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A Study About Discourse Relationship Between the Design Concepts and Architectural Expressions of Residential Works by Steven Holl

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Abstract

The purpose of this study is to clarify the relationship between the contextually expressed design concepts and the corresponding architectural expressions in residential design by Steven Holl. His work utilizes motif ideas and incorporates experimental thinking into the central concept. The purpose of this project is to clarify the process of conception of discursive expressions and related motif expressions in residential design. This study focuses on 17 residential architectural works from 1975 to 2012 and categorize the elements that influenced the concept and the motifs of the works. It identifies how architectural expressions that reflect motifs influence specific concepts or motifs by KJ method and Matrix analysis. It has been found that the concept is composed of 15 elements from five context types. Motifs were extracted as the subjects. To find out how motifs are expressed, a survey was conducted on architectural expressions corresponding to the motifs. The architectural expressions could be summarized into five categories. A matrix diagram was created to explore the relationship between the architectural expressions corresponding to the motifs and the concept. It became clear that the there is a unique concept that incorporates cultural and art into the composition with architectural expressions. This research focuses on the discursive expressions described, and it is advantageous to elucidate the design theories spoken by architects themselves. Combining KJ method and matrix analysis with the discursive expression of the concepts of architectural works and how they are expressed is a new method for clarifying architects' design theories.

Keywords:
Architectural expression, Concept writing, Design intention, Design theory, Residential works.

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INTRODUCTION

Background

For architects, a house is not only a living space for the client, but also a "work of art" in which the architect's own design philosophy appears throughout. Unlike the prototyping of a model case for commercial use, residential work can be expressed as an experimental effort to realize the design concept and philosophy. One architect who has strongly reflected such a design concept is Steven Holl. Holl is a leading American architect who has worked extensively not only in the United States but also in Europe and Asia. His representative work include the KIASMA(Helsinki Museum of Modern Art) (1998) and MIT Simmons Hall (student dormitory) (2002). Figure 1 and 2 shows façade and entrance hall of KIASMA (Helsinki Museum of Modern Art).

Holl was born in 1947 in Washington, U.S.A., and studied architecture at the University of Washington and the AA School of Architecture. In addition to his design activities, He is also active as an educator, teaching at universities. Holl's design philosophy is influenced by French philosopher Maurice Merleau-Ponty and, together with architectural theorist Juhani Pallasmaa, they refer to the influence of phenomenology on architecture. It is apparent that Holl has been influenced by philosophical influences on the design philosophy of architecture.

There have been studies about his design influenced by phenomenology, and Holl himself has described his design ideas and design process in many articles. He is widely known for his conceptual sketches using watercolor sketches. The architectural design process by Holl includes the use of watercolor sketches. Using the watercolor sketches, the process of "Stochastic thinking," which is to retain an intuitive image on the screen, is carried out to express the concept. Holl conducts a careful design study of the concept by himself, and then conducts further studies using 3D and models to create the drawing. Holl emphasizes the importance of sensitively expressing the images obtained through watercolor sketches. He likes to describe a design method that is sensitively generated by his own hands. While some architects do not talk much about their work or design theories, writings by architects on various design theories can be an important element in revealing an architect's thinking. In his own words, Holl often refers to design methods and concepts of his work. Among them, Holl describes the importance of phenomenology in understanding architecture and indicates that it is important to playfully explore concepts and forms away from rationality. He also uses writing and sketches to express his experimental thinking in the process of creating architectural works. Designing concepts and motifs is one of the factors that determine the form of his architectural works. The way in which he also mentions the structure and choice of materials that are connected to the concept and motif suggests that the expression of the concept is expressed concretely in the form of architectural expression. It is unclear how the concepts and motifs are expressed in words, and how they are expressed in architectural forms.

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Holl has been working continuously on residential works since the early days of his design career, and there are certain works for each age group. Residential works are designed on a relatively smaller scale than public buildings and other facilities with large areas, and intuitive conceptual ideas are more likely to be expressed in architectural expression. This study analyses the written discourse of Steven Holl's residential design to extract concepts, motifs, and architectural expressions, and to clarify the relationships among them.

Introduction previous studies and research objectives

Much of the literature on the design by Steven Holl is concerned with his design method and philosophy. Ono's research has found a diagrammatic representation of the Holl's design concept influenced by phenomenology. (Ono, 2007) This is similar to the present study in that the research is conducted from Holl's discursive representation. Tajima's study has analyzed Holl's watercolor sketches. (Tajima,E.2007)

Other studies have described design philosophies related to phenomenology based on Holl's work. (Kim; Jun-Sung; Chung; Tae-Yong, 2013)(LvXiao Hui, 2003) Taken together, these studies provides important insights into the architectural design theory influenced by phenomenology on Steven Holl's work. However, this study differs from previous studies in that it clarifies the relationship between design concept and architectural expression in terms of discursive expression for Holl's residential works.

As for research on contemporary architects' design theories from discourse expression, Shikasho and Shiozaki's research showed the relationship between design theme in houses with piloti by contemporary Japanese architects. (Shikasho & Shiozaki, 2013) And Shiozaki and Nakajima's research illustrated how contemporary Japanese architects make a framework of concept in their design theory with using words of geometrical figures. (Shiozaki & Nakajima, 2007)

Geometric shapes such as squares, circles, and triangles have been used by architects as concept ideas in conceiving architectural works. The greater part of this literature on architects' design theories using geometric shapes from discourse expression is exploratory to the relationship between conception and architecture using same methodology, KJ method. Sasaki and Yamada have conducted a study on the image of the relationship between the given conditions and architecture in the creation of contemporary Japanese housing. (Sasaki & Yamada, 2006) Although there have been many studies on the residential works of specific architects, this study takes a different perspective from others in that it focuses on the discursive activities of Steven Holl to gain new insights into the relationship between the discursive expression of design concepts and architectural expression.

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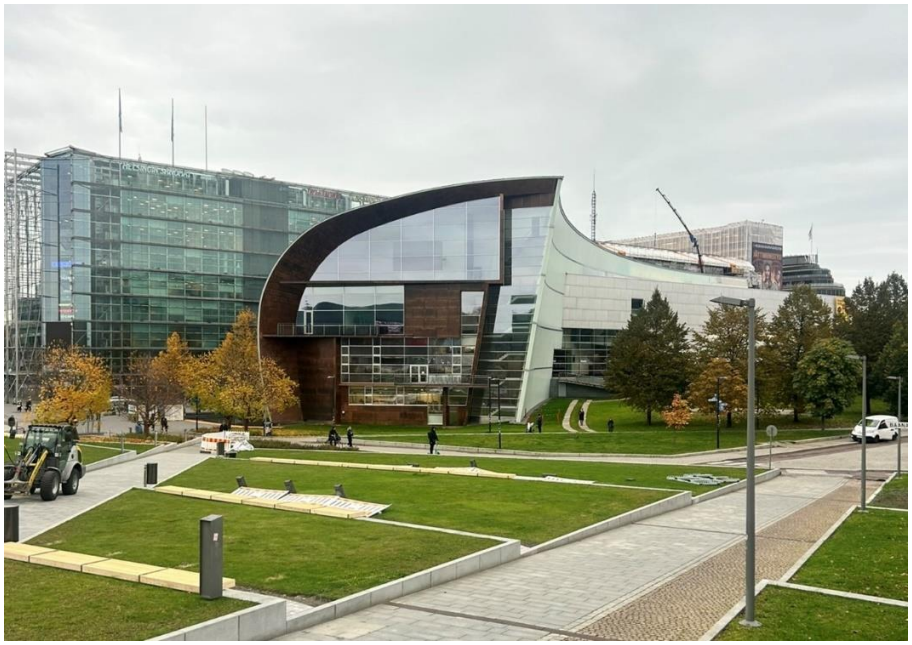

Figure 1. Figure 1. Façade of KIASMA(Helsinki Museum of Modern Art) Helsinki, Finland, 1998.(Photograph by author October 15th. 2024)

