

Visualization of Author Characteristics

Voice and sound role in story world

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Abstract: Author's peculiarity in Ekuni's short story *Duke* is visualized with the reader-story fusion world in the reading by analyzing the conversation; the inner, direct and indirect speeches. Voices and sounds as conversations and onomatopoeias play an interesting role in her story world. Structures of expression in conversation in her two books are visualized by wavelet multi-resolution analysis. In this study, the visualization of *Duke* is compared with that of *Rakka-suru Yugata*. As a result, the author's characteristics and literary genre differences are extracted.

Keywords: Visualization, Wavelet multi-resolution analysis, Author characteristic

1. Introduction

The characteristics of Ekuni's long story *Rakka-suru Yugata* (Ekuni, 1996) have been extracted previously by wavelet multi-resolution analysis (Morohoshi, et.al.). In this study, the author's characteristics have been investigated by analyzing the conversation in Ekuni's short story *Duke* (Ekuni, 1989). Focusing on the usage of conversation, the characteristics of story telling have been clarified.

Kaori Ekuni is one of the most popular writers with young women in Japan. Her works are characterized with fantastic and mysterious atmospheres. This causes her own way of choosing words, and, expressing character's voices and sound as onomatopoeias. To understand her world, it is important to feel characters' voice and sounds. These characteristic ways of expression, like conversation style and sounds, are set as key words in this study. Applying by wavelet multi-resolution analysis, construction of conversation style of her works are extracted and visualized.

Duke is a short story about the girl who lost her dog. The day when the dog died is focused on this story. The lady Watashi (the first person pronoun in Japanese) has met a boy Shonen (this means Boy in Japanese) in the morning when her dog died. Watashi spent all day long with Shonen walking around Tokyo. Then Watashi knew Duke appeared as Shonen in the last part of the story. *Rakka-suru Yugata* is a novel with the first person narrative. The main character Rika had been living with her boyfriend Kengo for 8 years. This story starts the day of Kengo's departure. Instead of Kengo, Hanako who has loved by Kengo, has settled in Rika's studio. The main plot describes Rika's broken heart story, but this process becomes complicated by Hanako.

These two stories suggest the first person's thoughts and emotions moved by the loss of an important partner. The plots of each story are similar, but the story length is quite different

between that of *Duke* and *Rakka-suru Yugata*. Comparing the two of stories, her characteristics of construction produced by her conversation style are clearly visualized (Morohoshi, et.al, 2002).

This study is also comparing the structures between the two kinds of literary works by the same author. If the similar structure is extracted in this study, this similarity indicates the characteristic way of this author. On the other hand, if different structure is extracted, then that is caused by the differences of the literary genre. We have succeeded in extracting the same three structures and one different one.

2. Method of Analysis

2.1 Evaluation of text data

In order to apply the discrete wavelet analysis, it is essential to set up the object vectors, which are composed of the numeric values. We count the frequency of evaluation points listed in Table 1 in each of the sentences. A part of the direct speech is counted as one sentence if it is concluded with any number of sentences.

Each sentence reflects on the layer in the story directly. Figs.1-2 show the data evaluation results through the entire story. By considering the results in Fig.1-2, numbers of interactions inside the reader's mind can be observed while reading the book. Usually the reader is on the description (evaluated level 4), which consists of the real world in the story. In addition, there are many parts of direct speech (evaluated level 3) in this book. These two layers are forming the real world in the story. Any reader who reads these parts easily accepts the real world in this book. On the other hand, while reading the heroin's inner speech (evaluated level 1), the reader does not exist in the real world in the story. The reader identifies with the heroin thereby; her inward thought is not concerned with the real world in the story. Furthermore, when reading the second level sentence, the reader has already mixed up the real and that of the heroin's inner worlds, because indirect speech contains I's expectation.

