

HISTORICAL CHANGES OF JAPANESE SOUNDSCAPES REPRESENTED IN THE WORLD OF HAIKU

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INTRODUCTION

There is no doubt that sounds around us and the meanings we apply to them have changed with time. In order to discuss how to create a comfortable acoustical environment, it is important to study historical changes of soundscapes[1]. In the present study, the historical changes of Japanese soundscapes were studied by a statistical analysis of sound environments represented in the world of *Haiku* (a Japanese short poem containing symbolic words of season).

INCREASING AND DECREASING SOUNDS WITH TIME

From a “*Saijiki*” [2] (encyclopedia of *Haiku*), 500 *Haiku* from “the Edo period” (17c-1867) and 2090 *Haiku* from “the Modern period” (1868-1980) containing descriptions of sounds were gathered. Also, from another *Haiku* collection [3], 932 *Haiku* from “the 1980’s” (1981-1987) and 288 *Haiku* from “the Heisei period” (1988-1991) containing descriptions of sounds were gathered. The contents of these *Haiku* were classified into 4 categories: Periods (4), Seasons (4), Sounds (18), and Places (10) as shown in Table 1.

The histogram of the sound categories represented in each period are shown in Figure 1. The appearance of “sounds of rain, voices of vender,” and “sounds of daily life” decreases with time. Each season has typical sound features of rain. For example, rain is very hard in the summer rainy season, and is generally gentle in autumn. By these sounds, people’s awareness of seasonal changes is heightened. We hear different kinds of birds in each season. As a matter of fact, birds are often symbolic of season. For example, crane symbolizes winter. Voices of vender symbolize the atmosphere of each season. “Sounds of daily life” are mainly represented in winter. Because of their accepted meanings, these sounds are considered to be symbolic of season. These seasonal sound symbols have been decreasing with time.

Conversely, the appearance of “peals of thunder, human voices,” and “traffic sounds” increases with time. “Human voices” and “traffic sounds” are independent of season. In *Haiku*, thunder is discriminated according to season; for example, “spring thunder” or “autumn thunder.” However, “peals of thunder” always appear in the same context at any season; startled by a sudden and loud sound. These sounds do not have a strong connection with season. Sounds independent of season increase with time.

Generally, the appearance of softer sounds is decreasing and that of louder sounds is increasing. As the Japanese acoustic environment has become dominated by loud sounds, it has become increasingly difficult to hear soft sounds.

Table 1: Categories of seasons, sounds and places. (The symbols are the same as those in Figures 1 and 2.)

Seasons SE1: spring, SE2: summer, SE3: autumn, SE4: winter.

Sounds S1: water, S2: rain and hail, S3: wind, S4: thunder, S5: plant, S6: animal, S7: bird, S8: insect, S9: human voice, S10: song, S11: voice of vender, S12: daily life, S13: traffic, S14: time, S15: festival, S16: sound instruments, S17: others, S18: silence.

Places P1: seaside, P2: riverside, P3: mountain, P4: field, P5: farm, P6: town, P7: village, P8: house, P9: yard, P10: temple.

Table 2: Combinations of the environmental categories.

