

Notes on “Étude and Arrangement for Architecture”

In search of atmospheric architecture for the joy of building the future

建築のための習作と編曲 - 未来の楽しい実現のための雰囲気建築を探して

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Abstract

Both study and arrangement are a musical composition method. This paper discusses the relevancy to apply them to architectural design. Especially keeping eyes on the current milieu of architectural design that make use of sophisticated technologies, complex aesthetic logics and far developed architectural program.

Study of musical works, which was first called Übung in German and then Étude in French, is an instrumental musical composition for developments of the skill to play musical instruments. Arrangement of musical works is the method to create new artistic quality out of a existing piece. This paper discusses the newly defined architectural design method that are inspired from the musical methods. The methods were tested through the Research by Design program of Uehara laboratory from the academic years of 2018 continuously. Currently, modifications are carried out.

The paper discusses relevancy of the methods as inspiration to architectural design skill developments as well as extending knowledge and understandings on built works. In doing so, it takes integral approach of to give focus on both teleological frame as well as reasoning for design decisions.

1. Introduction

Is there any good reason to create a special training method for artistically designing architecture? In the age of AI to design houses, is it innovative to educate human-being for designing artistic architecture? The answer is yes, and here is why.

The first condition is about the role of architecture on the process of urbanization. We know that Japanese provincial cities have demographic problems of aging; few post-war children choose to reside in his birth house. Japanese *Furusato*, which means *old sod* in English or *Heimat* in German, have strongly associated with architecture of early-modern period. Currently, many early modern buildings are replaced by post-war buildings, meaning

finding authentic *Furusato* in Japan had become a scarce event. By reflecting a common notion that, in Japan, an ideal home is found in a building where synergy of the artifice and the memory is materialized, losing imaginative link with memory is a serious matter for urbanization. Even if men like to have his/her place to go back to, we now know that the most post-war house he/she grown up provide no reason for their return. Even if we know that early-modern house foot the bill, at the same time, prefabricated post-war houses were mightily popular, because it is the commodity for comfort, it sells, it provides harmless and reasonable environment for a family life. Yet, we know that this situation concludes that the post-war house cannot be the birthplace even for the forthcoming generation. When our landscape is filled with the houses that are empty, what is the future? Obviously, architects must be resourceful to shape *the future* house with contemporary beauty as the attractor to regional life. It is safe to say that, hypothetically, architectural design education has roles to disseminate the skills to design a house as architecture for the generations to come. It means to provide joyous house of being there, a place that provide the joy for building the future. For that, architect must be able to imaginatively go beyond convention. What motivate pupils the most to devote his energy to the learning? A lesson that allows them to develop their skill to be imaginative shall be the one. Artistic training on architectural design is therefore important.

The second condition is about the ‘exhaustive’ process of architectural planning. Post-war architectural education in Japan made a format to design buildings from spatial relationships on a blank lot, within legal building codes on volumetric restrictions, but not about deductively teaching forms. It was formed around the knowledge system called *Kenchiku-Keikaku* (meaning discipline of architectural planning), which originates from the government lead research into the public housing solution for housing shortage of World War II. The discipline further worked to

provide jurisprudence of building codes by running experiments on emergency evacuation and so on. This discipline implemented a formidable role in rooting functional approach towards architectural design in the post-war Japanese urbanization, definition of local as well as national building codes. This discipline places 'use' in its center and structures to deductively conclude building form from it. The architectural design that the architectural planning discipline tends to produce often resulted in a composition of boxes based on rigid steel reinforced concrete frame construction system (RC Rahmen). The line of logic is clear as it formulates the answer as to cast modern functional demands into a sound physical construction system against seismic forces. The issue is that this formula do not include methods to work, evaluate, infer on reasoning for mental values: beauty, memory, meaning, artistic value or concept that an architectural project can carry. Facing the on-going depopulation of provincial cities, it is safe to say that pursuing architecture that are loaded with such values can be the concrete initiation to construct reason calling population back to a provincial city. To formulate architectural design reasoned not only on function, but also on mental values have clear social role.