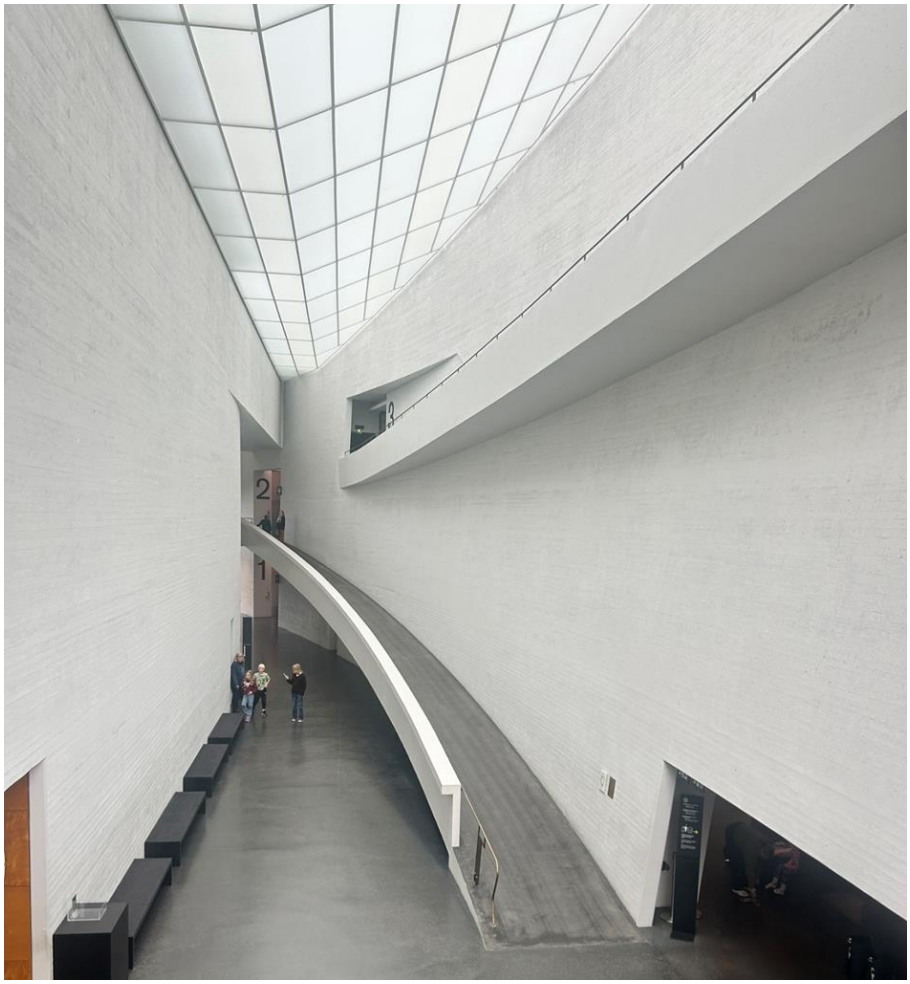

Figure 2. Entrance hall of KIASMA(Helsinki Museum of Modern Art) Helsinki, Finland,

METHODOLOGY

This study focusses on 17 residential architectural works by Steven Holl from 1975 to 2012, and categorizes the elements that influenced the concept and the motifs of the works. It identifies how architectural

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expressions that reflect motifs influence specific concepts or motifs. First, the KJ method is used in categorization. The KJ method is a specialized method for organizing information developed by cultural anthropologist, Jiro Kawakita. It is a method of organizing information through a process of writing down words and fragments of information from the data obtained, and then organizing and grouping these pieces of information. By using the KJ method to summarize the architect's discourse, keywords can be extracted from the architect's editorial on the purpose of the design. The framework of the architect's thinking could be captured. Next, a matrix analysis is performed to organize the relationships among concepts, motifs, and architectural expressions. Matrix analysis is a method of arranging two elements in rows and columns to determine their degree of relatedness. In this study, discursive expression of residential works was recruited from collection of works by STEVEN HOLL ARCHITECTS. (Futagawa, 2012, 1975-1998 Volume1 & Volume2 STEVEN HOLL, A.D.A.EDITA TokyoCo.,Ltd) Additional information such as drawings and sketches for each house were referenced as supplements to the books published by STEVEN HOLL ARCHITECTS. Throughout this paper, the terms “concept” and “motif” are distinguished. The term “concept” will be used to refer to the idea or point of view that forms the backbone of a work of art. It means a coherent concept in a creative work. The term “motif” will be used to refer to the main idea or subject matter that motivates a concept. The difference between a concept and a motif is that a motif is a nucleus that forms a concept, while a concept is a complex idea that includes a direction in creation.

Next, the analytical procedure is described. This analysis is divided into three major parts: the categorization of concepts and motifs of works, the categorization of architectural expressions reflecting the motifs, and the analysis of the relationship between concepts and architectural expressions reflecting the motifs. First, about method of analysing the categorization of concepts and motifs, it focuses on the sentences which contain information that may have been influential in determining the concept of the work. The elements that influenced the concept composition were extracted from the concept written in the text. The KJ method was used to extract the concept elements. The concept elements were categorized and summarized by the meaning. From the sentences related to the composition of the concept, motif expressions were extracted as specific ideas that shape the design, i.e., as subjects that motivate the creation of the work. Next is an explanation of how to analyse the categorization of architectural expressions that reflect motifs. It focusses on sentences that indicate that the motifs used are embodied as architectural expressions. Elements of architectural expression were extracted from the sentences describing the part where the motif is spatially expressed by the KJ method. The extracted elements were grouped by related content. When extracting concepts, motifs, and elements of architectural expression, analysis notes were made as shown in Figures 3 and 4, and the results were summarized in a table.

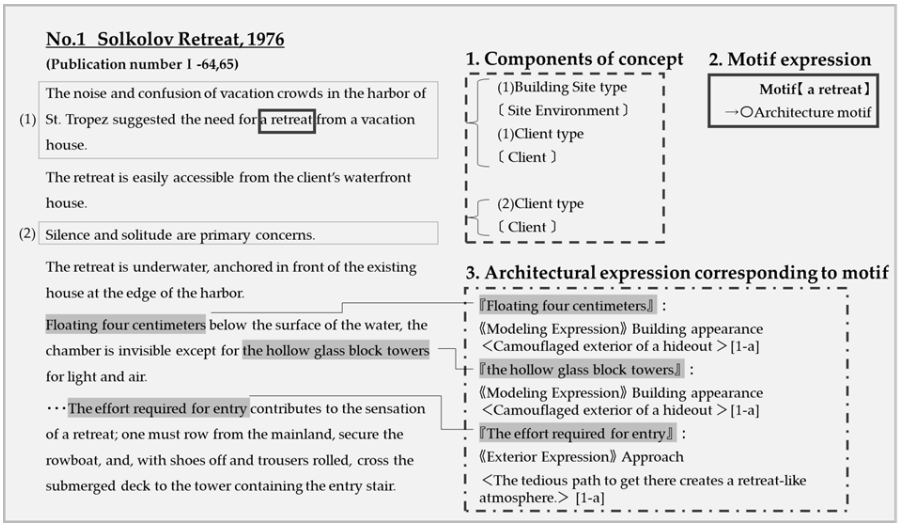

Figure 3. The memo for No.1 Solkolov Retreat for analysis of concept components, motif expression and architecture expression.

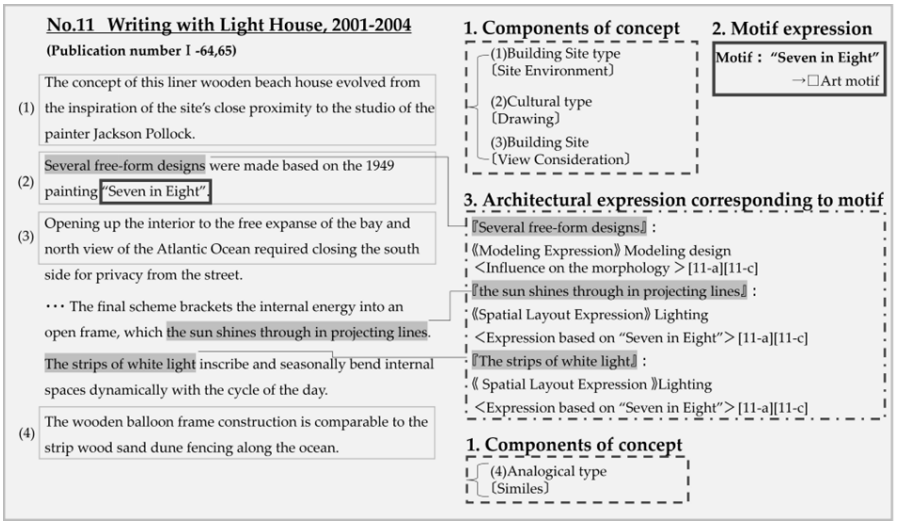

Figure 4. The memo for No.11 Writing with Light House for analysis of concept components, motif expression and architecture expression.

Finally, the method of analysing the relationship between the architectural expression reflecting the concept and the motif is described.