Table 1 Evaluation Reference

Evaluation	Standards for Classification
1	Inner Speech
2	Indirect Speech
3	Direct Speech
4	Description

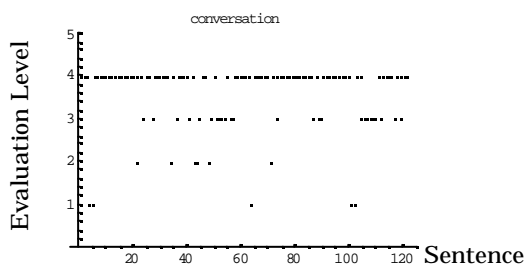


Fig. 1 Layers in *Duke*

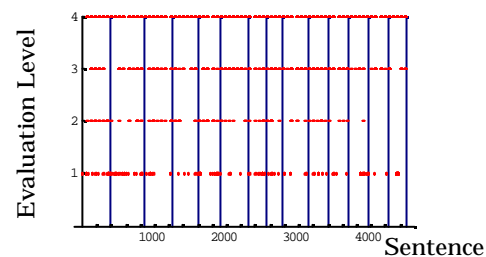


Fig. 2 Layers in *Rakka-suru Yugata*

2.2 Wavelet Analysis

To extract the characteristics of this story, the wavelet multi-resolution analysis is applied to the evaluated data vectors, \mathbf{S}_i , $i=1,2,3,4$, shown in Figs. 1-2, because the multi-resolution analysis classifies the evaluated data into the low to high levels variations.

The vectors, \mathbf{S}_i , $i=1,2,3,4$, are composed of binary (0 or 1) elements. If an evaluation reference applies to a sentence, then the element is 1. Otherwise, it becomes 0. In the present analysis, the evaluation references are assumed to be independent each other. This means that the wavelet

transform can be applied to \mathbf{S}_i , $i=1,2,3,4$ independently. When we carry out the wavelet analysis, the number of elements in vector \mathbf{S}_i , has to be composed of the power of 2 elements. So that, after adding zero elements to \mathbf{S}_i , $i=1,2,3,4$, the wavelet transform is carried out, as given by

$$\mathbf{S}'_i = W\mathbf{S}_i \quad i=1, 2, 3, 4. \quad (1)$$

Where \mathbf{S}'_i , $i=1,2,3,4$ are the wavelet spectra to the respective evaluations. Moreover, W in (1) denotes a wavelet transform matrix. \mathbf{S}_i , $i=1,2,3,4$ can be divided into some levels according to the nature of orthogonal wavelet transform viz,

$$\mathbf{S}_i = W^T_j [\mathbf{S}_i]_j, \quad i=1, 2, 3, 4, \quad (2)$$

where j refers to a level of the wavelet multi-resolution analysis(Saito, 1998).

The level of the wavelet multi-resolution analysis makes it possible to visualize the transition states of reader's mind from average to local viewpoints.

3. Results and Discussion

3.1 Elements of this story

Applying the wavelet multi-resolution analysis, these works are divided into the story line and the author's characterizing techniques. Figs.2-3 show the result of level 0 of the wavelet multi-resolution analysis. It shows that the main element of these stories is description (evaluated level 4). This means that the description has an important role in her works. In addition, there are many parts of direct speech (evaluated level 3). Evaluations 3 and 4 are based on character's everyday life. Thereby, balances in conversation and narration constructs her worlds, especially in *Duke* and *Rakka-suru Yugata*. On the other hand, indirect speech (evaluation level 2) and the heroin's inner speech (evaluated level 1) are minor elements in these stories. These are her characterizing techniques to describe voices and sounds.