1.1 Reference to the music

The study of musical works, often called *Étude* in French, is made to provide seductive tunes to motivate the players training his/her skills to play musical instruments. The arrangement of musical works turns existing musical piece into a new artistic piece by re-conceptualizing the composition through e.g. changing the musical instruments and/or the formation of the instruments that original works had specified.

In the early 19th century, Johan Sebastian Bach wrote *Übung* for many musical instruments that are played in church or in the concert. Later on, the method increased its demands as piano became a popular commodity. The spreading of piano even in a remote village accompanied the need for an accessible method for training: *Étude*. Later, this didactic study pieces became relevant for players as well as composers. By the mid 19th century, the study had turned itself into a work of art that are also played in the concert with public audiences. The study pieces by Franz List or Chopin are said to demand novel skill to play. The study was played and composed also in the 20th century by known composers such as Claude Debussy, Leopold Godowski and Sergei Rachmaniroff.

Arrangement, on the contrary, had more professional reasons for its spreading. Several centuries ago, musical concerts were not held as often as it is now, therefore it was difficult even for professional players to have full knowledge on the recent compositions. The scores on paper were sold, but as the amount of printing being limited, most players did not possess the full set of scores for a large formation. They only knew their part. Here, there were two options for them to develop their understandings substantially; either by finding occasion to listen to the music in full formation or to play arranged piece that are for a smaller formation, even for a single piano. Arrangement also worked to spread folk music to a larger circulation by being arranged by the hands of known composer: Beethoven (Tsuchida 2).

From here we can establish idea to make both study as well as arrangement were relevant for architectural practices, especially in a provincial set-up where the chances for actual architectural experiences are scarce, also, relevancies to invent study methods for architectural design could be found. Firstly, on the effect of spreading the new teleology on architectural design. I am in the process to establish the Task Revealing Method in the choice frame of Research by Design, to visualize the effects that such an esteemed technological development could achieve in a form of actual architectural design. Secondly, the methods can provide the desired design skill developments as well as disseminating the understanding of current architectural culture, in a well- reasoned teleological frame.

2. The frame

Uehara laboratory runs Research by Design courses for architectural design for both bachelor as well as master's degree curriculum, that chiefly target developing modes of cohabitation of Japanese provincial cities. This paper is a note on its recently experimented pedagogic methods addressing architectural design as the control method to stimulate well-being of provincial cities; searching for an innovative method to induce a new links between socio-urban findings with artistic sphere of architectural design.

Architectural design consists of skills to define synergy of diverse systems; human needs, construction, material, forms and territory into the place making; as the knowledge system to create pleasant sphere to which inhabitants would want to come back often. The target of the study method, that this note introduces, is a didactic method for learning to artistically design architecture focused on a single system, such as on construction or on

program.

The most common design education makes use of practical parameters to define building form, for example, roofing system that define the inclination of a pitched roof. There is no standard method to learn artistic design skills, even for a fundamental skill, such as coordinating the system of territorial organization and beauty. Current socio-economic condition forms the cause here as well. Modern architecture unfolded free plan through the hands of Le Corbusier, and Raumplan by Adolf Loos. Current building-based economy had firmly stimulated the building industry for the mid-class' appetite to own one. Yet therefore it turned architecture more into commodity, reducing the importance of finite beauty. Post-modern industry turned its focus more on the larger popular market and from here the potential of fast evolving modes of simulacra had appear. Yet, the recent developments on sustainability and the outbreak of the Covid-19 epidemic refreshed demands to design the synergy of new systems of habitation and artistic, attractive sphere. This allows pupils finding his motivations for searching new form of synergy beyond the convention.

It is safe to say that the recent architectural design unfolds around the urbanization. Pupils in smaller provincial cities have lesser occasions for accumulating bodily experiences on diverse architectural trends. It is therefore important to stimulate pupils with alternative methods and to offer innovative ways to come up with new idea. The two learning methods that are introduced here, study and arrangement, are designed for it, by focusing on the skill developments to capture and to express the architectural qualities by analytically scrutinizing built projects and achieve ideas by manipulating their knowledges on architectural construction and program. The methods especially help pupils to critically understand the importance of setting their own targets and making choices by exercising the reasoning. The study method, that this paper reports, provides pupils with chances to work on a single architectural system such as territory, program or form, separately, one at a time. Arrangement method provides occasions to critically rethink the target and the reasoning of a built project. The process guides pupils to generate alternative architectural design.