This part used matrix analysis, which is useful for organizing the relationship between two elements. This method of analysis analyses the relationships among data compiled in a tabular format consisting of multiple rows and columns to organize problems and find clues to solutions. In this study, an L-shaped matrix diagram was created to handle the two items. From the matrix diagram using the elements of the concept on the vertical axis and the architectural expression elements of the motif reflecting the concept on the horizontal axis, the architectural expression reflecting the concept and motif was summarized. The L-shaped matrix analysis is useful in clarifying the relationship between the concepts and the architectural expressions that reflect the motifs. The L-shape was used because it is the simplest tabular format, and the information is easy to organize. In the future, this study could propose a methodology to reveal architects' design theories from their discursive expressions.

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DESIGN CONCEPT AND ARCHITECTURAL EXPRESSION WITH WRITING

Extraction of design components

This chapter extracts the components of the design concept by focusing on the design conditions and environment related to the design concept or how it is expressed. Extraction of the motifs is performed for the areas that are indicated as specific ideas for creation from the context of the design concept. Figures 1 and 2 show examples of analysis notes for extracting concepts, motifs, and elements of architectural expression. The concept composition statements were categorized by intent and divided as shown in Table 1. Table 2 shows Motif extraction and architectural expression corresponding to the motif. The context can be divided into five major categories. Each category type has components of concept, and they were then given a code as an abbreviated name for ease of later discussion.

Table 1. Components of concept and explanation

Conditions	Sentence type	Components of concept	Code	Componets explanation and context number
Passive condition	Building site type 3	Site Environment components(24)	SE	The environmental background of the site, including the natural environment surrounding the site and its location 1-a,2-a,3-a,3-e,4-a,4-b,4-c,5-a,5-b,5-c,6-a,7-a,8-f,10-a,10-b,10-d,10-e,11-a,13-a,14-a,15-a,16-a,17-a
		Site History components(3)	SH	History on the site and events that have occurred on the site in the past 2-b,12-a,12-b
		View Consideration components(2)	VC	Consideration for views around the site or statements regarding views 2-c,11-b
	Client type 1	Client components(14)	C	Design requirements by client and statements for the client's lifestyle 1-a,1-b,2-a,3-b,3-c,3-d,6-b,8-a,8-b,10-c,12-c,13-b,15-b,16-b
Active condition	Cultural type 4	Literature components(4)	L	A statement of content from a literary work that is relevant to the purpose of the design 5-d,5-e,6-c,12-d
		Philosophy components(1)	P	A statement of philosophy or philosophical keywords that are relevant to the purpose of the design 6-d
		Musical Factor components(4)	MF	A statement of content related to the purpose of the design based on a musical work 7-b,7-c,17-b,17-c
		Drawing components(1)	D	A statement of content related to the purpose of the design based on the pictorial work 11-c
	Analogical type 4	Antithesis components(1)	A	Reflexive identification with social matters and architecture 2-e
		Experiment components(6)	E	A statement about experimental ideas being tested by design intent 6-f,7-d,7-e,12-b,16-b,17-b
		Similes components(6)	S	The design intent is stated as an analogy using a direct similes expression 3-e,7-b,10-f,10-e,11-d,14-c
		Metaphors components(5)	M	The design intent is stated as an analogy using metaphorical expressions 4-c,6-e,8-e,13-b,14-b
	Architectural type 3	Architectural Style components(2)	AS	The design intent is stated in relation to the architectural style or method 2-b,3-f
		Phenomenal Architecture components(5)	PA	The design intent is described in terms of light, space, and other phenomenological elements 8-c,8-d,9-a,15-a,15-b
		Geometry components(6)	G	The design intent includes the expression of geometric elements 6-d,8-e,9-a,10-d,14-c,16-a

Table 2. Design concept

No	Publication	Year	Work	Sentence	Components of concept	Building Site	Client	Cultural type	Analogical type	Architectural type
1	Ⅰ-64,65	1976	Solkolov Retreat	The noise and confusion of vacation crowds in the harbor of St. Tropez suggested the need for【a retreat】from a vacation house.(1-a)	Site Environment, Client	SE	C			
				Silence and solitude are primary concerns. (1-b)	Client		C			
2	Ⅰ-66,67	1978-1979	Telescope House	With this project we launched our debate against eclecticism and against the importation of history. (2-d)	Antithesis				A	
				This project is for us its opposite; it is a kind of distilled modern interpretation of certain cultural developments. (2-e)	Antithesis				A	
				A retired couple with a very narrow site on Chesapeake Bay required a house in portions hat could be closed off when not in use. (2-a)	Site Environment, Client	SE	C			
				We fused a model of a particular type,【the telescope house】, with the program. (2-b)	Site History, Architectural Style	SH				AS
				The house does not so much fill the site as create a new, synthetic one, looking over the trees to the Chesapeake.(2-c)	View Consideration	VC				
3	Ⅰ-68,69	1980-1981	Mets House	The site for this project is a thickly wooded lot on Staten Is land overlooking a forested ravine. (3-a)	Site Environment	SE				
				It is an inexpensive house for a young couple, both artists. (3-b9	Client		C			
				Conventional living and dining rooms are excluded in favor of two larger studios and a large kitchen. (3-c)	Client		C			
				The client expressed dislike of the suburban image of local developments, favoring an approach that leaves all natural vegetation on the site untouched. (3-d)	Site Environment, Client	SE	C			
				The house is a dialectic of two parts based on a traditional U-type courtyard plan. (3-f)	Architectural Style					AS
				The analogy of urban building type, like【an island in the forest】, is carried out in all the elevations: (3-e)	Site Environment. Similes	SE			S	
4	Ⅰ-72,73	1980-1981	Pool House and Sculpture Studio	The site in Scarsdale, New York has a history that dates from the transference of property rights by King George in the early eighteenth century. （4-a）	Site Environment	SE				
				The land is marked by stone walls that were used to define its boundaries. (4-b)	Site Environment	SE				
				The project is organized with the idea of【"walls within walls"】. (4-c)	Site Environment, Metaphors	SE			M	
5	Ⅰ-78,79	1984-1988	House at Martha's Vineyard	The site is a hill overlooking the Atlantic Ocean. (5-a)	Site Environment	SE				
				The ground, densely overgrown with brush, is cut by a gully that descends to an unobstructed bog. (5-b)	Site Environment	SE				
				The steep terrain and other building restrictions strictly limit the siting and construction material as well as the building height for the vacation home. (5-c)	Site Environment	SE				
				According to【Melville's Moby Dick】, the Indian tribe that originally inhabited Matha's Vineyard created a unique dwelling type. (5-d)	Literature			L		
				Finding a whale skeleton on the beach, they would pull it up to dry land and stretch skins or bark over it, transforming it into a house. (5-e)	Literature			L		

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No	Publication	Year	Work	Sentence	Components of concept	Building Site	Client	Cultural type	Analogical type	Architectural type
6	Ⅰ-83	1988-1990	Residence	A thickly wooded site east of Cleveland characterized by ravines and steep grades is the site for a house for a lawyer and his wife, a painter. (6-a)	Site Environment	SE				
				Large open spaces and vertical emphasis were requested, along with a three-car garage. (6-b)	Client		C			
				A series of conditions erase the dialectic nature of the house's double-formed:(6-c)	Philosophy, Geometry			P		G
				This passage was inspired by C. Brockden Brown's novel,【Memoirs of a Sleep Walker】, published in 1779. (6-d)	Literature			L		
				Sleepwalking and a cave are metaphors Brown uses for subconsciousness. (6-e)	Metaphors				M	
				Here the psycho-symbolic program of sleep-walking finds an architectural equivalent. (6-f)	Experiment				E	
7	Ⅰ-88,89	1989-1992	Stretto House	Sited adjacent to three spring-fed ponds with existing concrete dams,（7-a）	Site Environment	SE				
				Coursing over the dams, like the overlapping reflection of the space of the landscape outside as well as the virtual overlapping of the apace inside. (7-b)	Musical Factor, Similes			MF	S	
				A particular music with this "stretto,"【Bartok's Music for Strings, Percussion and Celeste】, was a parallel on which the house form was made. (7-c)	Musical Factor			MF		
				Where music has a materiality in instrumentation and sound, this architecture attempts an analogue in light and space, (7-d)	Experiment				E	
				That is material*sound/time=material*light/space (7-e)	Experiment				E	
8	Ⅰ-97,101	1997-1999	Y House	A weekend retreat for a European family with three bedrooms, kitchen and living space. (8-a)	Client		C			
				The house is designed to integrate a large collection of modern art. (8-b)	Client		C			
				The【"Y"】cuts a slice of sky and draws the sun into heart of the house. (8-c)	Phenomenal Architecture					PA
				The slow passing of time from early morning to sunset is to be a primary experience as different areas of the house become activated by the path of the sun, (8-d)	Phenomenal Architecture					PA
				The geometry allowing light and shadows to "chase still time" with the diurnal movement of the sun across the walls of the "Y". (8-e)	Geometry, Metaphors				M	G
				The house occupies the hill and site through three primary relationships: "in the ground," "on the ground," and "over the ground." (8-f)	Site Environment	SE				
9	Ⅱ-52,53	2001	Little Tesseract	A hollow charcoal【cube】is warped by distorting forces opening a triangle of light from above. (9-a)	Phenomenal Architecture. Geometry					PA,G
10	Ⅱ-58,59	2001	Oceanic Retreat	The site for this retreat is on the northwest "prow" of Kaua'i with Japan 3,600 miles over the distant Pacific horizon. (10-a)	Site Environment	SE				
				The 18 acre site is 90% natural preservation area. (10-b)	Site Environment	SE				
				This is a special place of retreat and reflection to be occupied in special visits by the owner and his son and daughter. (10-c)	Client		C			
				The absolute and severe qualities of the site are continued in【two "L"s】forming a platform like the space of horizon. (10-d)	Site Environment. Geometry	SE				G
				If space is like water, the plan and section contains, drops, embanks and then releases the space down the curvilinear path through the natural gardens finally to the ocean horizon. (10-f)	Similes				S	
				Like the ancient concept of Zen garden organization with a pool at the end-but here it is the pounding ocean. (10-e)	Site Environment. Similes	SE			S	

