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Architectural Meaning of a River That Connects the Left and Right Sides of Frame, Drawn by Chronic Schizophrenic Patients Based on Landscape Montage Technique: Similarity to Traditional Japanese Space

Kazuhiko Yanagisawa[1] and Shigeyuki Okazaki[1]

[1] *Department of Architecture, Mukogawa Women's University, Nishinomiya, Japan*

Corresponding author: Kazuhiko Yanagisawa, Department of Architecture, Mukogawa Women's University, 1-13 Tozaki-cho, Nishinomiya, Hyogo, 663-8121, Japan, E-mail: yana@mukogawa-u.ac.jp

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Abstract: Out of 56 drawing cases by chronic schizophrenic patients based on the Landscape Montage Technique, we focused on those with a river that connects the left and right sides of the frame (R-LR), which appeared most frequently. We made 17 case descriptions of the R-LR type and ascertained the meaning of such rivers from an architectural viewpoint. We found four types of spatial compositions of the R-LR type, and found that generally there is a tendency of disorganization in the landscape in drawings done by chronic schizophrenic patients. We believed this R-LR type might function as a line of defense for coping with this tendency. We proposed a hypothesis that there was a similarity between the R-LR type drawn by chronic schizophrenic patients and the landscape of Pure Land Buddhism, which is a traditional Japanese space, in terms of a space created to give sanctuary.

1. Introduction

1.1. BACKGROUND

Universal and fundamental principles can be found in human beings and in works done by children when they compose a living environment. We conducted developmental studies using the Architectural Space Montage Technique (ASMT) [1] and the Landscape Montage Technique (LMT). We previously applied LMT to students ranging from kindergarten to college and clarified the developmental characteristics of the spatial schema in their inner worlds (Yanagisawa, Okazaki, & Takahashi, 2001; Yanagisawa & Okazaki, 2002).

LMT is an art therapy technique devised by Nakai (1970, 1971) based on sandplay therapy. The therapist/researcher draws a frame on a piece of paper and tells the participant to draw a landscape within it. The items to be drawn are said sequentially, and participants draw only one landscape by adding the following items in the following order: river, mountain, rice field, road (large items), house, tree, person (medium-sized items), flower, animal, and stone (small items). After drawing them, anything else can be added. The participants then color the landscape to finish their drawings.

In our study, we focused on *space enclosed by a frame*, which is one LMT feature, and analyzed how a river is drawn with respect to the frame. We also clarified the developmental characteristics of spatial schema based on the types of rivers.

Regarding sandplay therapy, Ueda (1992, pp. 228-241) describes a sandbox as the "*A* space (or the embodying space)". On the other hand, the room in which the sandbox is located is called the "*B* space (or the free space)". In the process of creating one's world in the *A* space, the creator goes back and forth between "embodying the world" in the *A* space and "conceptualizing the world" in the *B* space to gradually concretize the world in the creator's mind in the *A* space.

The above sandbox refers to a frame and the space enclosed by it. According to Ueda, the *A* and *B* spaces, together as "a twofold space", are "transformed and deepened at various levels in many ways and gradually extended, then eventually become the twofold world said here, naturally becoming the invisible twofold called the world and void. Here the world refers to the sandbox, assuming that it is the world in which we live." Ueda argues that "by participating in playing and being in the world in twofold, which is a made up world, patients learn the way of being in the world in twofold that is real, just by playing while naturally learning and going back to one's being at the same time." He also says that sandplay therapy is effective because "it fits perfectly with the underlying structure based on the being of one's self."

In sandplay therapy and LMT, a space that is enclosed by a frame, which is closely related to the above underlying structure, is "a white space structured implicitly, for example, center-periphery, top-bottom, or left-right" (Nakai, 1984, p. 61). LMT begins with a space that is enclosed by a frame, in which a river is arranged. If the river is regarded as the figure, the space enclosed by the frame is regarded as the ground. Since a river tends to be expressed as something that extends into the distance, the structure of the space enclosed by the frame, which is the ground, is decisively influenced by the river that is the figure.

LMT is also a 2-dimensional art therapy technique. Therefore, the space enclosed by the frame will be a "space where a vista is anticipated" (Nakai, 1971, p. 42). In this "space where a vista is anticipated," drawing a river is not so easy since

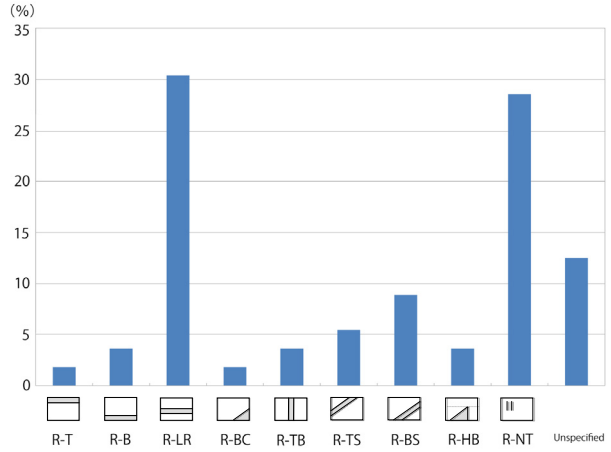
it is always easier to draw a river from a plane view. Due to this, rivers are drawn based on different inner standards depending on who is drawing, and the kinds of rivers drawn are related to various spatial schema.

In other words, the river item in LMT leads to various spatial schema that people may have, and the structure of the space enclosed by the frame, which is the ground, is decisively influenced by the way that the river is drawn. Therefore, analyzing the type of river that is drawn with respect to the frame clarifies the various structures that this space enclosed by the frame can have. Borrowing Ueda's words again, the river type with respect to the frame will become a decisive index for "embodying the world," and eventually the world being embodied will become the "world" in the real world that consists of the "world and void". This means that the river type with respect to the frame possibly becomes a decisive index for composing the world in which we live. Therefore, analyzing how a river is drawn with respect to the frame is significant. We identified this index from an architectural point of view.

1.2. SIGNIFICANCE AND OBJECTIVE

This research is an extension of our many previous researches. We focused on spatial schema not only from a developmental perspective but also from a psychopathology perspective and conducted research using the ASMT and LMT techniques on chronic schizophrenic patients. This paper focuses on LMT.