2.1 Teleology

Teleology is the frame of thoughts promoted by Greek polymath Aristotle: telos. It is discussable if teleology still is an accurate paradigm on our presence, because the logic

acted as if any object in this world possesses destiny of its presence. None the less, on the horizon with clearer pragmatic aim, to know or to be shown where our urban habitat is heading to, in the frame of teleology, is worthy.

For architects, to be equipped with the teleological logic is useful in extending technical capabilities. Especially for those high-profile competition projects or the project organized with skilled engineer. In such a project, an artistic impact plays crucial role as the proposal requires to satisfy the public who seeks the solution that reveals the synergy of cutting-edge engineering, aesthetics, and practicality that promises the stunning future for the urban habitat.

Sydney Opera House by Danish architect Jorn Utzon became the face of Australia and became the model of the public building on the waterfront. The beauty of the proposal pulled the ambitious engineering developments; the technical innovation on large concrete shell construction was necessary. In the modern period, architect Mies van der Rohe made use of railway technology of Midland America for the glazed steel curtain wall system for the Lake Shore Drive apartment in Chicago. architect Frank O. Gehry, shaped the future of art museum based on a private collection for the provincial city by the Bilbao Guggenheim Museum. The practical application of expertise of the computer-aided advanced geometry control method made the construction possible. Architect Frank O. Gehry himself had set-up the new drafting service firm that supports creating architectural shop drawings for other architects. He did stimulate disseminating the architectural application of Computer Aided Design software such as Dassault's CATIA, originally made for air crafts design. The firm supported realization of other complex project designed by high profile architects such as Zaha Hadid, Peter Cook and Coop Himmelb(l)au. More recently, architect Toyo Ito in collaboration with Mutsuro Sasaki extended the seismic isolation technologies by integrating an advanced seismic force model, the computer simulation technology, Japanese ship building technology and the architectural concept successfully asserted the value of this highly innovative project towards wider public, politics and scrutineering of governmental administration. I personally believe this Sendai Mediatheque is worthy of National Treasure. These projects had proven its worth in actu. In these ways, ambitious architectural projects always stimulated surrounding industries. The crux of the matter is the artistic qualities of these architectural projects convincingly revealing the future, that it is an achievable

target. The beauty mobilized the diverse disciplines in one direction, it publicly disseminated the the ambition of the city and successfully called for proactive, self-motivated participations.

It is not a linear logic to apply the logic on housing. The scale of investment of a house is much smaller than these public buildings. Yet a house is the largest object that an individual can purchase in his life. Therefore I believe it is crucial to ask if our recent house, of 'house maker', is the future house for our children. Is our house worthy for the next generation, to come back to 'our' home to make their living in it? Can architect build such a house; this is a crucial question for an architect.

In our daily life, technology industry booked success by building the home devices which appeared as the dream machines in the post-war Sci-Fi novels; television-telephone, mobile telephone, tablet computer, the internet, Smart House, electric car that speaks and runs by itself as if it were an android. The 'illustrated' vision induced unprecedented disseminations. In the world of architectural design, a modern glass house on stilts figured the post-war dreams that promoted the application of steel and large glazed plane in housing. The post-war Japanese house shaped as a concrete urban bulwark made raw in-situ concrete house in mode world-wide. Both models were repeated, their simulacra had become the widespread earmarks of a cosmopolis internationally. In the age of sustainability, current architects are in the position to show the cohabitation of tomorrow. Should architects fail to act teleologically, life in a hyper-dense super-aging metropolis might be nothing but suffocating.

