cohesion, segments, demonstratives

1 Introduction

"Text" here is used as a term that refers to a certain body of written language — writing that has been written for the purpose of a literary work, the news, an advertisement, criticism and explanation or expression of opinion, etc.[1] The term "text" is used when such a body of written language as this is taken up as the subject of language study. Textuality is not the simple accumulation of words and sentences, but, rather, refers to a property that establishes text as text and enables the conveyance of its contents and intention to the reader. I will consider lexical cohesion and the text-organizing functions that are related to the establishment of textuality.

First of all, I think that the following five conditions are necessary for textuality to be established in a certain body of language.

1. The text has attributes that distinguish it from other things outside of itself. Its unity and completeness are its crucial attributes.
2. The text as an independent document exists in relationship with other texts outside of itself (that is to say, it possesses intertextuality).

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[1] Regarding the range and genre of the written language, see Ichikawa (1978:36-37) and Takasaki and Tachikawa (2010:175-179).

3. The inside of the text is semantically connected by explicit verbal signals (=cohesion) and semantic segments are formed.
4. The text forms consistency by generating a multilayered structure of semantic segments[2] inside and it can be one whole for the outside.
5. Textuality is acknowledged by readers. The readers understand the dynamism of development with linear and temporal properties within the text, experience the existence of cohesion and the formation of semantic segments, and can recognize the consistency of the text when they come to the end of the text.

Let's take a book as an example and consider its "textuality." The unity of the book is, for example, shown by the title, author's name, table of contents, and headings as well as the body of the text. The textuality is defined by this unity of the book, which is closed off from external entities.

While reading, formation of semantic segments is helped by cohesion. They are correlated with each other, reiterated, and completed with clues of text-organizing words. Clusters of semantic segments appear coherently and consistently throughout the text. The text is finished when this dynamism is physically cut off by the end of the book.

The reason why such textuality is possible is that individual linguistic forms having grammatical function and lexical meaning are concerned in cohesion and text-organization. From another perspective, all the linguistic forms including the word can be said to have function and characteristics shown in text. Even a smaller unit such as a character is related to the cohesion of text.

In other words, concerning logographic *kanji* characters, for example, in a sentence about university students finding employment, a Sino-Japanese word *shoku* 職 'job' is taken up from the word *shūshoku* 就職 'finding an employment,' and becomes a part of Sino-Japanese words such as *shokugyō* 職業 'occupation,' *shokushu* 職種 'type of job,' and *rishoku-ritsu* 離職率 'rate of quitting a job.' Further, those Sino-Japanese words become a part of compounded words such as *shūshoku katsudō* 就職活動 'job hunting' and *shokugyō sentaku* 職業選択 'career choice.' Reading a newspaper article or an editorial carefully, we can find more than a few phenomena of these alignments and realignments involved in the formation of context.

Therefore, it is significant to approach Japanese text linguistics as it is explained below.

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2   Semantic segments are discussed later. Cf. p35.

2 What is "Japanese text linguistics"? — On the actual situation of words' behaviour in text

In studies of language where the written discourse is taken up as the maximum unit of language, the material or object of the study is referred to as "text". The studies are usually concerned with its formation, structure, organization, context formation, development, cohesion, consistency, expression, style, etc. Such studies are referred to as *bunshoron* 文章論 'theory of written text' within Japanese linguistics, or as "text linguistics" in English.

This paper extends the scope of language study which deals with such "text," by observing behaviour at the level of lexis, grammar, and orthography in the whole text as its subject of study, and proposes a relationship between this behaviour and "text linguistics" as mentioned before. I want to propose this approach as a possible methodology of "Japanese text linguistics."

Takasaki (2011) stated: "Concerning 'theory of written text' I want to focus more attention on differences of approach in analyzing the objects in comparison with usual approaches in lexicology and grammar rather than focusing on enlarging the size of units of analysis (word→sentence→passage)." The same is true even when 'theory of written text' becomes 'text analysis.' That is to say, text analysis should document general *tendencies* rather than strict *rules*, identify *behaviours* rather than *functions*, and emphasize a method of *qualitative* analysis over *quantitative* analysis. These differences in approach are crucial to my method of text analysis. They could provide more effective methodology for lexicology, grammar, and orthography. Note that the term 'behaviour' above refers to a flexible way of working according to circumstances that is not as rigid as theoretical notion of 'function.' The term 'behaviour' will be used hereafter in text analysis, whereas it would be often called "function" in grammar.

Now, the 'behaviour' of words in text is considered below from the viewpoints of text-organizing words and lexical cohesion, which is based on the results of text analysis in Takasaki (1976, 1985, etc.).

3 On lexical function in a sentence: from the viewpoint of "text-organizing function"

Takasaki (2013) examined what kind of function words have in a sentence from the standpoint of text-organizing function and cohesion. Using a corpus[3] of introductory

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3   The corpus used was *Gakujutsu Nyūmon-sho Kōpasu* 学術入門書コーパス 'Corpus of Introductory Science Textbooks' made in the project '*Bunshō ni okeru Goi no Bunpu to Bunshō Kōzō* 文章における語彙の分布と文章構造 'Distribution of the Vocabulary in the Sentence and Sentence Structure' by National Institute for Japanese Language and Linguistics (Project Leader: Makoto Yamazaki). The following 4 types, 976 pages, and 194000 characters were used

science textbooks as material, I examined some examples and observed how words functioned in an actual text and how they built up that text.

As a result, some tendencies were observed as described below.