We believe that some principles, which may be at the root of and universal to all human beings, may be found in works done by schizophrenic patients, who are also referred to as those with an "illness related to space" (e.g., Ichihashi, 1984; Miyamoto 1973, p. 165; Takaesu & Oomori, 1984, p.125). In addition, we chose chronic schizophrenic patients among such patients because they were selected by their doctors as having no therapeutic problems. Furthermore, based on Ichihashi (1972), who argued that chronic schizophrenic patients have a unique mental structure, we believe it may be possible to identify a characteristic aspect from the diversity of spatial schema possessed by schizophrenics.



R-T: River that flows along top of frame with limit of upper side not shown
R-B: River that flows along bottom of frame with limit of lower side not shown
R-LR: River that connects left and right sides of frame
R-BC: River at bottom corner
R-TB: River that connects top and bottom sides of frame
R-TS: River that connects top and either left or right side of frame
R-BS: River that connects bottom and either left or right side of frame
R-HB: River that connects horizon and bottom side of frame
R-NT: River that does not touch frame
When the drawings were not done based on LMT or when participants refused to draw, they were classified as "Unspecified".

Fig. 1: Percentage of cases with each type of river (Yanagisawa & Okazaki, 2011, March)

In a previous paper, we analyzed types of rivers with respect to the frames in 56 landscapes drawn by chronic schizophrenic patients based on LMT (Yanagisawa & Okazaki, 2011, March). We found that a river that connects the left and right sides of the frame (R-LR) appeared most frequently, followed by a river that does not touch the frame (R-NT) (Fig. 1, Table 1). Based on this result, in this paper, we focused on the R-LR type and analyzed drawings of the R-LR type. Our goal is to clarify the meaning of such rivers drawn by chronic schizophrenic patients from an architectural viewpoint[2].

2. Literature Review

A number of researches on LMT have been done in such fields as psychiatry and clinical psychology that focused on case studies related to the treatment of schizophrenic patients, fundamental studies from the viewpoint of examination and technique, and so forth. The following are the main previous researches related to the characteristics of the composition of schizophrenic patients.

Nakai (1971) applied LMT to mentally ill people and found 17 types of spatial composition, particularly "H" and "P types," which were the drawing types of schizophrenic patients. He conducted semiotic evaluations of the psychological space of schizophrenic patients. Based on Nakai's types, Takaesu and Oomori (1984) classified the drawings of schizophrenic patients into three types: seceded, contiguous, and fixed. Ichihashi (et al. 1971; 1972) identified the characteristics of landscape sketches done by chronic schizophrenic patients as well as other works based on LMT done by chronic schizophrenic patients. The characteristics include "dimensionalizing the drawing composition into 2D," "front orientation of persons and things," "enumerated, stacked up composition, tendency of the abstraction of each thing," "symmetry," and "a peculiar reaction to border and region." They studied the relationship between these characteristics and the structure of the existence of the patients. Eto (1985) looked at world schema as a premise for spatial composition, and through LMT in the process of recovering from the collapse and bewilderment of world schema after acute episodes, he clarified three phases: the failure of world schema, the change of world schema, and the recovery of world schema. He also showed that these phases correspond to the life and behavioral pattern of patients. Kaito (1994) proceeded with a wide variety of LMT researches such as quantitative research and reading studies and set "compositional stage", consisting of nine stages, and "spatial stage", consisting of seven stages, as development indexes and simultaneously considered the stages within the two stages in which patients are mostly seen.

Looking at the previous researches, none were found on the classification of rivers with respect to the frame based on LMT for chronic schizophrenic patients.

3. Methods

First, each participant made a model based on the ASMT procedures and drew a landscape drawing based on the LMT procedures privately in a hospital room with the researcher. Since with the ASMT technique, a participant only has to place 3-dimensional objects, it should be easier than the LMT technique. The participants first created models based on the ASMT technique, before drawing based on the LMT technique, to familiarize themselves with creating such works. We believe that it is actually very helpful to the participants by using this sequence. The results of the ASMT will be published in another paper. In LMT, an F6 size piece of drawing paper, a black felt

pen, and colored pencils were used.

Participants were chosen by a doctor who judged them therapeutically competent to participate. At a later date, the researcher interviewed the doctor and nurses to collect the clinical histories and to become familiar with the daily activities and routines of each patient.

4. Results and Discussion

We identified 17 cases of the most frequent R-LR type drawn by chronic schizophrenic patients (Fig. 1, Table 1). We made case descriptions and considered the meaning of this type of river from an architectural point of view.

4.1. CASE DESCRIPTIONS

Below, information regarding the creator written above each pargraph is shown starting with the participant code, the age in parenthesis, gender, disease name, and the schizophrenia subtype. The part italicised in each case describes the characteristic

Table 1: Participants and river types based on LMT (Yanagisawa & Okazaki, 2011, March)