The Edo period				The Modern period			
season	sound	place	ratio(%)	season	sound	place	ratio(%)
winter	life	house	2.20	summer	bird	mountain	2.63
autumn	bird	field	2.20	summer	water	riverside	1.72
spring	bird	field	2.20	winter	life	house	1.57
autumn	insect	yard	1.80	autumn	insect	field	1.57
summer	bird	field	1.80	winter	voice	house	1.38
winter	bird	field	1.40	autumn	insect	yard	1.38
autumn	bird	yard	1.40	spring	bird	field	1.29
summer	bird	mountain	1.40	autumn	insect	house	1.24
winter	bird	seaside	1.20	summer	voice	house	1.10
winter	life	yard	1.20	summer	bird	field	1.05
summer	water	riverside	1.20	autumn	insect	mountain	1.00
winter	voice	house	1.00	The Heisei period			
winter	animal	mountain	1.00	season	sound	place	ratio(%)
winter	festival	temple	1.00	winter	festival	temple	6.25
winter	time	temple	1.00	winter	voice	house	4.17
winter	vender	town	1.00	winter	water	seaside	3.13
autumn	animal	mountain	1.00	autumn	voice	house	2.78
autumn	instrument	farm	1.00	summer	water	riverside	2.43
summer	bird	seaside	1.00	spring	water	seaside	2.43
summer	animal	yard	1.00	summer	voice	house	2.08
spring	bird	mountain	1.00	winter	voice	temple	1.39
The 1980's				winter	quiet	seaside	1.39
season	sound	place	ratio(%)	autumn	insect	mountain	1.39
winter	voice	house	3.96	autumn	instrument	seaside	1.39
winter	festival	temple	2.36	summer	voice	riverside	1.39
summer	voice	house	2.36	summer	bird	mountain	1.39
autumn	voice	house	2.03	summer	festival	mountain	1.39
spring	voice	house	1.82	spring	voice	house	1.39
spring	festival	temple	1.72	spring	voice	town	1.39
autumn	insect	field	1.39	winter	instrument	temple	1.04
summer	insect	mountain	1.29	winter	water	riverside	1.04
summer	instrument	village	1.29	autumn	voice	town	1.04
summer	water	riverside	1.29	autumn	instrument	farm	1.04
spring	voice	field	1.29	summer	instrument	seaside	1.04
winter	instrument	town	1.18	summer	festival	riverside	1.04
autumn	insect	house	1.18	spring	quiet	seaside	1.04
summer	festival	mountain	1.18				
winter	water	seaside	1.07				

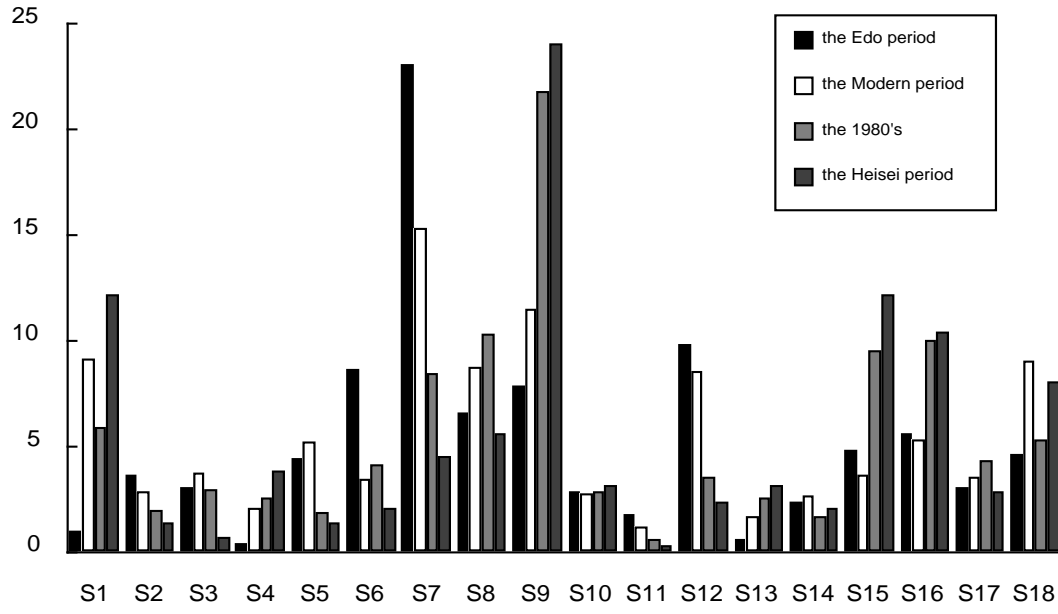


Figure 1: Histogram of the sound categories represented in each period (%).