2.2 Reasoning

Buildings are built, in the most cases, with practical reasoning; for securing a place to exhibit works of art, to guard a place where one can sleep at ease, to reside, to work and so forth. A building project that are charged with artistic programs are demanded by those who aims to make statement on his/her presence more than a practical solution. Yet, most of the houses are built when men plan the future with the perspective to materialize new value to our social life. Thus, the reason for constructing architecture is the future. Men dwell to build the future that he/she believes, therefore, when a house is built, what the man saw about the future is trace-able through this built house. A house is a result of what men project on our future. This is how I apply Heidegger's philosophy as the ground of an architectural project. Architecture is the largest crafts

that a human being can make, therefore reasoning is crucial for an architectural project. A house is where the presence of a living man become visible, through what he/she produces, what he/she enjoys, what he/she disposes and how he/she chooses. Thus, a house is a culture, to which architecture is accountable for artistic qualities that motivate the engineers pushing the boundary and builders to overcome the issues. Upon delivery, it ultimately satisfies the entire team of participants.

There is fine line of distinction between work of art and architecture. Artists do not have building codes to obey, yet architects are. As architects must be accountable creating places for human-being against rain, sun, heat and cold or snow, the design decision needs the reason for it. As delinquencies on the property is an issue, decisions on materials are pragmatic. As energy performance has become the condition for the sustainable future, the implication on building physics grow larger for the design decisions. Even in these conditions, work of art could very well be the part of abductive reasoning for the future, because it can present the likely future mode of our presence. Equally, work of art could be the part of reductive reasoning as it, on the contrary to the previous example, shows an un-true mode of our presence. Artistic quality of architecture gives inhabitants a moment to reflect their reason of presence and feel, confirm and affirm his/her role in the world where he/she lives in. For architects, work of art may not be the answer to his task. Yet, to find the answer beyond convention, or the innovative way to solve the issues, architects often refer to works of art. Architects refer to work of art to seek proper expression, on its transparency, on its openness and on its durability. Therefore, it is safe to conclude that works of art support the work of architects. Works of art is valuable to architect, especially because it could be reductive.

A brilliant example of this horizon is the statement made by worldly known architect Rem Koolhaas: "We are living in an incredibly exciting and slightly absurd moment, namely preservation is overtaking us" (Koolhaas pars.12). In the age of sustainability, in the current milieu, human emotion prefers keeping existing structure, even if it needed to be rectified, even if it were built by fallacious reasoning. Architects are under pressure in creating the future vision. Therefore, the methods to find the well-reasoned form that present a singular teleological frame is crucial.

2.3 The Choice Frame

A contemporary Japanese provincial cities forms her environment through early-modern as well as contemporary buildings. Any architectural project is the result of its choice between the two modes of architecture. Therefore, it is safe to say that urban dwellers in Japan lives to make the cultural choices between the early-modern and the contemporary period. Rice-based-economy of the early modern period can be strongly associated with Japanese atmosphere, whereas that of contemporary period associates urban culture of, let us say here, service-based-economy. An early modern city was built out of timber whereas the contemporary cities are of machines, steel, glass, and concrete, lets us call the latter *metal*. In terms of building, it is about low-rise versus high-rise, of urbanity on foot versus rapid transits. Urban dwellers, especially those who resides in provincial cities loves both spheres. Timber versus metal; in trading, in residing, in enjoying their free-time, urban life in Japan is about continuous choices between the two atmospheres. Some names the tourist industry as the future of Japan, the other believes that small to mid-size creative industries to be the body to actively generate sellable value world-wide. Urbanization works to produce both spheres and architecture shapes them in real.

The choice frame is saturated wide-and-deep into Japanese urban life: Popular urban interiors. Sake prefers traditional timber column, while others promote stucco walls: beer, wine, or whisky. These two trends clearly separate their spheres. Whereas urban hotels do prefer metal. In this frame, most current architects are expected to choose one out of the two, rather than promoting his new version. Should we see the separation between the timber and the metal sphere remain as status quo or venture to redefine new trends? In this horizon, works of Japanese architects firm SANAA are unfolding curious trends. Just one decade ago I have written thesis that SANAA operated in the “mode” (Uehara 94) of “critical functionalism” (Uehara 94). More recently the works unfolded towards the direction to make more use of the construction system that belongs to the timber frame construction, albeit in the metal mode. This is curious as it appears to me that urban dwellers love to think and talk in the atmosphere of the fusion. The recent architectural trends are unfolding its variations under the choice frame. Therefore, I believe it is safe to say that architectural education can proactively promote this mindset to seek new balance between the modes of the early modern and

the contemporary. Architects therefore work to rewrite preconception on timber as well as metal sphere. By finding a new mode of architectural construction that belongs to both spheres are the way forward for the next generation urban environment of Japanese provincial city.