No	Publication	Year	Work	Sentence	Components of concept	Building Site	Client	Cultural type	Analogical type	Architectural type
11	II - 60,63	2001-2004	Writing with Light House	The concept of this liner wooden beach house evolved from the inspiration of the site's close proximity to the studio of the painter Jackson Pollock. (11-a)	Site Environment	SE				
				Several free-form designs were made based on the 1949 painting【"Seven in Eight"】. (11-c)	Drawing			D		
				Opening up the interior to the free expanse of the bay and north view of the Atlantic Ocean required closing the south side for privacy from the street. (11-b)	View Consideration	VC				
				The wooden balloon frame construction is comparable to the strip wood sand dune fencing along the ocean. (11-d)	Similes				S	
12	II - 66,67	2001-2004	Nail Collector's House	Overlooking the expanse of Lake Champlain in the 19th Century town of Essex, this 1.200 sq. ft. house for a writer is sited on a former nail factory foundation. (12-a)	Site History	SH				
				The owner has a collection of square head 19th Century nails gathered over the years on this site. (12-c)	Client		C			
				Windows correspond to【the 24 chapters of Homer's Odyssey】and are organized to project "Fingers of Light" into the interior volume. (12-d)	Literature			L		
				A poetic reinterpretation of the industrial history of the site and the pre-Civil War architecture of Essex. (12-b)	Site History. Experiment	SH				E
13	II - 86,87	2002-2005	Planar House	Sited in Paradise Valley with a direct vista to Camelback Mountain. (13-a)	Site Environment	SE				
				This house is to be a part of, and vessel for, a large【contemporary art collection】. (13-b)	Client. Metaphors		C		M	
14	II - 72,75	2001-2005	Turbulence House	Adjacent to adobe courtyard houses bult by the artist Richard Tuttle, this small construction is sited atop a windy desert mesa. (14-a)	Site Environment	SE				
				It's form, imagined like【the tip of an iceberg】indicating a much larger form below, allows turbulent wind to blow through the center. (14-c)	Geometry, Similes				S	G
				The artist's friend Kiki Smith calls it a "brooch pinned to the mesa". (14-b)	Similes				S	
15	II - 90,91	2005-2006	Sun Slice House	This weekend house on Lake Garda for an Italian lightning company owner and his family is organized to frame slices of sunlight. (15-a)	Site Environment, Phenomenal Architecture	SE				PA
				While the owner's profession revolves around artificial light,【slices of natural light】and their change in space throughout the day and year is the focus of the house. (15-b)	Client, Phenomenal Architecture		C			PA
16	II -76	2001-2006	Swiss Residence	It is not only to be a private house but also a cultural gathering place on which standards and【self-image of a country】are measured. (16-b)	Client, Experiment		C		E	
				Sited on a hill with a direct view through the trees to the Washington monument in the distance, a diagonal line of overlapping spaces drawn through a cruciform courtyard plan was the conceptual starting point. (16-a)	Site Environment. Geometry	SE				G
17	II - 94,95	2008-2012	Daeyang Gallery and House	The private house and gallery is sited in the hills of the Kangbuk section of Seoul, Korea. (17-a)	Site Environment	SE				
				The project was designed as an experiment parallel to a research studio on "the architectonics of music". (17-b)	Musical Factor. Experiment			MF	E	
				The basic geometry of the building is inspired by a 1967 sketch for a music score by the composer Istvan Anhalt,【"Symphony of Modules,"】discovered in a book by John Cage titled "Notations". (17-c)	Musical Factor			MF		

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There is Building site type, Client type, Cultural type, Analogical type, and Architectural type as sentence type category. First, building site type includes the context that describes the natural or historical content of the surrounding area, such as the environment and history of the site, and the views of the surrounding area. The site environment components describe the environment and natural background of the site.

The site's history components describe the historical background and past of the site. The view consideration components describe the perspective or view of the site when it exists in the surrounding environment. Next is the client type, which describes the design conditions presented by the client and the importance of the client's lifestyle. We should explain the abbreviations, codes and indicate where some expressions in the table come from or where we can find the equivalent, such as (11-a). It would also be good to provide visuals of these structures. This context includes client components, i.e., components that were stated as design conditions in response to the client's requests and lifestyle. The cultural type is the context that describes the content related to the design intent based on works of art such as literature, philosophy, music, and painting. This type includes four components: literature components as the element that influenced the design intent based on works of literature, philosophy components that influenced works of philosophy, musical factor components that influenced works of music, and drawing components that influenced works of painting. Analogical type is the context in which the design intent is influenced through analogies and experimental ideas that use direct metaphors and similes. This context includes four components: antithesis components, in which the design intent contains an antithetical identity to social events and architecture; experimental components, in which experimental ideas are tested by the design intent; similes components, in which the design intent contains content as an analogy using a direct simile; and metaphors components, in which the design intent contains content as an analogy using a metaphor. The architectural type is the context that describes the contents related to architectural style, spatial composition, modelling, and phenomenal expression of light and ambiguous spatial areas. This context has three components: the architectural style components, in which the design intent includes content related to architectural style; the phenomenal architecture components, in which the design intent includes phenomenal content such as light and ambiguous spatial areas; and the geometry components, which includes geometric architectural expression related to the design intent. The concept components can be divided into passive conditions and active conditions. Passive conditions is that the designer must necessarily accept as design conditions, such as the site context and the client context, and active conditions such as the cultural context, analogical context, and architectural context is that the designer actively adopted based on his or her own ideas. It became clear that the concept composition consists of two major conditions.

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Classification of architectural expressions corresponding to motif

In this chapter, motifs were extracted from design concept context. The motifs selected in Table 2 are shown in the symbols 〖〗. In addition, the citation number of the sentences related to the creation of the motif is added. These motifs can be classified according to the meaning and form they represent. The contents of the motifs are described in the table of motifs extracted by each work in Table 3. Motifs such as "retreat," "telescope house," and "wall" were defined as architectural motifs. Motifs related to images and phenomena, such as "an island floating in the forest" and "a slice of natural light," were considered image motifs. The "Y" shape, the "cube," and other geometric shapes were considered geometric motifs. Artistic motifs were defined as those related to art, such as "H. Melville's 'Moby Dick'" and "C. Brockden Brown's 'Memoirs of a Sleepwalker. As a result, it was found that the design intent could be divided into four motifs of expression. These results suggest that the diversity of artistic motifs derive from art. The influence of artworks on the concept of residential design is suggested.

Relationship between design concept and architectural expression

This chapter investigate how the motifs are expressed, focusing on the expressions corresponding to the motifs. Contexts in which architectural expressions corresponding to the motifs are suggested are extracted from texts of the works. These architectural expressions are compared with each other based on the KJ method. The architectural expressions corresponding to the motifs that were compared are shown in Figure 5. As a result, the following five expressions were able to summarize: Architectural Material Expression, Spatial Layout Expression, Exterior Expression, Modelling Expression, Plan Expression. Among these, this chapter has placed the two types of expressions into two categories: "physical expression," such as architectural components, forms, and drawings that are actually expressed as architecture, and "phenomenal expression," such as lighting and spatial areas that are difficult to grasp as realities. Architectural Material Expressions are a kind of expressions involving construction procedures, materials, structure, color, and the substantive components of building construction, including walls, corridors, clapboards, skylights, roofs, solar panels, and windows. Walls, corridors, clapboards, skylights, roofs, solar panels, and windows are operational expressions of the installation of architectural elements.