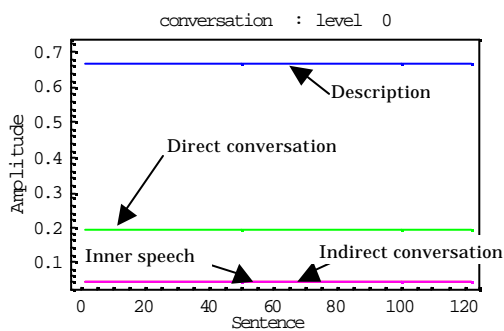


Fig. 3 Level 0 of the wavelet multi-resolution analysis: *Duke*

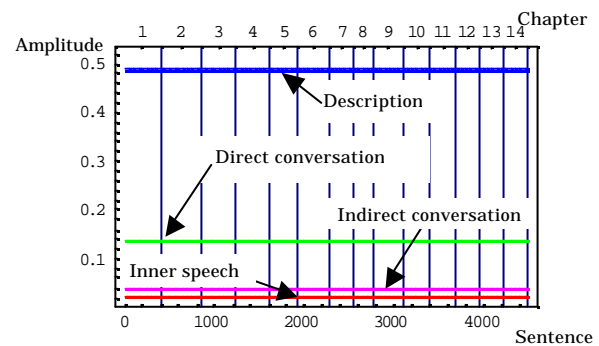
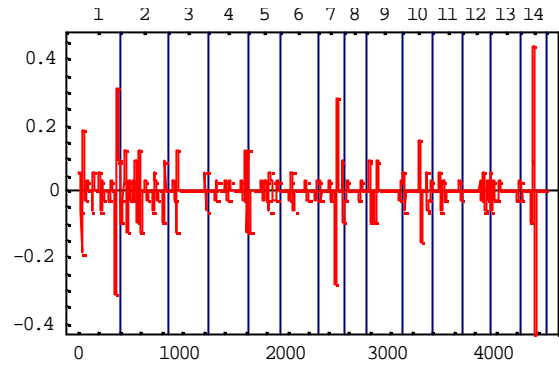
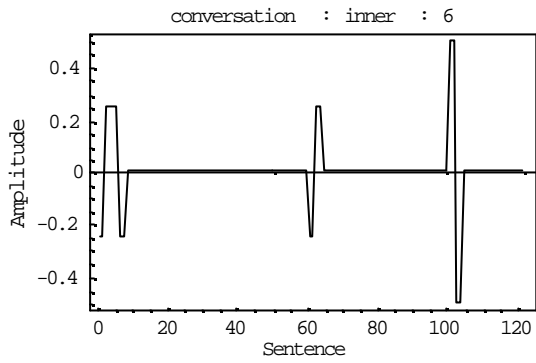


Fig. 4 Level 0 of the wavelet multi-resolution analysis: *Rakka-suru Yugata*

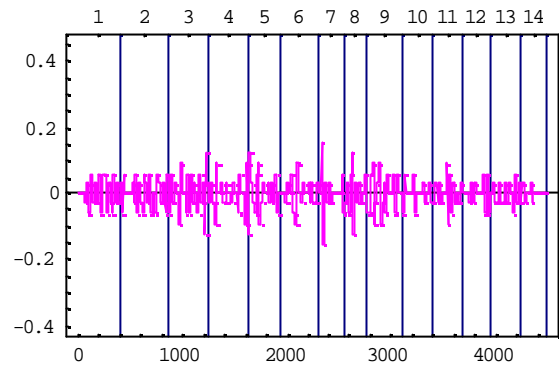
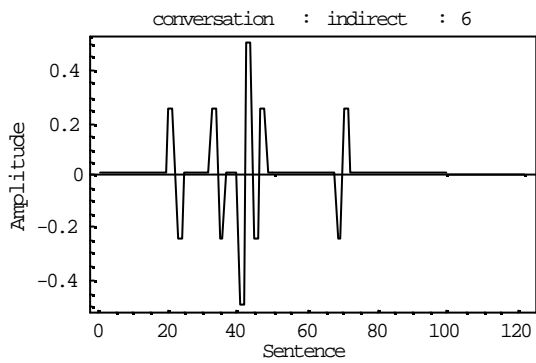
3.2 The structure of the story

Fig.4 shows the results of *Duke* level 6 of the wavelet multi-resolution analysis, and, Fig.5 shows the result of level 9 *Rakka-suru Yugata*. At the beginning of *Duke*, there are some inner speech sentences. Then, description starts to explain the background about this story. *Duke* is I-novel, which means that this story starts from the first person's point of view. It shows the same tendency in Fig.5. That is the characteristics of this author ushering readers to her book world.