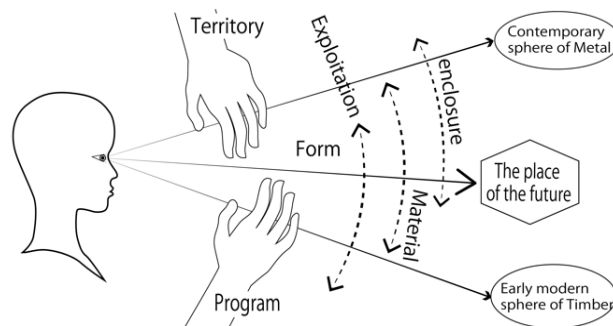


Figure1. The figure describes The Choice Frame Design. The frame is the state where men live to choose a favorable sphere between timber frame construction that embodies social sphere of early-modern Japan and metal walls which are more contemporary and non-place. Designers produce his answer by manipulating the practical social parameters.

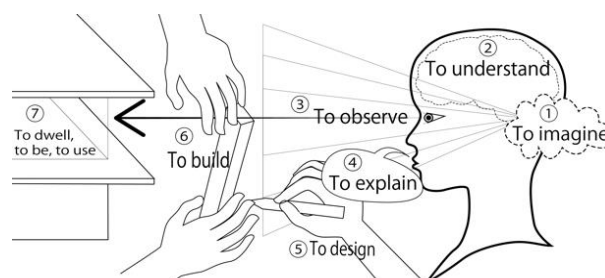


Figure2. Human realizes seven different architectural presences. Even if a man faces one specific building, the presence of architecture for him appears in different mode: Imagination, understanding, observation, explanation, design, building and inhabiting. The methods describe in this note addresses the skills to control each mode of presence.

2.4 The seven modes of architecture and seven methods of design

Men sees presence of architecture in different modes. The Choice Frame Research by Design program target to provide specific trainings for each mode. The study and arrangement method are the parts of larger design skills that allow architects to capture his architectural conception and translate it to actual architectural construction. Each method is firmly founded on the skill to analyze a built architectural project. In this process, presence of architecture changes. From abstract to concrete, the Choice Frame identifies the following modes: 1) imago, 2) understanding, 3) observation, 4) explanation, 5) design, 6) building 7) habitation. These seven ways of recognizing architectural presence produce seven different descriptions on architecture. This research program frames seven methods to translate each of notional

presence of architecture into architectural projects. The methods at this moment are called as follows: 1) poetry, 2) arrangement, 3) study, 4) programming, 5) drawing, 6) territory and 7) theory. Even if real architectural presence is much more complex than this model - as it can include human psychology, memory, and other social values - it is safe to expect that the distinctions can reduce confusion on approach towards design.

Because this research focuses on the methods to train artistic skills to design architecture to overcome the issues of today, it shall present pupils the way to go beyond convention. This needs synergy to handle the seven modes of architectural presences, by knowing his tools and by knowing the way to understand the demands fundamentally, find the alternative form inventively and to explain it with convincing logic of reasoning.

3. The Method

As described in the section two of the chapter two, this note is made to enhance the architects' skill translating human needs into architectural form. The method separates skills in seven disciplines and allow training separately. In each discipline, the method can train architects to transcribe his architectural concept into drafted architectural drawings, models or other medium. The methods consist of four steps.