1. The most important words that undertake text-organization are nouns. Sino-Japanese words, which tend towards a higher level of abstraction compared with other categories of words, undertake much of this task.
2. The lexical cohesion of a text contributes greatly to the unity of semantic segments throughout the text.
3. There are some relationships of cohesion between the text-organizing words and the words inside the semantic segments that are combined with them.
4. Demonstratives contribute to signalling of text-organization in many cases.
5. Relative abstractness of text-organizing words actually observed and cohesion of words does not always reflect the system that is provided theoretically in lexicology, such as synonyms, superordinate or subordinate relationships. Rather, there are many temporary cases where they are affected by context, which surely guarantee originality and a one-time-only nature of the text.

Items 1-5 will be explained in the next sub-sections. To begin with, basic concepts of "text-organizing function," "segments," and "lexical cohesion" will be briefly stated below.

3.1   On "text-organizing function," "segments," and "lexical cohesion"

Concerning text-organizing function, McCarthy (1991:75) used the term "discourse-organizing words" for words whose job is to organize and structure the argument, rather than to answer for its content or field. Taking inspiration from the term 'discourse-organizing words,' in this paper, I will use the term 'text-organizing function' for a function that gives organization and structure to text. Takasaki (2011) simply used McCarthy's term "discourse-organizing words." However, this paper refers to the concept of "discourse-organizing words" as 'text-organizing words,' and to the concept of "discourse organizing function" as 'text-organizing function,' so as to clearly indicate that it is specifically written works that are under consideration. There are various theories and opinions about the terms "discourse" and "text," so I will adopt a simple method of explanation here.

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from the corpus: *Seiji-gaku Nyūmon* 政治学入門 'An Introduction to Political Science,' Abe, H., Iwanami Textbooks; *Nippon Gaikō-shi Kōgi* 日本外交史講義 'Lecture on the Japanese Diplomatic History,' Inoue, T., Iwanami Textbooks; *Amerika no Keizai* アメリカの経済 'The economy in America' 2nd ed., Haruta, M. and Suzuki, N., Iwanami Textbooks; *Keihō Genron* 刑法原論 'A Basic Principle of Criminal Law,' Naitō, K., Iwanami Textbooks.

McCarthy (1991) classified different types of words as 'grammar words' and 'lexical words⁴' and considered "discourse-organizing words" as words having a function intermediate between the two, which was noteworthy for purposes of text analysis.

Examples of such words are: 'issue,' 'problem,' and 'dilemma,' which, in the words of McCarthy (1991: 74-75) "... stand in place of segments of text just as pronouns can; a segment may be a sentence, several sentences or a whole paragraph, or more."

That is to say, the range which the word indicates —what part of the contents of the text does 'issue' point at? Or, what and what does "dilemma" refer to?— becomes a 'segment.' And, some of the discourse-organizing words give us indications of the larger text-patterns the author has chosen, and build up expectations concerning the shape of the whole discourse (McCarthy 1991:74-75).

McCarthy (1991)'s phrase "just as pronouns can" suggests that language forms which become text-organizing words have such simple forms and meanings as to substitute and represent concrete things. Their level of abstraction and generality are considered relatively high compared with most other categories of vocabulary, assuming that formal nouns such as *mono* もの 'things' and *koto* こと 'matters' are the forms of the highest level of abstraction in meaning.

'Segment' refers to the content of the text which is integrated on the basis of such text-organizing words. However, by 'segment' this paper does not mean customary divisions such as a paragraph, passage, or some large or small portion of simple linguistic forms. Instead, the segment refers to a 'unit of meaning,' in other words, semantic unity is given to the part of text that was chosen in accordance with the instruction of a particular text-organizing words.

Hence, this paper refers to such segments as 'semantic segments.' Semantic segments are considered to possess certain verbal signals, through which it will be possible to concretely divide the internal parts of the text and pick them out. The clues could be the relationships of cohesion that exist within the set of text-organizing words and segments, or demonstratives, modifiers, and determiners that are referred to as text-organizing words. Semantic segments somewhat resemble the linguistics concept of double articulation. They are lower-level semantic units which come together to form meaning in the text. Also, semantic segments could be mutually piled up, included in each other, and capable of combination.

Lexical cohesion is observed in co-texts within the text. Firstly, text-organizing words and vocabulary within segments have cohesive relationships. Secondly, synonymous rewording and reiteration in words within segments are also regarded as lexical cohesion.

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4   McCarthy (1991: 74) stated: "This distinction also appears sometimes as *function* words versus *content* words, or *empty* words versus *full* words. The distinction is a useful one: it enables us to separate off those words which belong to *closed systems* in the language and which carry grammatical meaning, from those that belong to *open systems* and which belong [sic] to the major word classes of noun, verb, adjective and adverb."

Halliday and Hasan (1976:8) stated that:

> Cohesion is a semantic relation between an element in the text and some other element that is crucial to the interpretation of it.

According to Halliday and Hasan (1976), 'lexical cohesion' in the linguistic system is represented by 'reiteration[5] (identity of lexical reference)' and 'collocation (similarity of lexical environment),' while 'grammatical cohesion' is represented by 'reference, substitution, ellipsis, and conjunction.'

The sequence of a text as a whole is segmented formally by divisions of paragraph and sentence, which are also regarded as text-organizing means. However, what I want to consider here is the case where text-organizing function emerges in the relationship of vocabulary and text. Such a way of thinking is often seen in previous studies that observe the division of meaning and content in the text by focusing on cohesion (lexical cohesion and grammatical cohesion) and the function of conjunction.