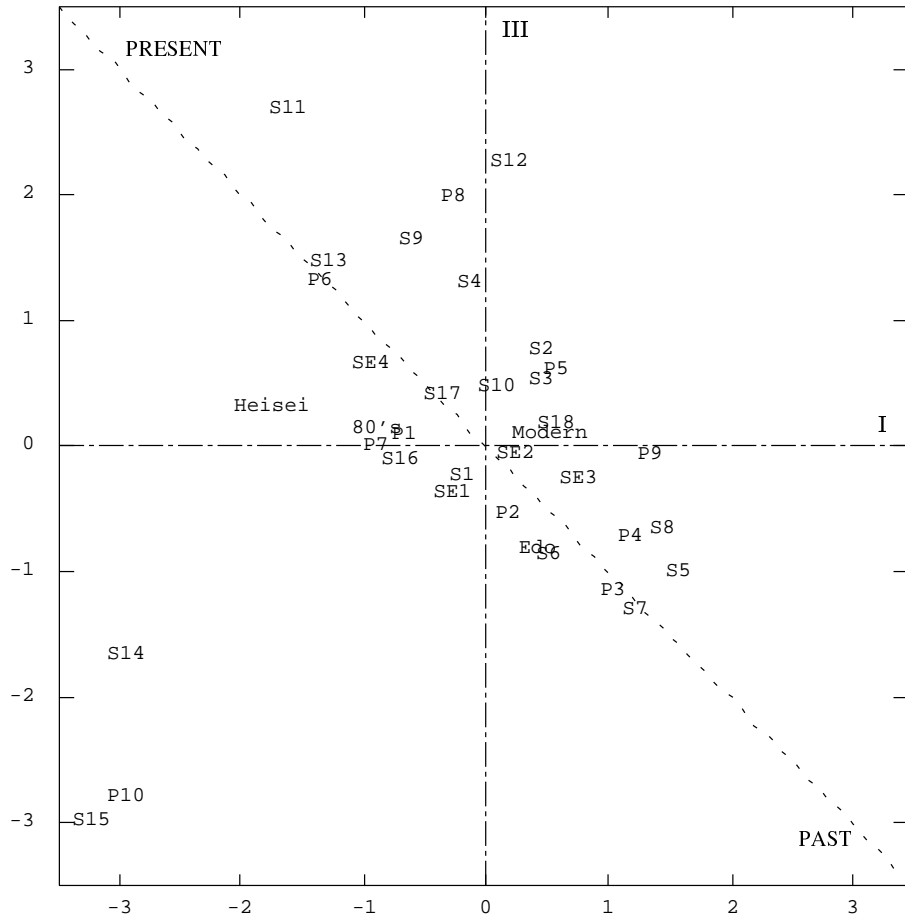


Figure 2: Scatter diagram of the categories based on the Hayashi's quantification method III (Axis I-III plane).

COMBINATIONS OF SOUNDS, SEASONS AND PLACES

Table 2 shows the percentages of combinations of the environmental categories in each period; they are the combinations which share more than 1% in each period. In the Edo and Modern period, there is a strong connection between sound and season or place; for example, “sounds of daily life in winter” and “songs of birds in nature.” However, in the 1980’s and the Heisei period, there is not a strong relationship between them. Voices, the most frequent sounds in the 1980’s and the Heisei period, can be heard in any situation.

In the past there has been a strong connection between sounds and the contexts in which they were cognized. Each sound had its own symbolic meaning. However, recently, the connection between sounds and the other environmental factors has become very faint. Japanese soundscapes are becoming unified.

APPLICATION OF THE HAYASHI’S QUANTIFICATION METHOD III

To examine the features of the soundscapes in each period systematically, the Hayashi’s quantification method III[4] is applied to the categorized data from the *Haiku* selection. The categories are configured on the scatter diagram as shown in Figure 2. This figure shows the first and third-axis plane of a three-dimensional solution. In this figure, the closer the relationship among categories, the nearer their locations in space.

The categories of period are configured along the dotted line in historic order. This line is interpreted as the historical axis.

In the past region of Figure 2, sounds and places in nature, such as “songs of birds, sounds of plants, mountain,” and “field” are located. In the present region, sounds and places in the urban area, like “human voices, traffic sounds, town,” and “house” are located. The historical axis also divides the categories into environmental factors in the natural space and in the artificial space. In the past, Japanese were surrounded by natural soundscapes. As time has gone by, the artificial soundscapes have dominated.

CONCLUSION

The historical changes of Japanese soundscapes are shown in the changing descriptions of sounds in the world of *Haiku*. Many sounds have lost their original symbolic meanings and the character of original Japanese soundscapes is fading. The preference to natural soundscapes reflected the traditional Japanese culture. However, over time, it has become increasingly difficult to hear such natural soundscapes over the growing din of artificial soundscapes.

REFERENCES

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