Participant Code	Age	Gender	Age of First Psychiatric Visit	Disease Name	Schizophrenia Subtype	Type of River
TM	38	M	28	Graft Schizophrenia	Undifferentiated Type	R-T
SC	46	F	15	Schizophrenia	Residual Type	R-B
RE	60	F	20	Schizophrenia	Residual Type	R-B
FJ*	60	F	19	Schizophrenia	Residual Type	R-LR
OH	54	F	43	Schizophrenia	Residual Type	R-LR
TB	59	M	24	Schizophrenia	Paranoid Type	R-LR
KI	38	M	21	Schizophrenia	Undifferentiated Type	R-LR
HT*	62	F	34	Schizophrenia	Residual Type	R-LR
KU	63	F	25	Schizophrenia	Residual Type	R-LR
KO	53	M	27	Schizophrenia	Undifferentiated Type	R-LR
KR2**	61	M	56	Graft Schizophrenia	Residual Type	R-LR
IH	61	F	18	Schizophrenia	Undifferentiated Type	R-LR
MK	53	M	17	Schizophrenia	Catatonic Type	R-LR
KZ	51	F	18	Schizophrenia	Residual Type	R-LR
TD	69	F	24	Schizophrenia	Undifferentiated Type	R-LR
ST	80	F	39	Schizophrenia	Undifferentiated Type	R-LR
WS	54	F	30	Schizophrenia	Residual Type	R-LR
KM	66	M	38	Schizophrenia	Undifferentiated Type	R-LR
SN	63	M	16	Schizophrenia	Residual Type	R-LR
TA	76	M	35	Graft Schizophrenia	Residual Type	R-LR
EI	63	M	44	Schizophrenia	Residual Type	R-BC
HJ	46	M	18	Schizophrenia	Undifferentiated Type	R-TB
TR	51	M	26	Schizophrenia	Residual Type	R-TB
KY	63	M	22	Schizophrenia	Residual Type	R-TS
KK	53	F	12	Schizophrenia	Undifferentiated Type	R-TS
TS	59	M	38	Graft Schizophrenia	Residual Type	R-TS
OM	56	F	31	Schizophrenia	Residual Type	R-BS
TT	56	M	30	Schizophrenia	Residual Type	R-BS
YD	64	M	33	Schizophrenia	Paranoid Type	R-BS
KR1**	60	M	56	Graft Schizophrenia	Residual Type	R-BS
NB	60	M	17	Schizophrenia	Undifferentiated Type	R-BS
HY	70	M	15	Schizophrenia	Residual Type	R-HB
TU	69	F	22	Schizophrenia	Undifferentiated Type	R-HB
TO	53	F	17	Schizophrenia	Residual Type	R-NT
YM	26	F	20	Graft Schizophrenia	Residual Type	R-NT
EM	56	M	31	Graft Schizophrenia	Catatonic Type	R-NT
KH*	65	F	29	Schizophrenia	Undifferentiated Type	R-NT
MD	56	M	24	Graft Schizophrenia	Undifferentiated Type	R-NT
AO	52	M	47	Graft Schizophrenia	Undifferentiated Type	R-NT
SS	65	M	24	Schizophrenia	Undifferentiated Type	R-NT
YS	41	M	22	Graft Schizophrenia	Undifferentiated Type	R-NT
KA	57	M	37	Schizophrenia	Undifferentiated Type	R-NT
MS	58	M	31	Schizophrenia	Residual Type	R-NT
AN	57	F	42	Schizophrenia	Undifferentiated Type	R-NT
HI	44	F	17	Graft Schizophrenia	Residual Type	R-NT
KE	50	F	20	Schizophrenia	Residual Type	R-NT
MO	63	F	27	Schizophrenia	Residual Type	R-NT
AI	57	F	15	Schizophrenia	Disorganized Type	R-NT
HR	58	F	15	Schizophrenia	Catatonic Type	R-NT
MI	63	M	25	Schizophrenia	Disorganized Type	Unspecified
MY	73	F	20	Schizophrenia	Undifferentiated Type	Unspecified
TK	61	M	30	Schizophrenia	Disorganized Type	Unspecified
YK	64	F	25	Schizophrenia	Catatonic Type	Unspecified
KT	63	M	27	Schizophrenia	Undifferentiated Type	Unspecified
ME	79	M	16	Schizophrenia	Residual Type	Unspecified
EK	69	F	21	Schizophrenia	Undifferentiated Type	Unspecified

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When the drawings were not done based on LMT or when participants refused to draw, they were classified as “Unspecified”.

We studied 56 cases by 55 schizophrenic patients; one male patient participated twice. 30 works were done by males and 26 by females. Three cases were done by outpatients, and 53 were done by inpatients. Average age of participants was 58.3. 11 cases are included by schizophrenic patients with intellectual disabilities or graft schizophrenic patients. Subtypes of schizophrenia are based on DSM-IV-TR of American Psychiatric Association. Two cases were done by paranoid type patients, three cases by disorganized type, four by catatonic type, 21 cases by undifferentiated type, and 26 cases by residual type.

*FJ, HT, and KH are outpatients. **KR participated twice, and his cases are numbered KR1 and KR2.

that we have found of the spatial composition of each drawing.

FJ (60) F, Schizophrenia, Residual Type (Fig. 2)
This person was cheerful, easy to get along with, and communicated smoothly. She was treated on an outpatient basis at the time, although she was previously hospitalized. She is a leader at a community activity center. She seemed very concentrated and quietly worked on her drawing. Her drawing showed a landscape with *a certain degree of integration*. The river was meandering, and the rice plants in the fields were drawn carefully. She said, "If I draw a road, I must also draw a bridge." At the same time as the road was drawn, she also drew a bridge. Trees were drawn on top of the mountains. "I will also draw them here," as she said that, she also drew trees on the other side toward the front of the river. For the first time, she drew something on this side, referring toward the front of the river, while before it was left blank. On this same side, a dog, rocks, and a bicycle were also drawn. Her coloring was done carefully. After she colored the drawing, she added fish to the river. The doctor stopped by and said to her, "This is really good. It is such a soothing picture. We should have an exhibition." When she heard it, she seemed very happy.

OH (54) F, Schizophrenia, Residual Type (Fig. 3)
This person was cheerful, easy to get along with, and communicated smoothly. She seemed talkative, but also a little embarrassed. Her drawing showed a landscape with *a certain degree of integration*. The river appeared to be almost horizontal, but slanting up at the right end. Kanji characters identified the roads and the rice fields. Her hand did not stop, and she just kept on drawing. "The person appears to be larger than the houses," she said and laughed. She drew a sparrow for the animal. She felt