Each semantic segment is indicated by a semantic or contextual break in the text. A part of a sentence, a part of a paragraph, a few sentences, or a few paragraphs can be chosen as a segment. Or, it could be obtained by extracting a specific proposition and topic that emerge from the interplay of text-organizing words and the context. This reminds us of the viewpoint that "a text, after all, is not a unit of form but of meaning (Halliday and Hasan 1989:94)." A text is constituted by semantic segments, combination of semantic segments, and the correlation of inclusive relations, so that the intention of the text is realized. In order to read and understand deeply the text of an extended work of scientific prose, it is necessary to create large and small semantic segments based on some keywords, and make them correspond and relate to each other. And sketching the plot with these keywords is more efficient than summarizing what the writer wants to say in every paragraph.

3.2   The most important words that undertake text-organization

As described previously, "*1. The most important words that contribute to text-organization are nouns. Sino-Japanese words, which tend towards a higher level of abstraction compared with other categories of words, undertake much of this task.*"

Takasaki (2013) pointed out some aspects of words such as *gen'in* 原因 'cause,' *mondai* 問題 'problem,' *ten* 点 'point,' and *ugoki* 動き 'motion.' Even a single word of this type occurring in a much larger body of text can assume a text-organizing function for semantic segments together with various kinds of support and intervention from the

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5   "Reiteration" is the repetition of a lexical item; synonym; superordinate; general word (nouns having a general referent such as people, stuff, and move); and personal reference. "Collocation" means "to share the same lexical environment," and two lexical items that tend to occur in the similar context (Halliday and Hasan 1976).

context. Takasaki (2013) also pointed out that plenty of iteration and relating words and phrases inside such semantic segments contribute to cohesion, and that semantic segments can be identified by such cohesion. The combination of these semantic segments attains the purpose of the text.

Takasaki (1988), where newspaper editorials were used as materials, sums up the following points: Many text-organizing words were nouns. Sino-Japanese words made of two Chinese characters were used abundantly. Chinese characters have meanings. Sino-Japanese words made of two Chinese characters can be combined to form a nonce word, can become separated into individual Chinese characters. Moreover, the separated individual Chinese character can form another Sino-Japanese word through compounding with additional Chinese characters. Such dynamic usage of Chinese characters contributes to the formation of the context.

Demonstratives often play an auxiliary role for text-organization. Noticing this, Takasaki (1988) examined if nouns with demonstratives are involved in text-organization by corresponding semantic segments in text. Such nouns with demonstratives were extracted from editorial columns in *Asahi*, *Mainichi*, and *Yomiuri* newspapers during August 1-31, 1987, grouped by meaning, and listed below. This categorization is based on Takasaki (1988, etc.).

Terms pertaining to thought and logic:

> *ikikata* 行き方 'a way to go,' *ishiki* 意識 'conscience,' *omoi* 思い 'thought,' *kangaekata* 考え方 'way of thinking,' *kanten* 観点 'viewpoint,' *kitai* 期待 'expectation,' *kimochi* 気持ち 'feeling,' *gimon* 疑問 'question,' *keikaku* 計画 'plan,' *keiken* 経験 'experience,' *ketchaku* 決着 'settlement,' *kettei* 決定 'decision,' *kokoromi* 試み 'trial,' *jikaku* 自覚 'awareness,' *shuhō* 手法 'technique,' *jōhō* 情報 'information,' *seisaku sentaku* 政策選択 'choice of policy,' *tēma* テーマ 'theme,' *tenbō* 展望 'prospects,' *nanmon* 難問 'difficult problem,' *ninshiki* 認識 'understanding, recognition,' *hairyo* 配慮 'consideration,' *hassō* 発想 'idea,' *hansei* 反省 'reflection,' *handan* 判断 'judgment,' *hōsaku* 方策 'means,' *hōshiki* 方式 'procedures,' *hōshin* 方針 'policy, course,' *mondai* 問題 'problem,' *yosoku* 予測 'prediction,' *rinen* 理念 'principle,' *rei* 例 'example,' and *ronri* 論理 'logic.'

Terms pertaining to language:

> *kankoku* 勧告 'advice,' *giron* 議論 'argument,' *kugen* 苦言 'frank advice,' *koe* 声 'voice,' *kotoba* 言葉 'words,' *shuchō* 主張 'claim,' and *hihyō* 批評 'review.'

Terms pertaining to time:

> *katei* 過程 'processes,' *aida* 間 'intervals,' *kiun* 機運 'mood,' *kikai* 機会 'opportunity,' *sai* 際 'in case of,' *jiki* 時期 'period,' *jiten* 時点 'point in time,' *toki* 時 'time,' and *baai* 場合 'case.'

Terms pertaining to spatial relations:
>   *kakudo* 角度 'angle,' *kyokumen* 局面 'aspect,' *kuiki* 区域 'area,' *naka* 中 'in,'
>   *chiiki* 地域 'area,' *ten* 点 'point,' *bubun* 部分 'part,' *bun'ya* 分野 'area,' and *men*
>   面 'aspect.'

Terms pertaining to conditions:
>   *genjō* 現状 'present conditions,' *jōkyō* 状況 'situation,' *jōsei* 情勢 'state of
>   affairs,' *jōtai* 状態 'state, circumstances,' *taisei* 態勢 'condition, attitude' and
>   *tachiba* 立場 'standpoint.'

Terms pertaining to situations:
>   *koto* こと 'matters,' *genjitsu* 現実 'actuality,' *genshō* 現象 'phenomenon,' *jiken*
>   事件 'case,' *jijitsu* 事実 'fact,' and *jitai* 事態 'situation.'