And procedures in Architectural Material Expression focus on methodology and belong to the group of phenomenal operations. Some architectural expressions are focused on physical manipulation and belong to the group of existential manipulation. Procedure is expressed by the order in which the construction is carried out.

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Table 3. Motif and architectural expression

No	Motifs	Code	Architectural Expression	Sentences that have architectural expressions corresponding to the motifs	Architectural expression	Components
1	a retreat	○	『Floating four centimeters』	『Floating four centimeters』 below the surface of the water, [1-a]	《Modeling Expression》：Building appearance	SE/C[1-a]
			『the hollow glass block towers』	the chamber is invisible except for 『the hollow glass block towers』 for light and air. [1-a]	《Modeling Expression》：Building appearance	SE/C[1-a]
			『The effort required for entry』	『The effort required for entry』 contributes to the sensation of a retreat; [1-a]	《Exterior Expression》：Approach	SE/C[1-a]
2	the telescope house	○	『Some were built』	『Some were built』 large section first, descending, some small section first, ascending, and some, all sections at once. [2-b]	《Architectural Material Expression》：Procedure	SH/AS[2-b]
			『three portions』	The proposed house is in 『three portions』 corresponding to frequency of use: a) the basic house for two persons, used year round; b) the formal entertainment rooms for visiting family; and c) the guest rooms, closed off when not in use. [2-a],[2-b]	《Modeling Expression》：Modeling configuration 《Spatial Layout Expression》：Room composition	SE/CS[2-a], SH/AS[2-b], SE/C[2-a], SH/AS[2-b]
3	an island in the forest	△	『integral color concrete blocks』	The front façade is articulated in 『integral color concrete blocks』, the side walls are painted black like the party walls in a city, and the courtyard is painted white for maximum light. [3-a]	《Plan Expression》:Contrast representation：Coexistence representation	SE[3-a] SE[3-a]
			『the side walls are painted black』	The front façade is articulated in integral color concrete blocks, 『the side walls are painted black』 like the party walls in a city, and the courtyard is painted white for maximum light. [3-a]	《Architectural Material Expression》：Color scheme：Material	SE[3-a]
4	"walls within walls"	○	『New walls』	『New walls』 enclosing the existing pool form a courtyard recalling the ancient stone boundary wall around the site. [4-a]	《Architectural Material Expression》：Wall	SE[4-a]
5	Melville's Moby Dick	□	『wooden construction』	This house is an inside-out balloon frame of 『wooden construction』: [5-a]	《Architectural Material Expression》：Structure	SE[5-a]
			『modern bones』	a skeleton house whose 『modern bones』 define a veranda. [5-b]	《Architectural Material Expression》：Structure	SE[5-b]
			『a skeleton house』	『a skeleton house』 whose modern bones define a veranda. [5-b]	《Architectural Material Expression》：Structure	SE[6-b]
			『porch, wooden members』	Along this continuous 『porch, wooden members』 receive the natural vines of island, which transform the straight liner mode of the architecture. [5-c]	《Architectural Material Expression》：Structure	SE[5-c]
			『The structural frame』	『The structural frame』 exposed inside and out meets the undisturbed sand dune on point foundations rather than on a common perimeter footing. [5-d]	《Architectural Material Expression》：Structure	L[5-d]
			『the undisturbed sand』	The structural frame exposed inside and out meets 『the undisturbed sand』 dune on point foundations rather than on a common perimeter footing. [5-d]	《Exterior Expression》：Ground	L[5-d]
			『Roofing is a rubber membrane』	『Roofing is a rubber membrane』 unrolled over the frame, analogous to the skins over the whale skeleton. [5-e]	《Architectural Material Expression》：Material：Roof	L[5-e]
6	Memoirs of a Sleep Walker	□	『a blind passage』	d) Sleepwalk passage: above the "skywalk," 『a blind passage』 leads from the mezzanine to a roof terrace. [6-c],[6-e],[6-f]	《Architectural Material Expression》:Corridor	L[6-c]/M[6-e]/E[6-f]
7	Bartok's Music for Strings, Percussion and Celeste	□	『concrete block "spatial dams"』	the house projects the character of the site in a series of 『concrete block "spatial dams"』 with metal-framed "aqueous apace" flowing through them. [7-a],[7-b]	《Exterior Expression》：Exterior space 《Spatial Layout Expression》：Spatial area：Room composition 《Architectural Material Expression》：Material	SE[7-a]/MF/S[7-b] SE[7-a]/MF/S[7-b] SE[7-a]/MF/S[7-b]
			『metal-framed "aqueous apace"』	the house projects the character of the site in a series of concrete block "spatial dams" with 『metal-framed "aqueous apace"』 flowing through them. [7-a],[7-b]	《Exterior Expression》：Exterior space 《Spatial Layout Expression》：Spatial area：Room composition 《Architectural Material Expression》：Material	SE[7-a]/MF/S[7-b] SE[7-a]/MF/S[7-b] SE[7-a]/MF/S[7-b]
			『four section, each consisting of two modes』	The building is formed in 『four section, each consisting of two modes』: [7-c],[7-d]	《Spatial Layout Expression》：Room composition 《Modeling Expression》：Modeling configuration	MF[7-c]/E[7-d] MF[7-c]/E[7-d]
			『heavy orthogonal masonry and light, curvilinear metal』	『heavy orthogonal masonry and light, curvilinear metal』 (the concrete block and metal of Texas vernacular). [7-c],[7-d]	《Architectural Material Expression》：Material:Structure 《Modeling Expression》：Modeling configuration	MF[7-c]/E[7-d] MF[7-c]/E[7-d]
			『The plan is purely orthogonal; the section, curvilinear.	『The plan is purely orthogonal; the section, curvilinear.』 [7-c],[7-d]	《Plan Expression》：Geometrical representation	MF[7-c]/E[7-d]
			『The guest house is an inversion with the plan curvilinear and section orthogonal』	『The guest house is an inversion with the plan curvilinear and section orthogonal』, similar to the inversions of the subject in the first movement of the Bartok score. [7-c],[7-d]	《Plan Expression》：Geometrical representation	MF[7-c]/E[7-d]