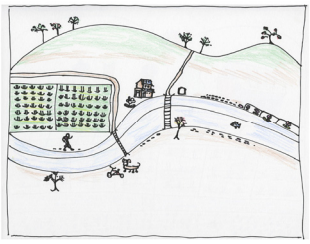
Fig. 2 FJ(60)F R-LR

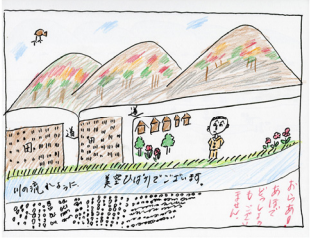
Fig. 3 OH(54)F R-LR

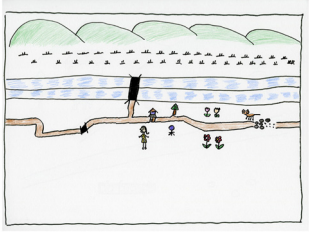
Fig. 12 KZ(51)F R-LR

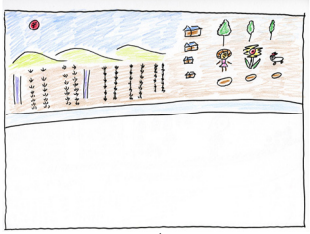
Fig. 13 TD(69)F R-LR

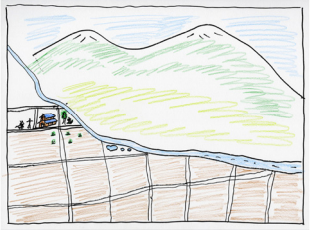
Fig. 4 TB(59)M R-LR

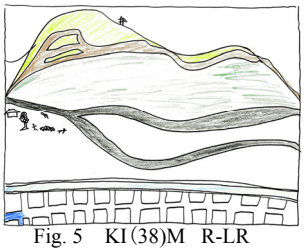
Fig. 5 KI(38)M R-LR

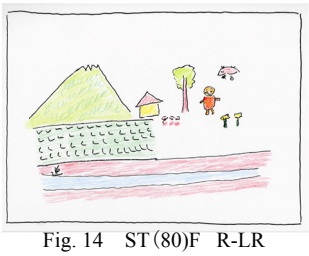
Fig. 14 ST(80)F R-LR

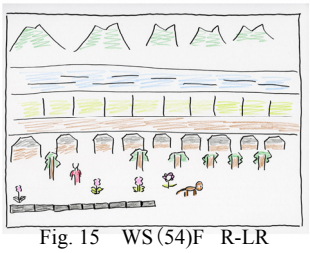
Fig. 15 WS(54)F R-LR

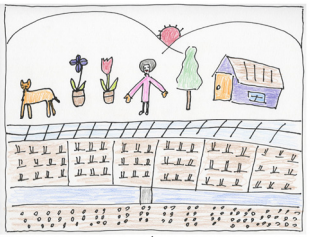
Fig. 6 HT(62)F R-LR

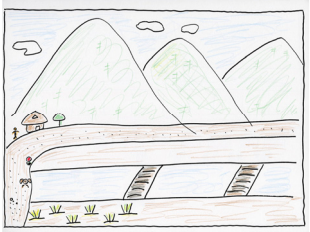
Fig. 7 KU(63)F R-LR

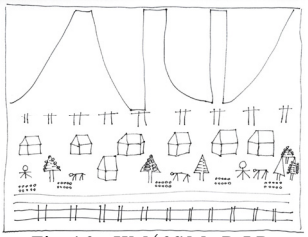
Fig. 16 KM(66)M R-LR

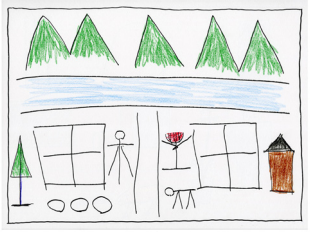
Fig. 17 SN(63)M R-LR

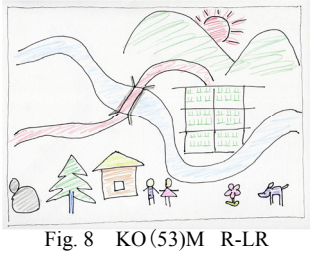
Fig. 8 KO(53)M R-LR

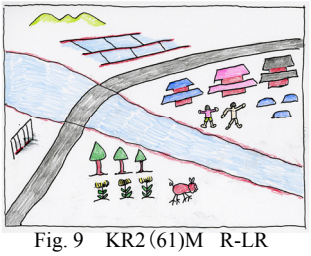
Fig. 9 KR2(61)M R-LR

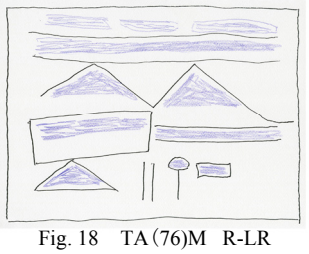
Fig. 18 TA(76)M R-LR

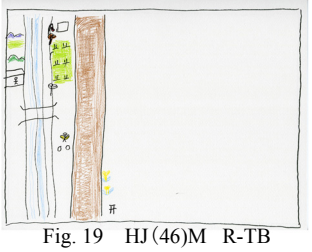
Fig. 19 HJ(46)M R-TB

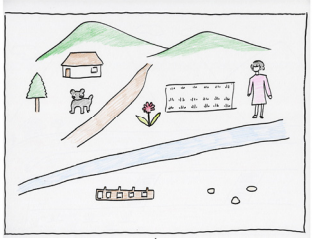
Fig. 10 IH(61)F R-LR

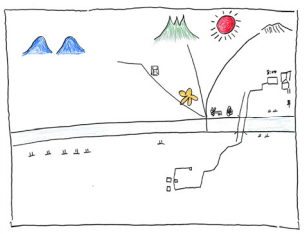
Fig. 11 MK(53)M R-LR

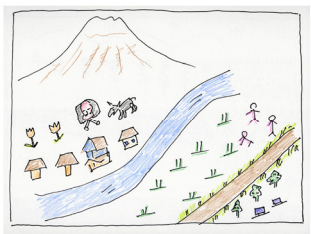
Fig. 20 NB(60)M R-BS

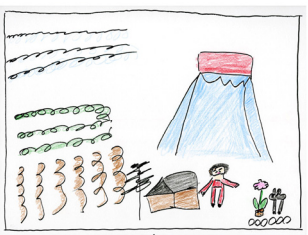
Fig. 21 AI(57)F R-NT

that something was missing in the drawing and added some words on the river that said "like the flow of the river," which were lyrics from an old popular song. The patients were going to have an event where they would sing this song. She said, "It will be fun since we will sing it in a group." She seemed to enjoy coloring her drawing. The mountains were initially colored with brown and black. They appeared a bit lonesome. The researcher said to her, "What season is it? " She said it was autumn. "If it's autumn, there must be maple leaves," as she said that, the mountains became colorful. "I'm finished. I'm done. Here!" she said and wrote on the bottom right-hand corner "I'm an idiot and there's nothing I can do about it" and laughed out loud. She said cheerfully, "that was really fun."