Terms pertaining to quantity:
>   *ketsuraku* 欠落 'omission,' *sa* 差 'difference,' *suijun* 水準 'level,' *sūryō* 数量
>   'amount,' *teido* 程度 'degree,' *ninzū* 人数 'number of people,' and *hiritsu* 比率
>   'ratio.'

Terms pertaining to abstract relationships:
>   *kekka* 結果 'result,' *gyappu* ギャップ 'gap,' *jirenma* ジレンマ 'dilemma,' *jōken*
>   条件 'condition,' *baratsuki* バラつき 'unevenness,' and *mokuhyō* 目標 'goal.'

Terms pertaining to processes:
>   *akujunkan* 悪循環 'vicious circle,' *ikisatsu* いきさつ 'sequence of events,' *ugoki*
>   動き 'motion,' *undō* 運動 'exercise,' *kōyō* 高揚 'uplift,' *gōrika* 合理化 'rationali-
>   zation,' *tenkan* 転換 'switch,' *nobi* 伸び 'growth,' and *henka* 変化 'change.'

These words are considered to function more or less as text-organizing words.
There are loan-words *gyappu* ギャップ 'gap' and *jirenma* ジレンマ 'dilemma,' native
Japanese words *koto* こと 'matters' and *nobi* 伸び 'growth,' and Sino-Japanese words
consisting of the single Chinese character *ten* 点 'point' and the single Chinese character
men 面 'surface' in the list above. The largest number is Sino-Japanese words made of
two Chinese characters such as *mondai* 問題 'problem' and *hōshin* 方針 'policy, course.'
What is interesting is that some of the above text-organizing words are common to the
ones pointed out in Takasaki (2013), which showed the results of the investigation into
introductory science textbooks. Namely, they are *mondai* 問題 'problem,' *ten* 点 'point,'
ugoki 動き 'motion,' and *gyappu* ギャップ 'gap,' etc. According to Kim (2012), loan-
words have increasingly come into their own as basic words recently. Hence, the number

of loan-words which are concerned with text-organization may well be in the process of increasing today.

In examples from works such as editorial columns and introductory science textbooks, nouns come after demonstratives and are more concerned in text-organization than are other parts of speech. Nouns are used to summarize the previous context plainly, to increase the degree of abstraction, and to recapture the whole text. In addition to it, another reason could be that nouns have flexibility to be brought into later development as attributive and predicative modifiers, or as a subject and theme. Requirements of text-organizing words are considered to be the following: their contextual flexibility is high (cf. Takasaki 1976); their semantic level of abstraction is relatively high; and they are used quite frequently. In addition, they are not so much "lexical words" as "grammar words," as McCarthy calls them.

In this connection, a word becoming a grammar word through the process of grammaticalization is deeply involved in the existence of a text in various ways. Grammaticalization as a phenomenon can only occur over the course of a text. Also, a requirement of grammaticalization, that is, extensive and frequent use, is naturally satisfied during frequent use of such lexical items in various texts.

The process of grammaticalization shows that the use in the concrete meaning and the use in the formal meaning coexist and that, although having width of multiple meanings, the use in the formal meaning gradually becomes dominant in the course of time. Grammaticalization occurs as textual phenomenon because the development of the text is superposed with the process whereby superordinate words bundle up and generalize subordinate words, and because the logical development to arrive at one abstraction from numerous concrete things is in accord with our natural thought process in reading editorial columns and introductory science textbooks.

As for parts of speech, nouns and noun-like phrases accounted for most, and adjectives, adjectival verbs, and verbs accounted for few.

For instance, as for verbs with postpositional particles and auxiliary verbs, there are examples such as *Naze kō natta ka* なぜこうなったか 'Why did it become this way?' *Konoyōni mite kuru to* このようにみてくると 'When I look (at it) in this manner,' *Sō de aru nara* そうであるなら 'If it is so,' and *Sō suru koto de* そうすることで 'In doing so.' They are considered to be text-organizing words because they have semantic segments which correspond to (or combine with) *naru* なる 'become,' *miru* みる 'look,' *aru* ある 'is,' and *suru* する 'do' beforehand. However, as far as editorial columns and introductory science textbooks are concerned, verbs are limited qualitatively and quantitatively compared with nouns. It seems to be uncommon that verbs actively participate in the development of such forms as naming, metaphor, interpretation, and opinion.

In the cases of adjectives (*i*-adjectives) or adjectival verbs (*na*-adjectives), for example,

Tōdai ikaken wa, nyūin kanja no rassa-netsu kansen o kakunin shi nagara, hōkoku ga yonkagetsu chikaku okure ta. Senmon-ka ga densenbyō ni taishi, <u>kono yō ni rūzu de</u> ii no daro u ka.

東大医科研は、入院患者のラッサ熱感染を確認しながら、報告が四か月近く遅れた。専門家が伝染病に対し、<u>このようにルーズで</u>いいのだろうか。

(The Tokyo University Institute for Medical Sciences confirmed the inpatient's infection with Lassa fever. However, the report was nearly four months late. Is it acceptable for an expert <u>to be so lax </u>in response to an epidemic?)

(*Rassa-netsu ga Nippon ni jōriku shita.*『ラッサ熱』が日本に上陸した
'Lassa fever struck Japan,' the editorial column, *Yomiuri* newspaper, August 17, 1987;
English translation by Takasaki.)

An adjectival phrase, as used in the example above, is not quite so abstract as a verb, and often reflects aspects of the writer's viewpoint such as evaluation and interpretation. However, such examples are also quite limited in frequency and scope compared with nouns.