No	Motifs	Code	Architectural Expression	Sentences that have architectural expressions corresponding to the motifs	Architectural expression	Components
8	"Y"	◇	『The "Y", like a found forked stick』	『The "Y", like a found forked stick』, makes a primitive mark on the site, its reaching view extending in several directions. [8-c],[8-f]	《Modeling Expression》：Geometric modeling design 《Exterior Expression》：Landmark	PA[8-c]/SE[8-f] PA[8-c]/SE[8-f]
			『the geometry of the "Y" 』	As an alternative to an upside-down section with bedrooms (night) below and living (day) above, 『the geometry of the "Y" 』 contains a sectional flip of public/private or day/night zones. [8-e]	《Spatial Layout Expression》：Room usage	M/G[8-e]
9	cube	◇	『The cubic wooden structure』	『The cubic wooden structure』 is linked by an exoskeletal street "L" to an existing stone "U". [9-a]	《Architectural Material Expression》：Structure	PA/G[9-a]
					《Modeling Expression》：Geometric modeling design	PA/G[9-a]
10	two "L"s	◇	『a bracketed zone of two "L"s around an inner court』	The house, retreat is limited even further to 『a bracketed zone of two "L"s around an inner court』. [10-d]	《Modeling Expression》：Geometric modeling design 《Exterior Expression》：Exterior space	SE/G[10-d] SE/G[10-d]
			『the geometric line』	While the extreme promontory of the site is left for the birds, 『the geometric line』 is continued in a way that the house builds back the eroded part of the site. [10-b]	《Plan Expression》：Geometrical representation 《Exterior Expression》：Exterior space	SE[10-b] SE[10-b]
11	"Seven in Eight"	□	『Several free-form designs』	『Several free-form designs』 were made based on the 1949 painting "Seven in Eight". [11-a],[11-c]	《Modeling Expression》：Modeling design	SE[11-a]/D[11-c]
			『the sun shines through in projecting lines』	The final scheme brackets the internal energy into an open frame, which 『the sun shines through in projecting lines』. [11-a],[11-c]	《Spatial Layout Expression》：Lighting	SE[11-a]/D[11-c]
			『The strips of white light』	『The strips of white light』 inscribe and seasonally bend internal spaces dynamically with the cycle of the day. [11-a],[11-c]	《Spatial Layout Expression》：Lighting	SE[11-a]/D[11-c]
12	the 24 chapters of Homer's Odyssey	□	『Windows correspond to the 24 chapters of Homer's Odyssey』	『Windows correspond to the 24 chapters of Homer's Odyssey』 and are organized to project "Fingers of Light" into the interior volume. [12-d]	《Architectural Material Expression》：Window	L[12-d]
			『project "Fingers of Light" into the interior volume』	Windows correspond to the 24 chapters of Homer's Odyssey and are organized to 『project "Fingers of Light" into the interior volume』. [12-d]	《Spatial Layout Expression》：Lighting	L[12-d]
			『The main northeast wall has 14 windows; the southeast walls contain 5 windows』	『The main northeast wall has 14 windows; the southeast walls contain 5 windows』, white the northwest wall is blank. [12-d]	《Architectural Material Expression》：Window	L[12-d]
			『A "prow" thrust to ward Lake Champlain』	『A "prow" thrust to ward Lake Champlain』 completes this upward spiral of space. [12-d]	《Modeling Expression》：Modeling design	L[12-d]
			『"cartridge brass" siding nailed in pattern over a wood frame』	White plaster walls, hickory floors and 『"cartridge brass" siding nailed in pattern over a wood frame』 create a tactile weathering for this structure, [12-d]	《Architectural Material Expression》：Material：Siding	L[12-d]
13	contemporary art collection	□	『Constructed of tilt-up concrete walls』	『Constructed of tilt-up concrete walls』, the nature of the walls merges with simple orthogonal requirements of the interiors for art. [13-b]	《Architectural Material Expression》：Wall	C/M[13-b]
					《Spatial Layout Expression》：Spatial area	C/M[13-b]
14	the tip of an iceberg	◇	『form, imagined like the tip of an iceberg indicating a much	It's 『form, imagined like the tip of an iceberg indicating a much larger form below』, allows turbulent wind to blow through the center. [14-c]	《Modeling Expression》：Modeling design	S/G[14-c]
15	slices of natural light	△	『the play of light』	While most elevations are simple rectangles strategically sliced and cut for 『the play of light』 within, the north façade is made of glass with views of Lake Garda. [15-a],[15-b]	《Spatial Layout Expression》：Lighting	SE/PA[15-a] C/PA[15-b]
			『simple rectangles』	While most elevations are 『simple rectangles』 strategically sliced and cut for the play of light within, the north façade is made of glass with views of Lake Garda. [15-a],[15-b]	《Architectural Material Expression》：Window	SE/PA[15-a] C/PA[15-b]
			『the bends and changes in the strips of sunlight』	In order to emphasize 『the bends and changes in the strips of sunlight』, simple cubic volumes form the basic building geometry. [15-a],[15-b]	《Spatial Layout Expression》：Lighting	SE/PA[15-a]
			『simple cubic volumes form the basic building geometry』	In order to emphasize the bends and changes in the strips of sunlight, 『simple cubic volumes form the basic building geometry』. [15-a],[15-b]	《Modeling Expression》：Geometric modeling design	C/PA[15-b]
16	self-image of a country	△	『a diagonal line of overlapping spaces』	Sited on a hill with a direct view through the trees to the Washington monument in the distance, 『a diagonal line of overlapping spaces』 drawn through a cruciform courtyard plan was the conceptual starting point. [16-a],[16-b]	《Plan Expression》：Geometrical representation	SE/G[16-a] C/E[16-b]
			『the south façade use passive solar energy』	Constructed according to Swiss "Minergie Standard", 『the south façade use passive solar energy』. [16-a],[16-b]	《Architectural Material Expression》：Solar panel	SE/G[16-a] C/E[16-b]
			『"sedum" green roof with PVC panels』	The roof is a 『"sedum" green roof with PVC panels』. [16-a],[16-b]	《Architectural Material Expression》：Roof	SE/G[16-a],C/E[16-b]
17	"Symphony of Modules,"	□	『The basic geometry of the building』	『The basic geometry of the building』 is inspired by a 1967 sketch for a music score by the composer Istvan Anhalt, "Symphony of Modules," discovered in a book by John Cage titled "Notations". [17-c]	《Modeling Expression》：Modeling design	MF[17-c]
			『Three pavilions』	『Three pavilions』; one for entry, one residence, and one guest house, appear to push upward from a continuous gallery level below. [17-c]	《Modeling Expression》：Modeling configuration	MF[17-c]
			『the cutting of 55 skylight strips in the roofs of the three pavilions』	The idea of space as silent until activated by light is realized in 『the cutting of 55 skylight strips in the roofs of the three pavilions』. [17-c]	《Architectural Material Expression》：Skylight	MF[17-c]
			『Proportions』	『Proportions』 are organized around the series 3, 5, 8, 13, 21, 34, 55. [17-b]	《Modeling Expression》：Modeling configuration	MF/E[17-b]

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The image of magnification and reduction, such as the meaning of a telescope or a telescope, seeing a small object as a large object or vice versa, is projected through the construction procedure of building a large room or component from a small component or room in architecture. Spatial Layout Expression can be summarized into four categories: Lighting and Spatial area, Room composition and Room usage. Phenomena that are difficult to grasp as entities, such as lighting and spatial domain, are summarized as phenomenal space, while the composition of each room and the way the room is used are classified as room use characteristics, which are categorized as physical space.

Exterior Expression can be divided into four categories: Ground, Approach, Exterior space, and Landmark. The design of approaches, exterior space design, and landmarks that have materialized as design are considered Physical design, while those that are not altered in relation to the external environment are considered phenomenal design and are grouped into two major operational expressions. Modelling Expression can be summarized into four categories: Modelling configuration, Building appearance, Modelling design and geometric modelling design.

These four types of expression are Physical expression. Finally, Plan Expression can be summarized into three categories: geometric, contrastive, and coexisting. Geometric expressions are expressed two-dimensionally in the form of flat cross sections. Geometrical representations are expressed in two dimensions as flat cross-sections, while contrast representation and coexistence representation are expressed as elevations. As shown in Figure 5, architectural expressions corresponding to motifs can be roughly divided into five categories by the KJ method: Architectural Material Expression, Spatial Layout Expression, Exterior Expression, Modelling Expression, Plan Expression.

It is clear that Holl has two types of architectural expression corresponding to the motifs: physical expression and complex expression of both physical and phenomenal manipulation.

DISCUSSION

This study has argued that the relationship between concept and architectural expression from Holl's discursive. Using the KJ method and matrix analysis, Holl's concept statement about the residential work revealed the following results. This study found 15 components of the concept, consisting of five elements: site context, client context, cultural context, analogical context, and architectural context. These elements could also be summarized into passive conditions that must be accepted as design conditions and active conditions that are conceived by the designer.

Similarly, architectural expressions corresponding to the motifs were also extracted from the concept statement and categorized according to meaning and use. An L-shaped matrix diagram was created with these elements on the vertical axis and architectural expressions corresponding to the motifs on the horizontal axis.