The first step is to find one architectural project that comes closer to the architectural atmosphere that the pupils' pursuits. And to draft the architectural drawings, such as plan, section, elevation, axonometry, perspective, and a maquette of the project. The second step is to alter one specific architectural system into more towards your concept by replacing, changing and/or transforming the system. For the curriculum, the construction structure was chosen as the system to study, and for arrangement the program. By choosing construction structure as the system to manipulate, it keeps the rest of system intact which makes the training simple. By choosing program as the system, arrangement requires a higher understanding and manipulation skills of on architectural systems. It requires to define the criteria to measure the effects. The third step will be to construct an architectural maquette out of process two and analyze the outcome if it had achieved the targeted atmosphere. The fourth step is to sort out the findings that the pupils had found on the way, through which pupils are guided to reformulate the targeted architectural concept into a more workable concept. Through this process pupil learns how to set an achievable

goal, which is especially useful for arrangement training.

For undertaking the methods, the experiment detected points to pay attentions. Firstly, it is important to define the atmosphere that the pupils seek, and to choose a built source project with clear architectural atmosphere that the pupils could find the atmosphere he/she seeks. It is important not to choose an architectural masterpiece that appear too perfect to change. The effect of training is higher when the source project satisfies these two points. The second point of attention is to understand that this method is designed as an integral part of the Task Revealing Method (TRM) that forms a part of the Research by Design program. This means the method produces questions on its way, in terms of technical, engineering or other issues that needs to be solved. TRM is designed to find these issues for the architectural project to direct the near future technical developments.

The method is highly relevant to architectural practice where architects have choices of an architectural system out of diversity. The target of the arrangement is to achieve crystal clear architectural design that the practicing architect pursuits on the basis of existing built works that comes closer to his idea.

3.1 Study method

One of the limitations that pupils face during their study is the lack of occasion to know built architecture through personal experiences. This is especially the case for the pupils who study in a provincial town. On top of this, pupils often are unaware of the importance of evaluating their own preconceived notions on architecture. Pupils are equally unable to evaluate the effects of their instinctive idea, if it practically induces innovation. It is therefore important for teacher to address them. The study method can be applied for this purpose by providing them with opportunities to experience architecture on paper; but more intensely than passive viewing, to provide the method through which the refinement and the subtleties that architecture depends on.

During the academic year of 2021, the program tried out the study method that focused on the structural system of an architectural project. Structure is one of the most crucial structure that define the architectural atmosphere. Structural system defines construction systems in general of built architecture in its building process, its spatial structure and further it orders the use of built architectural places. It is therefore fundamental for pupils firstly to understand the quality of the source project and then to

target structural properties that could improve it.

Through designing an alternative structural system that replaces the source project, this study method creates chances for the pupils to manipulate atmospheric quality. In other words, this allows pupils to understand the construction system as the parameter for atmospheric quality. The outcome could form the target of the technical, engineering developments for the architectural construction.

One example of such exercise can present pupils an occasion to control the openness of a house with inspiring spatial quality materialized with a traditional timber frame construction system. Then the pupils can be asked to achieve much more contemporary spherical qualities by replacing its construction system with a new one, for example, the seamless steel roof construction system that system of steel walls and tiny steel columns, that split loads in three directions; which SANAA had often applied. On its way, pupils will learn the limit of the traditional system and the quality that it provides. The pupils will learn the synergy and articulation of spaces. The other one is to focus on an innovative application of traditional building construction methods, such as Hanegi, or timber lever construction system, of traditional timber frame construction. For example, impressive spatial quality that a set of hidden large timber lever creates. An intricate construction system that provides visually pleasing effects. Student will learn that an overly simplified alternative can harm quality thereby understand the essential importance of forming an architectural concept and to translate it to a firm architectural atmosphere.

3.2 Arrangement method

An arrangement method on architectural design could provide pupils for an occasion to reorganize architectural design based on its "use". During the academic year of 2021, one arrangement method was experimented to address architectural program as the parameter of manipulation.

Just like arrangement of music transform original music tune into other by formation of instrument musicians or how musicians play, the experimented architectural arrangement method changed architectural atmosphere by handling what people do in the source building; by changing its program. The arrangement in music keeps the original music piece recognizable, but audibly changes the impression of the musical piece into the other. The arrangement method, that this note experiments, keeps the impression of architectural atmosphere, but it offers

chances to alter an inspiring architectural source project into a project that pupils feel conceptually closer to his target atmosphere by altering program construction. On its way pupils will investigate the synergy of systems that the source project has. This is important for achieving live understanding of architecture. It offers the pupils chances to refresh their preconceived notions on the historical properties.