Considering McCarthy's method of intermediary positioning between lexical word and grammar word, it is naturally possible that some words assume the role of lexical word while others assume the role of grammar word, and still others assume an ambiguous interpretation. For exact text-organization, we need a lot of words that have become attenuated in meaning while still preserving their lexical meanings, and yet have not quite finished becoming grammar words either.

In other words, text-organization does not so much mean that a specific word independently and exclusively takes on all the work but that, the word functions according to its *contextual* meaning above and beyond its ordinary lexical meaning. Also, it means that, for specifying semantic segments that constitutively present text, the word does a selective and designated work with demonstratives and modifiers in some cases.

A certain interest to such phenomenon is shown from the standpoint of lexicology. Based on Takasaki (2011), Saito (2011) takes a viewpoint of "what establishes the association with word and sentence" and stated about "functionality of the meaning of a word" as follows:

'Functionality of the meaning of a word' means the following: there are cases where a word, with its meaning, necessarily performs a certain function in a passage, or it is consequently made to perform a special function from the relation with the content of the passage. Some examples of the former are 'discourse-organizing words' and 'proper nouns,' etc., which Takasaki mentioned. Some examples of the latter are 'keywords,' 'theme,' and 'title,' etc. What is important is that the function of the former is based on abstract meanings

of specific Chinese characters, often independent from the context. On the other hand, the function of the latter is defined by its relation to the context. In this sense, the former is more interesting than the latter in lexicology (Saito 2011:271; English translation by Takasaki).

Saito (2011) additionally pointed out that words that serve as text-organizing words have inherent, specific characteristics.

3.3 Japanese *ko*, *so*, *a*, and *do* demonstratives contribute to signalling of text-organization in many cases

Since demonstratives are strongly coupled to the other parts of the sentences, McCarthy and Halliday see dependence there and get them into grammatical cohesion, which will be related to the following: text-organizing words are often accompanied by demonstratives after all. Takasaki (2013) named this the "text-organizing auxiliary function" of demonstratives.

As stated before, typical "text-organizing words" are considered to be lexical words with attenuated meaning overtly presented and accompanied with demonstratives "like pronouns."

Although demonstratives are not a required element, they do have a text-organizing auxiliary function. Therefore, text-organizing words' function is more conspicuous when demonstratives are attached to them. Demonstratives are categorized into "grammar words" (functional words) as a "closed system" in McCarthy (1991). In this case, it can be said that grammatical words help lexical words to show their functional aspect rather than their lexical meanings, and draw them towards grammaticalization. In other words, looking for text-organizing words by a corpus search, Japanese *ko* こ 'this', *so* そ 'that', *a* あ 'that', and *do* ど 'which' demonstratives could be clue words of the search. Since they form specific strings of *hiragana* characters, they are easily found and observed in corpus.

That is to say, typical "text-organizing words" are lexical words with attenuated meaning which are accompanied with demonstratives and overtly presented "like pronouns," as stated before. Although demonstratives are not a required element, they have grammatical cohesion themselves, similar to pronouns. Therefore, terms functioning as text-organizing words are more conspicuous when demonstratives are attached to them.

This being the case, let's begin with the question of what kind of function demonstratives have in text? Takasaki (1990a) showed some viewpoints of the study concerning function of demonstratives in sentence and discourse, and pointed out that a demonstrative sometimes performs not only a work of indication but also, in a larger range than discourse and consecutive sentences, the following works: I summarize them

as A-E and F below. Note that "demonstrative phrase[6]"refers to a combination of words and phrases such as "a demonstrative + α" like *kō-shita jōkyō* こうした状況 'such situation.' In this case, a large part of "α" is noun and noun phrase. That is to say, it corresponds to a "text-organizing word" as referred to in this paper.

A.   A demonstrative phrase which indicates a wide range will greatly affect the structure of the whole sentence (Takasaki 1990a: 40).

B.   Both the unifying function of anaphora and the notifying function of cataphora, which are contrasting works performed by demonstrative phrases, play an important role in sentence structure (Takasaki 1990a: 41).

C.   It plays an important role in specifying the contents and range indicated by words such as *ketsuron* 結論 'a conclusion' and *wadai* 話題 'a topic' which follow demonstratives in demonstrative phrases (ex. *kono yō na ketsuron* このような結論 'such a conclusion' and *sonna wadai* そんな話題 'such a topic'), which correspond to α in "a demonstrative + α" (Takasaki 1990a: 44).

D.   There are demonstrative expressions whose indications are not recognized nor thought of by the listener, such as *sōda* そうだ of 'a spur-of-the-moment idea' and *sōda, sōda* そーだ、そーだ of 'making agreeable responses in the spoken language' (Takasaki 1990a: 43).

E.   In written language, a writer will be aware of the readers and use demonstratives of *a*-series so that mutual understanding is realized in text (Takasaki 1990a: 38).

These functions as above were pointed out in Takasaki (1990a). Though I did not mention it in Takasaki (1990a), I would like to further add the following "F" on *do*-series as a function of demonstratives in text:

F.   Demonstratives from the *do*-series which appear at the beginning of text give notice beforehand of the theme of the subsequent development, and their questioning power lasts, pending all the while, by means of the cohesion of words and phrases, until segments on the theme are brought to a conclusion.