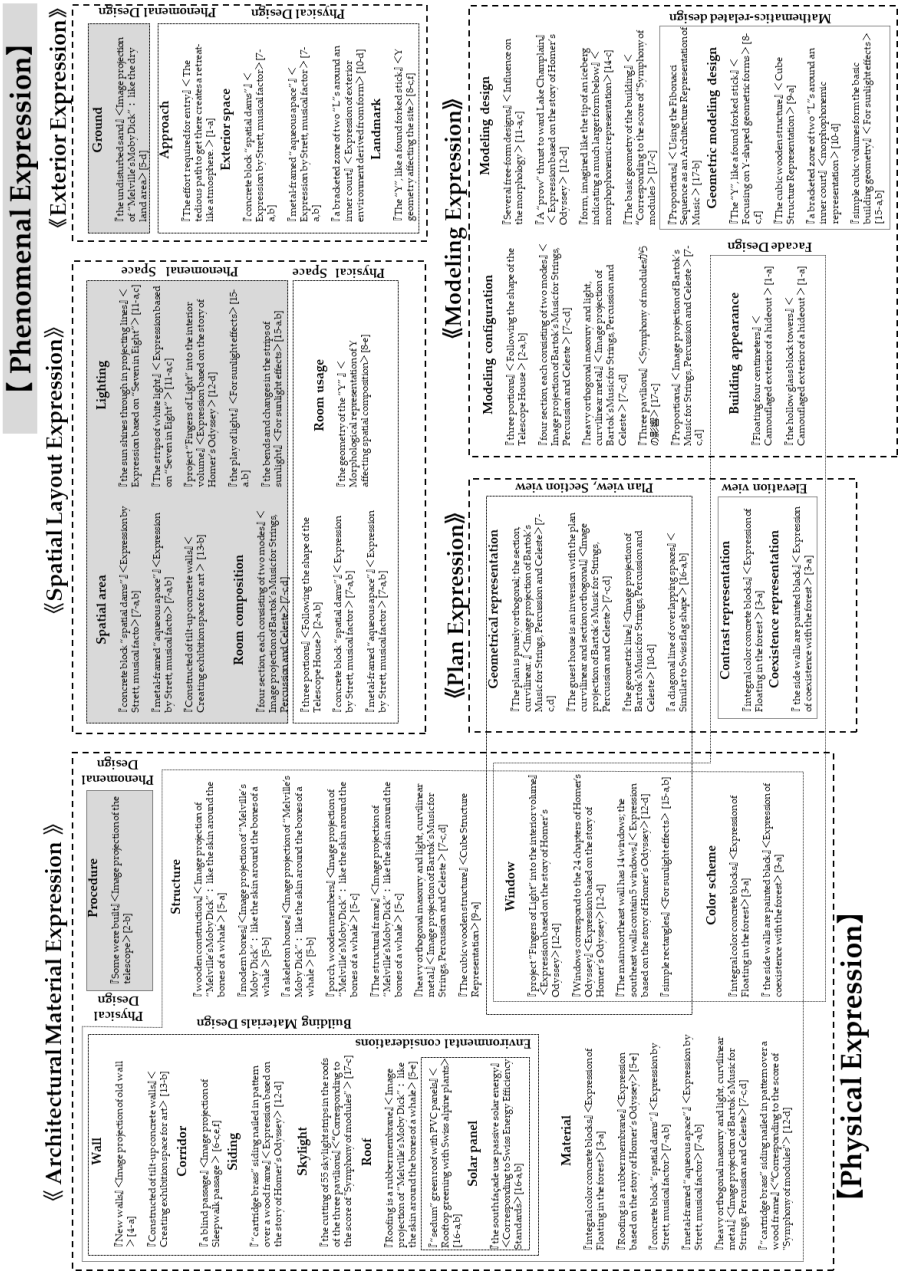

Figure 5. The summary of motif and architectural expression （Note1）

Table 4 shows the relationship between the components of the design concept and the architectural expression corresponding to the motif. The characteristics obtained from the matrix diagram are discussed by comparing the two factors of passive and active conditions on the vertical axis. First, as motifs in Architectural Material Expression, the concept components in passive conditions and the radar diagram in active conditions tend to be similar, especially in artistic motifs.

Next, motifs in Spatial Layout Expression showed a similar radar diagram in the passive and active conditions, especially in the artistic motifs. There was a tendency to use artistic motifs in the expression of motifs using Architectural Material Expressions and Spatial Layout Expressions.

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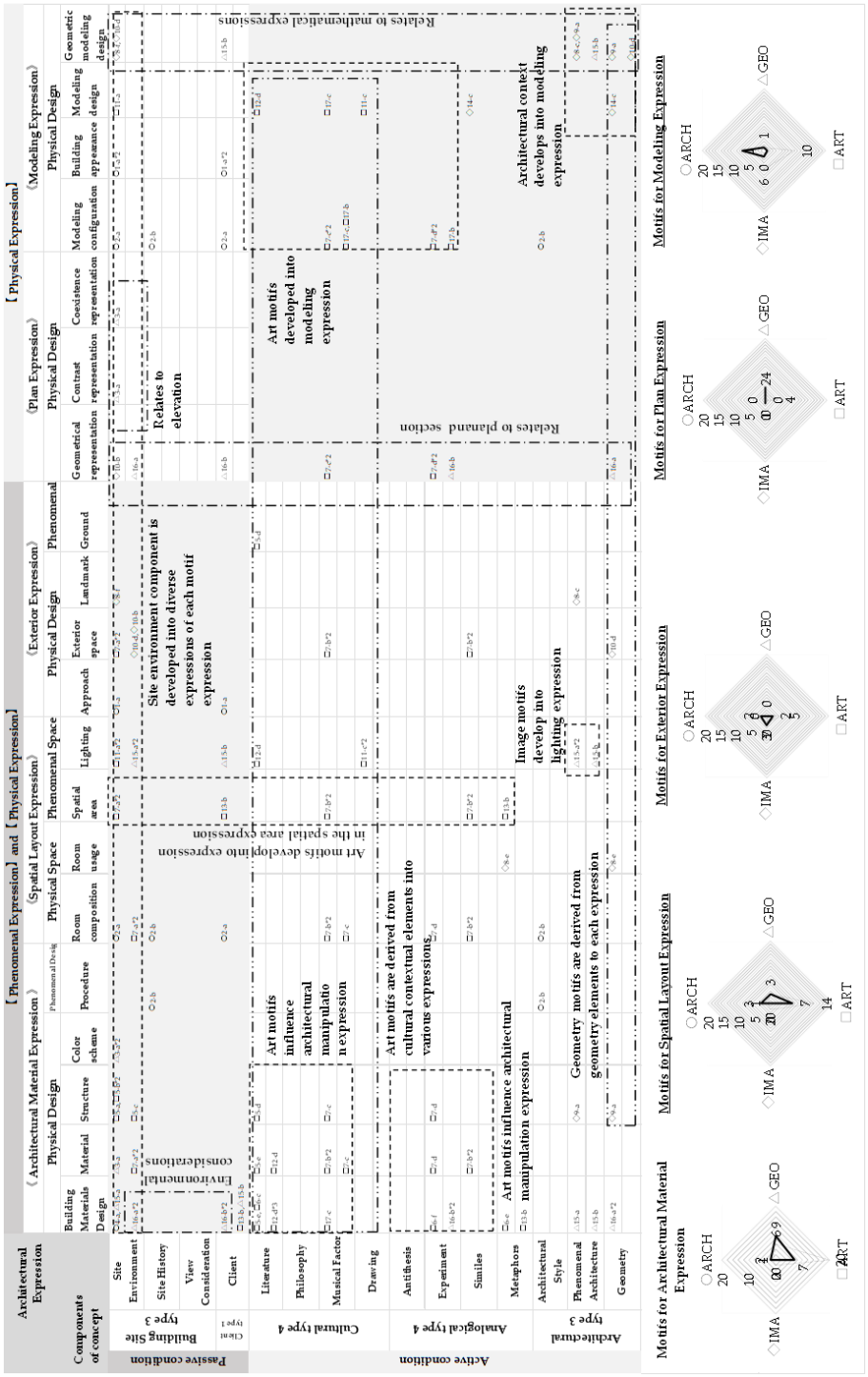
Table 4. The relationship of motif and architectural expression



Artistic motifs were also found in active conditions, so the purpose of the design was based on the designer's own ideas. Next, a radar diagram of the motifs in Exterior Expression is presented, showing the different trends between the concept components in the passive condition and the active condition. First, the motifs of architecture, art, and geometry were equally likely to be present in the passive condition, while the motifs of art and geometry were more likely to be present in the active condition. The next section discusses motifs in architectural Plan Expression. A

radar diagram of the different tendencies in the passive and active conditions is presented. In the passive condition, the motifs are specialized in image motifs, while in the active condition, the motifs tend to be artistic motifs.

Finally, there are motifs in Modelling Expression. A radar diagram of the different tendencies between the passive and active conditions is presented. The passive condition is characterized by architectural motifs, while the active condition is characterized by artistic and geometric motifs. Although each of the five forms of expression has its own characteristics and outcomes. The artistic motifs are considered to be derived from the concept components under active conditions. This suggests that thoughts and ideas related to art are motifs that spring from the architectural thinking and identity cultivated by the designers themselves. This study has analysed the discourse written in the design of Steven Holl's residential works to extract concepts, motifs, and architectural expressions, and has clarified the relationships among them. Many previous studies have described design philosophies cantered on phenomenology based on Holl's works. Ono's research clarified the structure of Holl's words, which indicate a methodology for speculating on architectural design. In Ono's study, Holl's architectural design methodology shows the influence of Merleau-Ponty's philosophy, and Ono found that illustrating Holl's phenomenology-inspired design concepts. The contribution of this study has been to confirm that the relationship between concept and architectural expression from Holl's discourse on residential works. Ono's research discussed Holl's design concept itself, focusing on phenomenology, but this study differs in that it deals with the concept text of the residential work and focuses on the relationship between Holl's design ideas and the architectural expression in the specific text.