TB (59) M, Schizophrenia, Paranoid Type (Fig. 4)
Communication was smooth. His drawing showed a landscape with *a certain degree of integration*. The river ran diagonally. Along the rice fields, roads were drawn in a grid below the river. A small living space composed of medium and small items was drawn on the left side of the drawing. At the end, where other items could be added to complete the drawing, a symbol representing a rice field was drawn near the living space. He seemed to enjoy coloring his drawing, which was a scene of a Japanese country landscape with lush green mountains and rice fields. According to the doctor, this person often speaks of work related to farms and forestry. Possibly he used to be a forestry worker. The scenes of such a life were expressed in his drawing. He looked at his finished work and was happy. After that, he talked about some of his jobs, which were related to textiles, lacquerware, and woodwork.

KI (38) M, Schizophrenia, Undifferentiated Type (Fig. 5)
Even though this person was very large, he seemed timid. At first he seemed worried, but soon opened himself up. He understood what was being said, and there was no feeling of strangeness in sharing his feelings. However, it was difficult to catch what he was saying. His drawing showed a landscape with *a certain degree of integration*. The river ran horizontally at the bottom of the drawing, and on the side in front of the river was a layer of concrete. The rectangles resembled concrete blocks, but later became rice fields. "Can I draw it like this?" he said and often repeated this question. The medium and small items were drawn very tiny and seemed far away from where the daily life activities were taking place. He added an iron tower and roads on top of the mountain. He talked a lot while coloring his drawing, but it was hard to understand what he was saying. As he talked on and on, he stopped drawing, and it was hard to tell if the work was finished. He seemed very pleased. According to the doctor, he often spends most of the day sleeping.

HT (62) F, Schizophrenia, Residual Type (Fig. 6)
She was quiet and had a soft voice; however, she communicated smoothly. She was treated on an outpatient basis at the time, although she was previously hospitalized. She goes to the community's job assistance center. She had a serious look while she was drawing and smiled whenever she finished drawing an item. Her drawing showed a landscape with *a certain degree of integration*. The river ran horizontally and there was a bridge. Rice fields were drawn above the river. A road was depicted by rocks on the side of the river toward the front of the drawing. A layered structure was formed by horizontal lines on the drawing. The medium and small items were drawn lined up, as told in order from right to left, and they seemed to have no relationship. Concrete rocks were drawn above the rice fields. This was also a structure of layers. At last, she added the sun. She said, "I used to draw a lot when I was little. We used to do sketches in elementary school." She seemed to be in good spirits.

KU (63) F, Schizophrenia, Residual Type (Fig. 7)
Communication was smooth. She had a reserved attitude and appeared overly concerned about everything. She was dressed entirely in pink, which was strange. Although she said, "This is so difficult," "Oh, gee, what should I do," she worked hard at her drawing. Her drawing showed a landscape with *a certain degree of integration*. The river ran horizontally and was crossed by a road . She said, "This house has a thatched roof." Stones were drawn as black dots on the road. She said, "These stones make the road look like a road." At the end, she added bridges and clouds. She colored eagerly. A landscape with a kind of depth was completed.

KO (53) M, Schizophrenia, Undifferentiated Type (Fig. 8)
He was not very talkative, but did answer when addressed by the researcher. He was easy to talk to, but somewhat seemed to avoid sharing his feelings. He was a straightforward person, working quietly and quickly on his drawing. He rarely hesitated and just kept drawing. His drawing showed a landscape with *spaces left unnaturally blank*. There was a meandering river. Lines composing rice fields stuck out horizontally. Their bottom corner ran into the river. A road with a bridge seemed to suddenly emerge from the rice fields. The medium and small items were lined up with each other without much relation. There were unnatural spaces left blank between each of the items. He added the sun to complete his drawing. After finishing the drawing, he appeared quite pleased.

KR2 (61) M, Graft Schizophrenia, Residual Type (Fig. 9)
This was the only person who did the drawings twice. During the second time, he seemed very relaxed. Communication was smooth; however, every once in a while he stuttered, making it hard to understand what he was saying. He answered "yes," every time he was told to draw something and seemed serious. He drew very quietly. His drawing showed a landscape with *spaces left unnaturally blank*. The river ran diagonally. Each item was drawn carefully. The house, the tree, and the flower items were repeated in the foreground. Swings were added on the left side to complete the drawing. After that, he quietly concentrated on coloring, which he did very carefully. The outline of the river was colored, and he called that part of the river the bank. Even color was added to outline the rice fields, and he called that part the footpath. He had a serious look on his face while he was drawing, but gave a big smile when he finished. According to the doctor, he normally does not do anything, but engages in activities with encouragement from others.

IH (61) F, Schizophrenia, Undifferentiated Type (Fig. 10)
She seemed active. This case was conducted easily. She was very talkative. However, often it was hard to understand what she was saying. She changed the subject often and seemed straightforward. Her drawing showed a landscape with *spaces left unnaturally blank*. Compared to other drawings, these unnatural spaces were more noticeable. Each of the items seemed to float. The river ran diagonally. At the end, she added a garden railing with rectangular holes at the bottom of her drawing. Its meaning was unclear. While she was coloring, she said, "My grades in art class were good," "My work was even displayed in an art museum," "I have not drawn anything lately." She also talked about other things, but much was hard to understand. According to a nurse, her willingness to engage in everyday

activities is good; however, recently the things that she is unable to do have increased.

MK (53) M, Schizophrenia, Catatonic Type (Fig. 11)
He talked a lot, but usually he was hard to understand, especially because he kept straying off the track of the conversation. For example, he talked about his room where he was hospitalized, about his family, being in high school, his jobs, mountains, and marriage. There was a lot of complaining. Sometimes he muttered to himself without making any sense. There was not really any feeling of strangeness in the way he shared his feelings. He laughed a lot but sometimes his eyes looked suspiciously at people. His drawing showed a landscape with *spaces left unnaturally blank*. The river ran horizontally. While drawing the road, he spoke in a cheerful voice, telling how to get to the hospital from his house, and showing it on his drawing. "First, here is my house, then you go this way, and then you see a bridge, and there's a slope, and you see the mountains, and here's where I buy my cigarettes. Oh, I'm not supposed to go in this direction on this road. Well, here's where I put my bicycle. I leave home at 8 o'clock, and it takes 20 minutes," he said. In this way, from above, the finished drawing looked almost like a map. At the end, he added the sun and only colored the items, not the space.