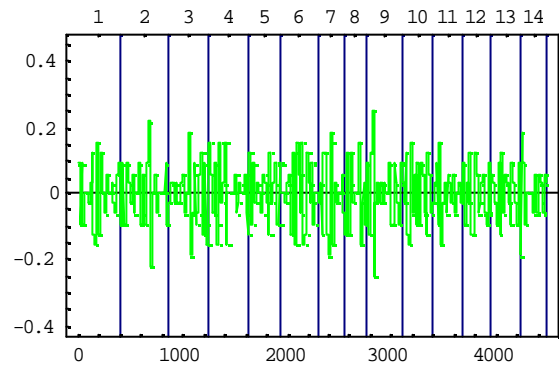
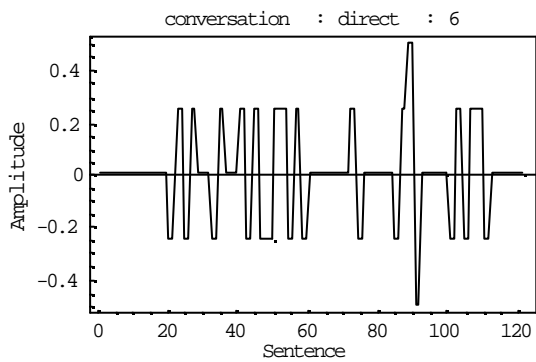
In the case of *Duke*, the first half of this story is constructed by description and direct speech. Furthermore, there are some indirect speech sentences at intervals. Indirect speech belongs to the first person because it includes the first person narrative. Thus, this regulatory structure makes a rhythm for enjoying the story and helping readers to establish her story world.



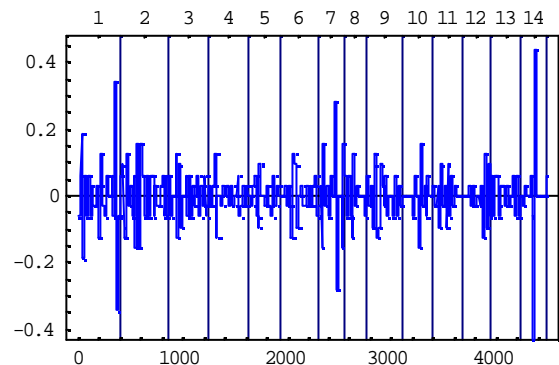
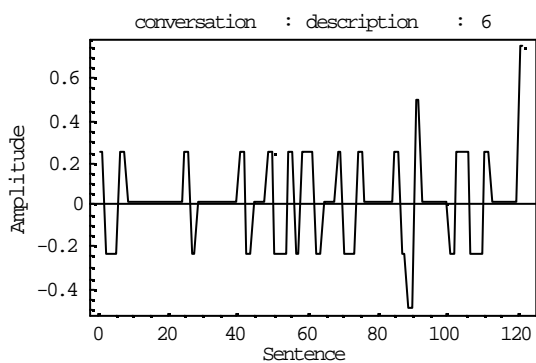
(a) Inner speech



(b) Indirect speech



(c) Direct speech



(d) Description

Fig. 5 Level 6 of the wavelet multi-resolution analysis: *Duke*

Fig. 6 Level 9 of the wavelet multi-resolution analysis: *Rakka-suru Yugata*

There is a second peak of inner speech in the middle of the story in Figs.5-6 (a). Reading inner speech sentences help readers identify the first person's inner world. This means that inner speech sets near the readers' inner worlds. This is also the characterizing way of this author to stress her story worlds.

The latter half of *Duke* carries out also by description and direct speech. In the case of *Rakka-suru Yugata*, indirect speech and direct speech appears constantly throughout the whole story. This difference causes the style of these books. *Rakka-suru Yugata* describes the one-year drama using 4882 sentences. Comparing with this, *Duke*, describes the one-day's development using 122 sentences. It is able to describe by a lot of words in long story, while in cases of the short story important point to set up background is using the effective words as poems in description. Namely, this difference of expression depends on the literary style.

4. Conclusion

Three characteristic points have been extracted from a study of *Duke*, following the previous study of the same author *Rakka-suru Yugata*. The first point is the ratio of elements of the story. The elements of description and direct speech are major, and indirect speech and inner speech minor. The second point is in the beginning of the story. The story starts with the inner speech, then, describes the backgrounds. This is the same tendency as *Rakka-suru Yugata*. The third point is the usage of inner speech. There are two peaks in stories; one is seen in the beginning and the other the middle. These make rhythms to lead readers into the story worlds and establish the book worlds. This is the characteristic way of this author.

A different usage of indirect speech is also extracted. In *Rakka-suru Yugata*, indirect speech works to impart the story. This works the same role as direct speech. In *Duke*, however, the role of indirect speech is more similar to the inner speech. This difference is caused by the difference of the literary genre; *Rakka-suru Yugata* is a novel and *Duke* a short story.

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