Next, I will discuss the usefulness of the research methods used in this study. The KJ method is an efficient and effective method for extracting important elements of discourse expression. Matrix analysis, which was used to clarify the relationship among the extracted elements, was a useful research method in that it facilitated the comparison and evaluation of many elements together.

CONCLUSIONS AND FUTURE WORKS

In this study, the relationship between concept and architectural expression is discussed from the viewpoint of textual expression. However, it will be possible to examine how the relationship between concept and architectural expression is changing not only in terms of discourse but also in terms of sketches, models, and drawings. In addition, this research can be applied to identifying the design design methodologies of other architects.The purpose of this study is to examine the relationship between the contextually expressed concept and the corresponding architectural expression in Steven Holl's residential design, and to clarify some aspects of architectural expression. It has

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been found that the design concept is composed of 15 elements from five context type: building site type, client type, cultural type, analogical type, and architectural type. From the design concept, motifs were extracted as the subjects that motivate the creation of residential works. Each motif was grouped by meaning, which could be summarized into motif expressions of architecture, image, art, and geometric forms. In order to find out how motifs are expressed in residential works, a survey was conducted on architectural expressions corresponding to the motifs. The architectural expressions could be summarized into five categories: Architectural Material Expression, Spatial Layout Expression, Exterior Expression, Plan Expression and Modelling Expression. An L-shaped matrix diagram was created to explore the relationship between the architectural expressions corresponding to the motifs and the components of the concept, and the characteristics of each motif expression were clarified. It became clear that the Holl was a manifestation of a unique and experimental architectural concept that incorporates cultural subjects and works of art into the composition of its design purpose in a variety of architectural expressions. The findings in this study will contribute to the diversity of concepts in architectural design and to the cultural appeal of architecture.

Holl will continue to be increasingly active and will continue to be culturally recognized as one of the architects influenced by phenomenology. Future study will focus on how phenomenology has influenced architecture and the relationship between concept and architectural expression.

NOTES

1. The symbols used in Figure 2 have the following meanings

【】	Expression Classification
《》	Expressions corresponding to motifs
『』	Keywords for sentences expressing motifs
＜＞	Rationale and reasons for supporting motifs
[]	Text quotation number of sentence expressing the motif

REFERENCES

Architectural Institute of Japan (2012) Survey / analysis method for architecture / city planning [revised edition]Inoue Shoin. (in Japanese)

Futagawa, Y. (1996). GA DOCUMENT EXTRA 6 STEVEN HOLL, A.D.A.EDITA TokyoCo.,Ltd

Futagawa, Y. (1999). GA DOCUMENTS 58, A.D.A.EDITA TokyoCo.,Ltd

Futagawa, Y. (2000). GA DOCUMENTS 61, A.D.A.EDITA TokyoCo.,Ltd

Futagawa, Y. (2001). GA DOCUMENTS 66, A.D.A.EDITA TokyoCo.,Ltd

Futagawa, Y. (2004). GA DOCUMENTS 79, A.D.A.EDITA TokyoCo.,Ltd

Futagawa, Y. (2004). GA DOCUMENTS 82, A.D.A.EDITA TokyoCo.,Ltd

Futagawa, Y. (2009). GA DOCUMENTS 110, A.D.A.EDITA TokyoCo.,Ltd

Futagawa, Y. (2012). 1975-1998 Volume1 STEVEN HOLL, A.D.A.EDITA TokyoCo.,Ltd

Futagawa, Y. (2012). 1999-2012 Volume2 STEVEN HOLL, A.D.A.EDITA TokyoCo.,Ltd.
Futagawa, Y. (2012). GA HOUSES 125, A.D.A.EDITA TokyoCo.,Ltd
Futagawa, Y. (2013). GA DOCUMENTS 125, A.D.A.EDITA TokyoCo.,Ltd
Futagawa, Y. (2015). GA DOCUMENTS 132, A.D.A.EDITA TokyoCo.,Ltd
Futagawa, Y. (2015). GA DOCUMENTS 134, A.D.A.EDITA TokyoCo.,Ltd
Futagawa, Y. (2015). GA HOUSES 141, A.D.A.EDITA TokyoCo.,Ltd
Futagawa, Y. (2016). GA DOCUMENTS 137, A.D.A.EDITA TokyoCo.,Ltd
Futagawa, Y. (2017). GA DOCUMENTS 142, A.D.A.EDITA TokyoCo.,Ltd
Futagawa, Y. (2018). GA DOCUMENTS 146, A.D.A.EDITA TokyoCo.,Ltd
Futagawa, Y. (2018). GA DOCUMENTS 147, A.D.A.EDITA TokyoCo.,Ltd
Futagawa, Y. (2019). GA DOCUMENTS 151, A.D.A.EDITA TokyoCo.,Ltd
Futagawa, Y. (2019). GA DOCUMENTS 153, A.D.A.EDITA TokyoCo.,Ltd
Futagawa, Y. (2019). GA DOCUMENTS 154, A.D.A.EDITA TokyoCo.,Ltd
Futagawa, Y. (2021). GA DOCUMENTS 157, A.D.A.EDITA TokyoCo.,Ltd
Futagawa, Y. (2021). GA HOUSES 175, A.D.A.EDITA TokyoCo.,Lt
Futagawa, Y. (2022). GA DOCUMENTS 160, A.D.A.EDITA TokyoCo.,Ltd
Futagawa, Y. (2023). GA DOCUMENTS 162, A.D.A.EDITA TokyoCo.,Ltd
Holl, S. (1996). ANCHORING, Princeton Architectural Press
Holl, S. (2000). PARALLAX, Princeton Architectural Press
Holl, S. (2007). House: Black Swan Theory, Princeton Architectural Press
Holl, S. (2011). STEVEN HOLL SCALE, Lars Mueller
Holl, S. (2018). Seven Houses. Rizzoli International Pub INC. USA.
Holl, S. (2019). COMPRESSION, Princeton Architectural Press
Kawakita,J. (1967). A Creative Method. Chuo Koron.(in Japanese)
Kim, Jun-Sung ; Chung, Tae-Yong. (2013). A Study on the Steven Holl's Phenomenological Approaches in Architecture - Focused on the Phenomenological Characteristics of Nelson-Atkins Art Museum -. Korean Institute of Interior Design Journal, Volume 22 Issue 5, Pages.88-95, 2013
Kinishi, K & Inoue, A. (2010). A Study on Stairs in Houses Designed by Steven Holl : Through the Comparison with Le Corbusier, Mies, Wright and Aarto. Architectural Institute of Japan, J.Archit. Plan., AIJ, No.617, 201-206, March.,2010
LvXiaoHui. (2003). A Study on Steven Holl's Ideology about Architectural Phenomenology and His Works. Xi'an University of Architecture and Technology, Master thesis(Unpublished)
Ono, I. (2007). Architectural phenomena in Steven Holl. Architectural Institute of Japan, J.Archit. Plan., AIJ, No.617, 201-206, Jul.,2007
Sasaki, Y.& Yamada, S. (2006). A Relational Conceptions between Programs and Architecture in Design Conception of Japanese Contemporary Houses. Architectural Institute of Japan, J.Archit. Plan., AIJ, No.608, 173-179, Oct.,2006
Shikasyo, T; Shiozaki, T & Okuyama, S. (2013). Design theme in houses with piloti by contemporary Japanese architects. Architectural Institute of Japan, J.Archit. Plan., AIJ, No.684, 355-364, Feb.,2013
Shiozaki, T. ; Nakajima, T. & Okuyama, S. (2007). A study on the context and the form of architectural thoughts with geometrical figures. Architectural Institute of Japan, J.Archit. Plan., AIJ, No.615, 53-60, May.,2007
Steven Holl : Steven Holl : Making Architecture exhibition booklet, 2019 Steven Holl : Steven Holl : Making Architecture exhibition booklet, 2019 23.
Tajima, E. (2007). A study on the Design Method of Steven Holl : Through the Analysis of his Watercolor Sketches. Architectural Institute of Japan Conference Academic Lecture Summary,605-606

DOI: 10.15320/ICONARP.2024.311

Tait, J. (2024). The Architecture Concept Book : An inspirational guide to creative ideas, strategies and practices, Thames & Hudson Ltd

Ching, F. (2014). Architecture: Form, Space, & Order, John Wiley & Sons Inc

Bachelard, G., Danielewski, M. & Kearney, R. (2014). The Poetics of Space

Curtis, W. (1996). Modern Architecture Since 1900, Phaidon Press

Resume

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