KZ (51) F, Schizophrenia, Residual Type (Fig. 12)
Communication was smooth. At first, she claimed that she couldn't draw landscape drawings. She laughed a lot. It took her more than an hour to finish the work. She talked constantly while drawing. She talked about the imperial family, celebrities, acorns, festivals, mountain climbing, the lottery, coloring picture, nurses, catching a cold, her family, sickness, and ramen noodles. She bounced from one topic to another, which was quite exhausting. Her drawing showed a landscape with *spaces left unnaturally blank* at the bottom. The river ran horizontally. Large items were in a structure of layers. When she was drawing the road, she said, "it would be nice if there was a house somewhere," and the researcher answered, "I was just going to say house next. Wow, you guessed the next item to be drawn." We both laughed. For the trees, she said that she wanted to draw a Japanese cedar. "People are easy," she said and drew a symbol representing a person. "This person looks like a sign for the toilet," she said. Again, we both laughed. "I will draw tulips and cosmos for the flower," "I will draw a cat for the animal," she said. For a while, she talked about how she used to have a cat. At the end, she drew a woman in the middle of her drawing. "Thanks to you, I've just drawn a scenery that I didn't think I could," she said laughing. She colored very carefully. The coloring of the river was done partially and repeatedly. She said that she enjoyed drawing very much. According to the nurse, she is usually eager to join activities and gets along well with others.

TD (69) F, Schizophrenia, Undifferentiated Type (Fig. 13)
She smiled the whole time and seemed kind. However, it was hard to understand what she was saying. Her drawing showed a landscape with *spaces left unnaturally blank*. The river ran horizontally and completely divided the world into top and bottom portions. The top was also divided into left and right sides. The large items were drawn on the left, and the medium and small items were drawn on the right. The medium and small items seemed to repeat. The scenery was divided into a number of areas without much unity. At the end, she drew the moon above the mountains. She leant forward to color her drawing while putting her arm on top of the paper that was blank in the front. She only saw the part on the other side of the river on the top portion. She held several colored pencils in her hand while enthusiastically coloring. The side of the river on the top portion was her ideal scenery. With the model making of ASMT done prior to LMT, a Buddhist statue was put in the very front facing the front in the model, which was located behind the landscape drawing. She chanted a Buddhist sutra, put her hands together, and bowed before the statue on the other side of the river. She said that she had no idea about the blank part of her drawing on the side of the river at the bottom portion. After the drawing was done, she took the researcher's hand and said thank you. According to the nurse, she often spends the whole day in bed, but since she can take care of herself, she also actively participates in events held in the hospital ward.

ST (80) F, Schizophrenia, Undifferentiated Type (Fig. 14)
She talked a lot, especially complaining about the hospital. She said that she always had to put up with a lot of things. Although she continued to complain, she also worked diligently on her drawing. Her drawing showed a landscape with *spaces left unnaturally blank*. The river ran horizontally. The large items seemed to be connected; however, with the medium and small items, blank spaces existed between each of them, so they seemed to be floating. The river did not touch the frame, and the entire drawing seemed to shrink from the edges of the paper. She said, "When I was in elementary school, I was not good at drawing, and my grade was 3 out of 10." However, when she was done, she seemed pleased. She put her hands together and bowed before the drawing.

WS (54) F, Schizophrenia, Residual Type (Fig. 15)
Communication was smooth. She had a loud voice. She smiled a lot, with gentle eyes. She worked very fast and rarely hesitated while she was drawing. Her drawing showed a landscape with *a repetition of items in the foreground with spaces left unnaturally blank*. The river ran horizontally. In the upper part of the drawing, a river, mountains, rice fields, and a road were drawn. Mountains and rice fields were repeated. In the lower part, she drew the medium and small items. Houses and trees were repeated. The lines composing a person broke off and ended suddenly, for no apparent reason. The rectangular blocks repeated at the very bottom were stones. At the end, she said there was nothing else to add. The drawing overall was layered, and she seemed to enjoy coloring it. She looked at it at the end, seemed to enjoy it, and shared her joy of finishing the work. According to the nurse, she is outgoing, but only cares about what interests her. Also, she is unable to organize and clean up.

KM (66) M, Schizophrenia, Undifferentiated Type (Fig. 16)
He was polite and seemed very serious, with a stern look on his face. Even if he smiled, it seemed forced with complicated feelings. Communication was smooth. His drawing showed a landscape with *a repetition of items in the foreground with spaces left unnaturally blank*. The river ran horizontally. On the bottom of the drawing, the river was drawn, and bridges were drawn repeatedly. On the top, he drew strangely shaped mountains and repeatedly drew rice fields like symbols in a map right below the mountains. The medium and small items were repeated. He said that there was not anything he wanted to add at the end and also that there was no need to add any colors. The entire drawing was in a structure of layers. He explained that the part between the river and the mountains, or the part composed by the repeatedly drawn medium and small items, was the part that he drew the best. He said, "I am not good at drawing," but when he saw his finished work, he really had a radiant look on his face. According to the doctor, he is usually polite and outgoing, but also often overreacts and gets in trouble.

SN (63) M, Schizophrenia, Residual Type (Fig. 17)
He seemed expressionless and was not talking at all. However, he seemed to be a warm person, and deep down inside he was probably interested in participating in this activity. From time to time he showed such an expression. It was hard to catch what he said, but he seemed to perfectly understand what was being said to him. He worked diligently at his drawing. His drawing showed a landscape with *geometric shapes in the foreground with spaces left unnaturally blank*. The river ran horizontally. Each of the items was arranged so that the left and right sides of the drawing were symmetrical. All of the items were equal, and no hierarchy of large, medium, and small items was seen. He drew the items as if merely filling spaces. He only colored some of the items. His drawing seemed to lack a sense of space. According to the doctor, he usually does not talk to anyone and wonders around the whole day.