For example, Takasaki (2013) showed the following sentence from Chapter 4, *Shakai Shūdan to Seiji* 社会集団と政治 'A Social Group and Politics' in *Seiji-gaku Nyūmon* 政治学入門 'Introduction to Political Science': after having stated the need of the appointment of women, *Sono tame ni wa, gutaiteki ni <u>dono yō na hōsaku</u> ga kangaerareru de arou ka.* そのためには、具体的に<u>どのような方策</u>が考えられるであろうか。'To that end, what kinds of plans are thought about concretely?' Then the content of 'plans' is described, and it follows that: *Waga kuni de wa mokka no tokoro <u>kō-shita hōsaku</u> ga*

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6   Takasaki (1990a) originally used the term *shiji hyōgen* 指示表現 'demonstrative expression,' not *shiji goku* 指示語句 'demonstrative phrases.' However, both of these two terms refer to the same contents. This paper uses the term *shiji goku* 指示語句 'demonstrative phrases' in accord with Takasaki (1988).

torareru mikomi wa usui. 我が国では、目下のところ<u>こうした方策</u>がとられる見込みは薄い。'For the time being, there is not much likelihood that such plans will be realized in our country.' Semantic segments received by the phrase *kōshita hōsaku* こうした方策 'such plans' become unified above.

【*do*-series demonstratives＋〜interrogative word：*ka*】 has an aspect of expression working towards the reader. It is noteworthy that it has the function of backward segmentation, opposite of such words as *kono yō na* このような 'like this.' In this case, it means to segment the part after the description of the 'plan,' and it announces and guarantees in advance that they will certainly be referred to afterwards. Phrases of indefinite *do*-series demonstratives have such a powerful text-organizing function that they become pending all the while until the indefinite part becomes a definite part with the conclusion of segmentation and correspondence. Also the following "preface" forms extensive segments concerning text-organization, and has consistency that we can see into the structure of the whole text there: *Honsho wa〜ga dono yō ni〜shita ka o kaimei shita mono de aru* 本書は〜がどのように…したかを解明したものである 'This book elucidated how...'

Based on the above observation, it is clear that the function which demonstratives show in text is based on an inherent property and function of demonstratives, and on the differences among *ko, so, a,* and *do* demonstratives.

3.4   Cohesion of words

As mentioned at the beginning of Section 3 about the tendencies of text-organizing words, "*3. There are some relationships of cohesion between text-organizing words and the words inside the semantic segments that are combined with them.*" Furthermore, "*5. Relative abstractness of text-organizing words actually observed and cohesion of words does not always reflect the system that is provided theoretically in lexicology, such as synonyms, superordinate or subordinate relationships. Rather, there are many temporary cases where they are affected by context, which surely guarantee originality and once and for all characteristics of the text.*"

For example, Takasaki (2013) gave the following column of *9. 11 Tero no shōgeki* テロの衝撃 'Shock of September 11th Terrorism.' The following is what the column says about the shock of terrorism:

> *Keizaiteki eikyō ni kagitte mo… hamon wa chōki ni wataru. Koko de wa chokugo no <u>keizai mondai</u> o shōkai suru. Mottomo chokusetsuteki na dageki o uke ta no wa kōkū un›yu de aru ga, tōsho no unkō teishi, saikai go mo keibi kyōka ni yoru jūtai ya ryokō tebikae ni yoru ryokaku no genshō nado ni yori…ryokō gyōkai ga dai dageki o uke, kouri uriage mo ichiji ōkiku ochikon da. Hoken gaisha wa kyogaku no shiharai mondai ni chokumen shi, seizōgyō de wa…keiki no kakō wa kono jiken de ketteiteki ni natta to itte yoi.*

経済的影響にかぎっても（中略）波紋は長期にわたる。ここでは、直後の<u>経済問題</u>を紹介する。最も直接的な打撃を受けたのは航空運輸であるが、当初の運行停止、再開後も警備強化による渋滞や旅行手控えによる旅客の減少などにより（中略）旅行業界が大打撃を受け、小売売上げも一時大きく落込んだ。保険会社は巨額の支払い問題に直面し、製造業では（中略）景気の下降はこの事件で決定的になったといってよい。

'Even just limited to economic influence, the ripple lasts for a long term. Here I introduce <u>economic problems</u> immediately after the event. It is air transportation that has received the most direct blow. Their operations were halted at first. Even after the operations were restarted, congestion occurred because the security was reinforced and passengers decreased because they cut down on travelling. … Travel industry suffered great damage and retail sales significantly dropped for a while. Insurance companies faced the problem of a large amount of payment. As for manufacturing industry… it can be said that the drop of the economy became decisive because of this incident (English translation by Takasaki).'

And a long description in this editorial still continues. When the word *mondai* 問題 'problem' appeared in the phrase *keizai mondai* 経済問題 'economic problem,' a previous notice of stating the content of that *mondai* 問題 'problem' comes next, and that range is segmented as *keizai mondai* 経済問題 'economic problem.'

Inside the segmented part are words such as *dageki* 打撃 'blow,' *jūtai* 渋滞 'delay,' *genshō* 減少 'decrease,' *shōgai* 障害 'obstacle,' *dai dageki* 大打撃 'severely wounding,' *ochikonda* 落ち込んだ 'dropped,' *kon'nan* 困難 'difficulty,' *jakuten* 弱点 'weak point,' *todokōri* 滞り 'stagnation,' and *kakō* 下降 'decline' as a clue of that segmentation. And words with the negative meaning, whose superordinate concept is "*mondai* 問題 'problem' = undesirable state (judging from economy)," enter into temporary cohesive relationships within the text. This is not a lexicological relationship, however. Strictly speaking, it is not meant to refer to a later sentence or paragraph, but to imply the meaning of "undesirable state (judging from the economy)" in the relevant semantic segment. In other words, text-organization is shown as semantic segments based on the choice of the *meaning*, not form, of temporary cohesive relationships.