Because in the current mode of architectural design pans around the program of demands, changing program of a building demands higher skills in working out the transformation. A change in program requires changes in almost all aspects of building starting from circulation system, enclosure system, construction system and territorial system. The consequence is therefore large. The training therefore will be to understand the systems of the source project and to alter only the program while maintaining all the other systems. It is important to clarify, the effect of the training is larger when the atmosphere of the source project can be maintained.

During the academic year of 2020, one exercise took a contemporary business HQ standing on a hill side. The process replaced the office program with a series of new program: car dealer, restaurant, skateboard center and hotel. After completing the program arrangement it extended to the construction arrangement. The exercise replaced the load bearing construction system from RC Rahmen into Vladimir Shukhov's hyperboloid structure, it altered the floor plans and principal composition of the entire building by diversifying the typology of bridged office into a composition of a series of levers.

	2020	2021
poetry	4	7
arrangement	1	9
study	1	7
programming	5	7
painting	3	1
territory	NA	1
theory	1	NA

Table1. During the academic year of 2020 and 2021, in total 8 study training and 9 arrangements trainings were carried out. Other trainings are still in conceptual phase of the design for which no comparable effects could be observed.

4. The observed Effects

During the academic year of 2020, the method was offered to one Master diploma students for his Research by Design project. Arrangement project had gained one results and one for study. During the academic year of 2021, these methods were implemented for the graduation thesis curriculum of Uehara laboratory. The method was applied to define the target for pupils' projects rather than offered as a pure training method. The timing of the

carrying out each method was defined as according to the needs of pupils. The curriculum made use of the study method was carried out during the first phase of the research trajectory, and the arrangement method in the

Study

case	curriculum	source builsig	System	result building
1	M	Temple	Construction	house
2	B	Guest House	Construction	guest house
3	B	house	Construction	house
4	B	chapel	Construction	mosque
5	B	house	Construction	house
6	B	house	Construction	community house
7	B	collective house	Construction	collective house
8	B	house	Construction	house

arrangement

1	M	HQ office	Program	complex
2	B	small museum	Composition	collective house
3	B	museum	Program	collective house
4	B	house	Program	chapel, mosque
5	B	cathedral	Program	Cathedral
6	B	ocean swimming pool	Program	indoor swimming pool
7	B	lage gallery	Program	cathedral
8	B	pavilion+house	Program	funeral hall
9	B	funeral hall	Program	funeral hall
10	B	house	Program	school

programming

1	B	Guest House	Construction	guest house
2	B	house	Construction	house
3	B	chapel	Construction	mosque
4	B	funeral hall	Construction	house
5	B	house	Construction	community house
6	B	collective house	Construction	collective house
7	B	house	Construction	house

painting

case	curriculum	source artwork	System	result building
1	M	painting Dali	Composition	collective house
2	M	painting Dali	Composition	collective house
3	M	painting Dali	Composition	collective house
4	B	painting Paul Klee	Composition	collective house

territory

1	B	funeral hall
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theory

1	M	cooperative house	surrealism
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Table2. The complete list of trainings that Uehara Lab has carried out during the academic year 2019 to 2021.

second phase. Both methods were offered to seven students and had 9 results from the arrangement and 7 result from study method.

4.1 Teleology and reasoning

Here below I note two discussion points that I observed through the implementation of the study and Arrangement methods.