TA (76) M, Graft Schizophrenia, Residual Type (Fig.18)
He was quiet and smiled the whole time. He seemed to be a warm person and spoke normally. He did not take the initiative to talk, but answered or spoke when spoken to. His drawing showed a landscape with *geometric shapes in the foreground with spaces left unnaturally blank*. The river ran horizontally at the top and immediately below it, two triangular mountains were drawn. Below the mountains, a quadrangular rice field was drawn, and a road was drawn to the right of it. At the very bottom, from left to right, a triangular house, a tree as two lines, a flower composed of a circle and a line, and a quadrangular stone were drawn. People and animals were not drawn. He said at the end that there was nothing else to add to the drawing. The items, which were arranged so that the entire drawing was symmetrical left and right, were drawn as simple geometric shapes. He only used purple for the coloring. When he was coloring, first he drew three quadrangles above the river. He said, "I don't know what they are." He colored the drawing to avoid touching the outlines, and the coloring appeared to shrink from the outlines of the figures for no apparent reason. According to the doctor, he often sits in the same place all day doing nothing.

4.2. MEANING OF A RIVER THAT CONNECTS THE LEFT AND RIGHT SIDES OF FRAME

Hoo-do (Phoenix hall) and garden, Byodoin Temple, Kyoto, 11th century (photo taken by the author, Kazuhiko Yanagisawa)

This is one of the most famous buildings and gardens of Pure Land Buddhism, showing a traditional Japanese space. A seated statue of Amitabha Tathagata is housed in this building, which faces the pond. This building and garden represent Amitabha's Pure Land and there used to be a Kogosho (small imperial palace), in front and on the opposite side of the pond from the Hoo-do, from where the Pure Land was viewed and contemplated with reverence. (e.g., Shimizu, 1988, p. 21) This photo was taken approximately from the place where Kogosho once stood. Similarities are found with this Pure Land garden and the R-LR type of landscape.

Fig. 22 Landscape of Pure Land Buddhism

We looked at each case of the R-LR type, as described above. The types of spatial compositions found with the R-LR type drawings are summarized as follows: 1) landscapes with a certain degree of integration: FJ, OH, TB, KI, HT, and KU, 2) landscapes with spaces left unnaturally blank: KO, KR2, IH, MK, KZ, TD, and ST, 3) landscapes with a repetition of items in the foreground with spaces left unnaturally blank: WS and KM, and 4) landscapes with geometric shapes in the foreground with spaces left unnaturally blank: SN and TA.

The percentages of the types of spatial compositions 1) to 4) are 35.3% (6 cases/17 cases), 41.2% (7 cases/17 cases), 11.8% (2 cases/17 cases), and 11.8% (2 cases/17 cases), respectively. The percentage of 2), 3), and 4), the types having spaces left unnaturally blank, is 64.7% (11 cases/17 cases).

Any of these four types of spatial compositions, on one level or another, can also be seen in the drawings of other types of rivers (e.g., Figs. 19 and 20).

The types of spatial compositions described in 2), 3), and 4) could be interpreted as signs indicating the *tendency of disorganization in the landscape*. Furthermore, a river that does not touch the frame (R-NT) is also common (Fig. 1). This tendency of disorganization in the landscape is even more noticeable (e.g., Fig. 21).

As we clarified, the tendency of disorganization in the landscape underlies the drawings done by chronic schizophrenic patients in general. Since the R-LR type is most frequently seen in landscapes with the tendency of disorganization, this expression might function as a line of defense for coping with the tendency of disorganization. In other words, it might indicate a space that is created to give sanctuary: an expression of the essential spatial schema of humankind.

Note that the landscape of Pure Land Buddhism (Fig. 22), which is an example of a traditional Japanese space, is also an R-LR type of landscape. We hypothesize that the R-LR type drawn by chronic schizophrenic patients and the landscape of Pure Land Buddhism are similar in terms of a space created to give sanctuary.

5. Conclusion

In this paper, out of 56 drawing cases by chronic schizophrenic patients based on the Landscape Montage Technique, we focused on those with a river that connects the left and right sides of the frame (R-LR) since this type of river appeared most frequently. We ascertained the meaning of such rivers drawn by chronic schizophrenic patients from an architectural viewpoint. Our conclusions are summarized as follows:

1. We made 17 case descriptions of the R-LR type, including descriptions on the participants, their drawings, the drawing process, participants' conversation with the researcher, and the daily activities and routines of each participant.
2. We found four types of spatial compositions of the R-LR type: 1) landscapes with a certain degree of integration, 2) landscapes with spaces left unnaturally blank, 3) landscapes with a repetition of items in the foreground with spaces left unnaturally blank, and 4) landscapes with geometric shapes in the foreground with spaces left unnaturally blank.
3. The percentage of the drawings with the spatial composition types 2), 3), and 4) described above, all having spaces left unnaturally blank, was 64.7%, or 11 out of 17 cases. These types of spatial compositions, 2), 3), and 4), could especially be interpreted as signs indicating the *tendency of disorganization in the landscape*, underlying the drawings done by chronic schizophrenic patients in general.

4. Since the R-LR type was most frequently seen in landscapes with the tendency of disorganization, this expression might function as a line of defense for coping with the tendency of disorganization. In other words, it might indicate a space that was created to give sanctuary: an expression of the essential spatial schema of humankind.
5. We proposed a hypothesis that there was a similarity between the R-LR type drawn by chronic schizophrenic patients and the landscape of Pure Land Buddhism, which is a traditional Japanese space, in terms of a space created to give sanctuary.

Note that Kawai (1977, p. 33) described the human psyche as a layered structure composed of the conscious, the personal unconscious, and the collective unconscious, based on Jung. He mentioned that the collective unconscious was not acquired individually, but naturally, and universal to mankind in general, and that before reaching a level universal to mankind in general, for example, there could be the familial unconscious only characteristic to a certain family, or the cultural unconscious common only to a certain cultural sphere. We shall study further if the conclusions derived in this paper are only specific to the Japanese culture or to a certain extent universal to mankind in general, which we are more interested in.

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Endnotes

1. The Architectural Space Montage Technique (ASMT) was devised by Okazaki (Okazaki & Ito, 1992) based on the Landscape Montage Technique and sandplay therapy. In ASMT, on a whiteboard participants arrange miniatures including furniture, dolls, and modularized walls of various sizes made to a one-fiftieth scale to create a model of an ideal architectural space. The idea originated from a design for an ideal psychiatric hospital with a living space to welcome patients. Studies were conducted not only on schizophrenic patients but also school children (Okazaki, 1992), mentally handicapped children (Okazaki, Ooi, Yamaguchi, & Urasaki, 1997), and preschoolers (Okazaki, Yanagisawa, & Nanba, 1999).
2. This paper is a revision and enlargement of a previous paper by Yanagisawa and Okazaki (2011, March).