Such "signal words" are empirically known. Alternatively, it can be usage, not the words themselves. For instance, let us focus on the word *mondai* 問題 'problem' in the above column. The meanings of *mondai* 問題 'problem' that are described first in the dictionary are: "a question to find an answer, a question to require an answer and teaching, or a question" (*Nihon kokugo daijiten* 日本国語大辞典; English translation by Takasaki), and the meanings described second are: "criticism and a debate, or a matter

to be studied, a matter to be settled," "a matter to be kept in mind, notable point" (*Nihon kokugo daijiten* 日本国語大辞典; English translation by Takasaki). In the above column, the more abstract meanings of the word *mondai* 問題 'problem' contribute to the formation of context as text-organizing words. The word *mondai* 問題 'problem' cannot always be said to work as a text-organizing word. Text-organizing words are semantically chosen in a specific text.

In short, semantic segments are not formed based on the lexicological relations of words. Rather, cohesive relations are observed in a range segmented by text-organizing words. The text-organizing words could be superordinate words, and the subordinate words could also yield cohesive relations.

Actually, the relations among words within text can be freer and more creative, having a one-time-only nature and unexpectedness each time, in contrast with the more fixed relations of synonymity or coordinate, superordinate, and subordinate relations found in lexical semantics.

4   Summary: Works of lexical items in text

A word provides various meanings to text; from autonomous words (typically, proper nouns) in text to abstract words (typically, formal nouns, formal verbs, and formal adjectives, cf. Takasaki 1976) that cannot have autonomous meanings because their meanings are determined by the context. In the concept of 'polysemy' in lexicology, there is presupposition that the meaning of a word is not monolithic, but, rather determined by the context. Such dictionaries as *Kihongo jiten* 基本語辞典 'Dictionary of basic words' and *Ruigigo jiten* 類義語辞典 'Dictionary of Synonyms' have various examples of word usages from actual texts. As much as various examples are taken for their meanings to be explained, the meaning division becomes detailed and incomprehensible. The "central meaning" of a word will only be a reworded meaning of the word after all. There exists a rule for the order of the meanings in the Japanese dictionaries —primary meaning, secondary meaning, and so on. In my opinion, this order is intrinsically connected with the function of lexical items in the text.. This is based on my own experience of compiling a Japanese dictionary (*Sanseido gendai shin kokugo jiten* 三省堂現代新国語辞典, 4ᵗʰ edition).

Observing a real text, text-organizing words, as used in this paper, can be said to have occurred as a result of continuous usage in the following way: they intuitively choose appropriate components from the existing words within the constraints of the context, select a lexical meaning, or function in correspondence with text-organization based on a metaphorical idea.

In fact, the word *mondai* 問題 'problem' mentioned before was used in the secondary meaning. Also, the words *ten* 点 'point' and *shisei* 姿勢 'attitude' that were discussed

in Takasaki (2013) were used in the secondary meaning. However, the word *gen'in* 原因 'cause' was used in the primary meaning. In Japanese, the loan-word *apurōchi* アプローチ 'approach' (c.f. Takasaki 2012) has the following primary meanings: 'research the subject in a study, or its method, methodology; they are mainly used in a social science.' And the secondary meanings are: 'the path which leads to a specific place or building from the entrance or gateway to the site; ski jumping, running long jump, the high jump-, golf-'etc. It is considered that the abstract meanings of the word approach were brought into Japan earlier than concrete meanings. So the abstract meanings came first in the dictionary and concrete meanings came second. Secondary meanings do not always become text-organizing words.

A word, inflected and accompanied by an auxiliary word for reasons of the sentence structure, functions in a sentence structure. Likewise, the meaning of a word is put to practical use with various senses to contribute to constitution of context, or it is accompanied by modifiers to determine its sense.

Thus, behaviour of lexical words occurring in text is such that we realize the following point from Nomura (2003).

> The grammar, like a vocabulary item, is a "sign" of the conventional relation between form and meaning, and can be said to exist to express a meaning. The differences between a vocabulary item and the grammar only reside in the differences of degree of complexity of the form of the sign or degree of abstractness of the meaning of the sign. Vocabulary and the grammar are continuous and should not be divided in two as having totally different characters, as has been conventionally done (Nomura 2003:55; English translation by Takasaki).

In addition, another point that I want to pay attention to is the following:

> Text linguistics, being deeply related with the corpus linguistics, focuses on structuring lexical items by text-organizing functions (Ishii 2011:287; English translation by Takasaki).

Ishii (2011:287) states that the "text-organizing function" of a word means "reiteration" in Halliday and Hasan (1976) or the function of "discourse-organizing words" in McCarthy (1991), and continued that:

> Reiteration is shown in some strategies. Important lexical items such as synonymous words, superordinate and subordinate words is involved in such strategies. It is considered that words in such lexical relations are expressed with functioning of reiteration in text. A group of words in such lexical relations is considered to be prepared for reiteration or functioning of the text-organization ... (Ishii 2011:287; English translation by Takasaki).

Furthermore, Ishii (2011) cited the following statement in McCarthy (1991: 67)[7]:

> … synonyms are not just ways of understanding new words when they crop up in class, nor are they some abstract notion for the organisation of lexicons and thesauri, but they are there to be used, just as any other linguistic device, in the creation of natural discourse.

Ishii (2011) goes on to say, "Here is an answer from text linguistics to the question of why vocabulary is shaped and structured like that (English translation by Takasaki)."

Therefore, taking these statements as our point of departure, we in the field of text linguistics can consider that text causes a word to have the power of organizing the text itself by continuous creation and characterization of a meaning of the word while giving function at the same time.