The effect of the method is dependent on the cultural frame that defines the reasoning of the design decision. Based on my carrier as a practicing architect as well as an

educator based in the Netherlands, I recognize the differences between European and Japanese way to infer the design out of the given conditions. It is safe to say that in European Bachelor education, learning design is structured in a deductive reasoning and that of Japanese demands more degrees of inductive reasoning to pupils. European architectural culture is greatly deduced from its belief on large scale hierarchical spatial planning culture, that the urbanism rules architecture. With this I mean to say that the belief that an ideal city is built up with numbers of urban blocks which consists of housing. It believes that the system can generate the most desirable dense human habitat in the most effective manner. In Japan, men belief in a free development, a city that consists of architecture like loose bots; a city is composed of dense agglomeration of loosely standing architecture that allow flexible developments. It believes that the collection of dots can create diverse variations of rich urban contexts, and architects are the one to solve individually deviating issues. The performance of architects improves when a certain familiarity in working with inductive reasoning can be achieved. In most cases, a rigorous trust on deductive reasoning that induces European block city in Japanese urban context may results in discovering friction. Instead, an inductive reasoning, the logic to reason solution case by case under a global notion on urbanity, could make good use of practical urban aspects for architectural projects. For example, to design a house on a small land squared in the back of building site, publicly called a flagpole-land. A deductive reasoning, this site must be kept empty for public welfare, but in Japan, it often generates the earmak house. It is also noteworthy that Japanese urban dwellers

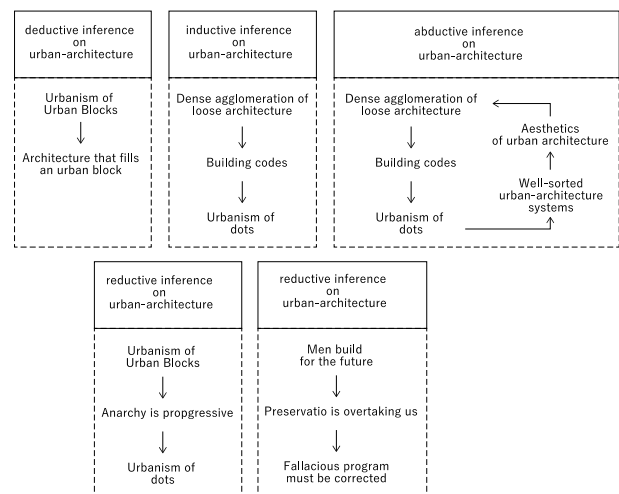


Figure3. The process of carrying out the methods gave the opportunity to discuss on the reason as to why the pupil choose one design above other. Here above is a sketch on the argumentative reasoning that were observed.

rate more about tiny differences within homogeneity more than a clarity, because the clarity may appear back-and-white monotony. For generating this nuances, inductive reasoning come handy.

4.1.1 Atmospheric mode of architecture

For developing skills based on visual leads, pupils showed better performance when the exercise focused on single architectural properties. In developing skill to think logically yet on artistic levels, pupils found it easier to work on atmosphere of the place. A discovery was made, that pupils tended to put architectural concepts forwards as the answer to the question that demands to describe his/her targeted atmosphere. Pupils often chose the source project constructed in timber and replaced the construction system with the mode of metal with the reason to create even freer floor plans that guarantee better technical insulations with the target to suit contemporary family life. It was rare to find “function” acting as the key criteria to choose alternative construction system. Functional reasoning, of *Form Follows Function*, did not play active role here, as it was rather about the effects of construction system to the atmosphere of the room, with the perspective that the new alternative atmosphere can be the better milieu for human activities in the room. This line of reasoning, that atmosphere help undertaking human actions in a room, seemed to find the way to control multiplicity of events in one room, from prayer to relaxation. Curious effects were that pupils targeted to design architecture with an atmosphere that could host public exchanges between the family members, the atmosphere respecting self-standing behavior of men.

It was found that the methods in combination with other systems can improve overall understanding of how to work with practical condition to design atmosphere that is beyond convention. As it was described in the section four of the chapter two, the research in its entirety develops other methodologies, such as *atmosphere*, *poetry*, and *programming*. During the academic year 2021, these methods were also tested and have achieved certain success. The findings from these experiments on *the seven methods* new form the ground to alter them further. Here, the research also found that it is indispensable that this specific process work in a similar fashion to the reverse engineering. By this I mean to say that pupils are expected to explain that transformed architectural is the right solution.

This note is extending the observation that I noted on the article *The Choice Frame for architectural; design education* published on June 2021 JIA magazine issue no. 387 (in Japanese).

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