References

Eto, S. (1985). Kyuseibunretsubyosha no kaifukukatei ni okeru sekaizushiki no hensen: Fukeikoseiho ni yoru kento [Transition of world schema during the process of recovery in acute schizophrenic patients: Through Landscape Montage Technique]. *Japanese Bulletin of Art Therapy*, *16*, 7-14.

Ichihashi, H., Yoshida, Y., Ohori, K., Matsumoto, M., Hirama, M., & Tanaka, M. (1971). Manseibunretsubyosha no sonzaiyoshiki to kaigahyogen [On the relationship of the existence form of chronic schizophrenics to their drawing expression]. *Japanese Bulletin of Art Therapy*, *3*, 53-59.

Ichihashi, H. (1972). Manseibunretsubyosha no taikenkozo to byogayoshiki [Chronic schizophrenics: Their experience structure and drawings]. *Japanese Bulletin of Art Therapy*, *4*, 27-36.

Ichihashi, H. (1984). *Kukan no yamai: Bunretsubyo no esoroji* [Illness related to space: Ethology of schizophrenia]. Tokyo: Kaimei sha.

Kaito, A. (1994). *Fukeikoseiho: Sono kiso to jissen* [Landscape Montage Technique: The basis and practice]. Tokyo: Seishin shobo.

Kawai, H. (1977). *Muishiki no kozo* [The structure of the unconscious]. Tokyo: Chuokoron sha.

Miyamoto, T. (1973). Kukan to kukantekishiko: Seishinbyorigaku no tachiba kara [Space and spatial conception: From the perspective of psychopathology]. *Gendai Shiso*, *1(1)*, 165-174.

Nakai, H. (1970). Seishinbunretsubyosha no seishinryoho ni okeru byoga no shiyo: Tokuni giho no kaihatsu ni yotte erareta chiken ni tsuite [Psychopathology of schizophrenics as revealed by various drawing techniques invented for psychotherapy]. *Japanese Bulletin of Art Therapy*, *2*, 77-90.

Nakai, H. (1971). Byoga o toshite mita seishinshogaisha: Tokuni seishinbunretsubyosha ni okeru shinritekikukan no kozo [A few general implications derived from analysis of schizophrenic drawings]. *Japanese Bulletin of Art Therapy*, *3*, 37-51.

Nakai, H. (1984). Byoga o toshite mita seishinshogaisha: Tokuni seishinbunretsubyosha ni okeru shinritekikukan no kozo [A few general implications derived from analysis of schizophrenic drawings]. *The Writings of Hisao Nakai volume 1.Shizophrenia* (pp. 47-82). Tokyo: Iwasaki Gakujutu Shuppansya.

Okazaki, S., & Ito, T. (1992). Kyojukukankoseiho to bunretsubyosha [Architectural Space Montage Technique and schizophrenic patient]. *Journal of Architecture, Planning and Environmental Engineering (Transactions of AIJ)*, *(436)*, 127-137.

Okazaki, S. (1992). Kyojukukankoseiho to jido [Architectural Space Montage Technique and school children]. *Journal of Architecture, Planning and Environmental Engineering (Transactions of AIJ)*, *(438)*, 109-118.

Okazaki, S., Ooi, F., Yamaguchi, N., & Urasaki, T. (1997). Kyojukukankoseiho to chitekishogaiji [Architectural Space Montage Technique and mentally handicapped children]. *Journal of Architecture, Planning and Environmental Engineering (Transactions of AIJ)*, *(496)*, 237-245.

Okazaki, S., Yanagisawa, K., & Nanba, M. (1999). Kyojukukankoseiho to yochienji [Architectural Space Montage Technique and kindergarten children]. *Journal of Architecture, Planning and Environmental Engineering (Transactions of AIJ)*, *(518)*, 313-320.

Shimizu, H. (1988). Byodoin garan no kosei to seikaku [Composition and character of Byodoin temple]. In H. Ota, T. Fukuyama, K. Suzuki (Ed.), *Byodoin taikan* [*General survey of Byodoin*] *volume 1, architecture* (pp. 18-26). Tokyo: Iwanami Shoten.

Takaesu, Y., & Oomori, K. (1984). Fukei to bunretsubyoshinsei: Fukeikoseiho no Kukanrontekikento [Landscape and schizophrenia disposition: Consideration of Landscape Montage Technique in terms of theory of space]. In Y. Yamanaka (Ed.), *The Writings of Hisao Nakai extra volume H. Nakai Landscape Montage Technique* (pp. 119-137). Tokyo: Iwasaki Gakujutu Shuppansya.

Ueda, S. (1992). *Basho: Nijusekai nai sonzai* [Place: Being in the world in twofold]. Tokyo: Koubundou.

Yanagisawa, K., Okazaki, S., & Takahashi, A. (2001). Fukeikoseiho no waku ni taisuru kawa no ruikeika oyobi sore ni motozuku kukankosei ni kansuru ichikosatsu: Yochienji kara daigakusei madeno sakuhin o toshite [Types of disposition of river in the landscape picture sketched by the "Landscape Montage Technique," with relation to a frame as a fence around a picture, and spatial composition: by the pictures sketched by subjects from kindergarten children through university students]. *Journal of Architecture, Planning and Environmental Engineering (Transactions of AIJ)*, *(546)*, 297-304.

Yanagisawa, K., & Okazaki, S. (2002). Fukeikoseiho ni motozuku Hiroshige no fukeihanga no kukankosei ni kansuru kenkyu: Waku to kawa tono kankei ni chakumoku shite [An analysis of spatial composition on the landscape paintings done by Hiroshige based on the "Landscape Montage Technique": Focusing on the relationship between the picture frame and the river]. *Journal of Architecture, Planning and Environmental Engineering (Transactions of AIJ)*, *(559)*, 179-186.

Yanagisawa, K., & Okazaki, S. (2011, March). *Types of rivers with respect to frame, drawn by schizophrenic patients based on "Landscape Montage Technique": Similarity to traditional Japanese space*. Paper presented at the 1st International Conference on "Archi-Cultural Translations through the Silk Road", Istanbul, Turkey. Extended abstract retrieved from http://www.ia-su.org/file/iaSU_2011_Proceedings_final.pdf