Concerning lexical cohesion, it was made clear that words support textuality by being repeated in text (Takasaki 1986, 1990b, 2007, etc); some words are coherent with having lexical relations, temporary relations, and relationships based on the world knowledge; and they form semantic segments from small to large. In other words, the text-organizing function of vocabulary does not simply mean that a word as text-organizing word works with combination of segments, but that a word's cohesion via reiteration (such as a tautology and rewording by lexically superordinate words, subordinate words, synonymous words, or words with the same meaning) organizes the whole text or segments that organize text. Of course, there can be not only lexical relations, but also temporary relations of cohesion limited to the specific text.

Such phenomena can be used as a standard for making segments. Moreover, in a long text such as an introductory academic textbook, it can be observed that some technical terms both appear repeatedly in the text as a whole and are reiterated as well. For example, the word *seitō* 政党 'a political party' is used 337 times over the course of the text without any sense of disproportion in *Seiji-gaku Nyūmon* 政治学入門 'Introduction to Political Science.' The word *reisen* 冷戦 'cold war' is used 193 times in *Nippon Gaikō-shi Kōgi* 日本外交史講義 'Lecture on the History of Diplomacy in Japan,' the word *shijō* 市場 'market' is used 206 times in *Amerika no Keizai* アメリカの経済 'Economy of America,' and the word *keihō* 刑法 'criminal law' is used 588 times in *Keihō Genron* 刑法原論 'Basic Principles of Criminal Law.' In addition, non-technical terms such as *mondai* 問題 'problem,' *gensoku* 原則 'principle,' *keikō* 傾向 'tendency,' *jōkyō* 状況 'situation,' and *henka* 変化 'change' are frequently used as text-organizing words, with specific senses each time, and sometimes form a long chain of cohesion by repetition of the same word in the whole text as a result.

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7   Ishii (2011) quoted McCarthy from Andō and Katō's 1995 Japanese translation (see bibliography); however, the English from McCarthy's 1991 original is instead supplied here for the reader's convenience.

It is observed that text develops with words that are not particularly abstract, having relations and being combined with segments to become text-organizing words. It can be said that lexical cohesion itself is deeply connected with text-organizing function.

5   Conclusion

In this paper some of the functions of vocabulary in a sentence are observed. It is considered that a meaning of the word is grammatically restricted and determined in text; it is ambiguous between a lexical autonomous meaning and the contextual meaning that received contextual interference; and it comes to have text-organizing function by itself. We can even see concrete words, such as *shisei* 姿勢 'posture,' *ugoki* 動き 'motion,' or *chōryū* 潮流 'trend,' combine with big segments in editorial column. We can also see an aspect that typical common nouns, such as *jōkyō* 情況 'situation,' *henka* 変化 'change,' and *gensoku* 原則 'principle,' whose degrees of abstraction are relatively high compared with more concrete nouns such as *ringo* りんご 'apple' and *sora* 空 'sky,' are frequently used as text-organizing words necessary for text development in introductory science textbooks.

Furthermore, many Sino-Japanese words represent text-organizing words. It has been said that only native Japanese words can serve as postpositional particles, auxiliary verbs, adverbs, conjunctions, and interjections, etc. which have strong functional aspects in a sentence structure. However, some Sino-Japanese words seem to tend towards forming a group of functional words that bring out function rather than meaning. It can also be said that Japanese writers are rapidly making fuller use of Sino-Japanese words.

Textuality makes a text an entity with a meaning, not simply the set of its constituent words, and indicates an aspect that a word from a vocabulary system is rearranged so that an intention can be conveyed. Therefore, the text is a field where a word exhibits its functional aspect. And the word functions so that the meaning of text is exactly conveyed. What bears textuality in a text is not any single feature of the text on its own; various cohesive relations and organizational clues are prepared and working together, indeed realizing each other, within the text. The organization of text is more complex than mere sentence structure. The units of various scales are combined and incorporated like a nest of boxes to effect realization of the meaning of the text for the purpose of conveying it as much as possible to the reader.

The text has a large quantity of language, which is unidirectional, linear, and timewise. Such characteristics are quite troublesome. However, there exists function for concisely grasping the large quantity of language inside the text. This function has bidirectional, planar, and consequential characteristics, and text-organizing function and cohesiveness perform such function.

Thus, any language form including words has functions and characteristics that are particularly brought out in text. With the corpora being steadily improved, the actual state of language forms in real text will be easily confirmed. Japanese linguistics is trying to confirm what has traditionally been said by using corpora. We want to make further observations of such behaviour in the whole text in the fields of lexicology, grammar, and orthography. That is to say, we want to continue pursuing the methodology of "Japanese text linguistics."

Acknowledgment

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要旨（Abstract in Japanese）

「語彙的結束性とテクスト構成の機能――文章論からの提言――」

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「テクスト構成語」という概念と「結束性」という概念を使って、日本語テクストではどのようにそれらが現れるのか、いくつかのテクストで観察してみた結果を報告する。これらの概念はテクストをテクストとして成立させている「テクスト性」に関するいくつかの概念の一部である。テクスト構成語はテクストの流れを区切り、それによってテクスト（あるいはテクストの一部）を構造化する機能を有する。結束性は言語形式同士が関係しあうことにより、テクスト（あるいはテクストの一部）に意味的な一貫性をもたらす。両者の関係は、端的に言えば、テクスト構成の機能は結束性によって実現するということになろう。また、ここではテクストを意味的に構成する一種の作業的単位として“意味分節”という概念を設けることとした。