The formation of mental processes creates new subjectivity in the architecture of Kengo Kuma and Toyo Ito, evoking uncompleted experiences of wonder, associated with Japanese cultural tradition.

From Japanese tradition towards new subjectivity in the architecture of Kengo Kuma and Toyo Ito

Kristina Fridh

The Japanese architects Kengo Kuma and Toyo Ito work with the formation of mental processes, which include spatial perceptions, but also haptic experiences. In this regard, they both connect to the Japanese architectural tradition. Therefore, it is interesting to compare their work, especially since visually the architecture of these two architects differs. However, through staged, unexpected and changeable experiences of materiality and spatial organisation – interacting in dynamic flow with the surroundings – similar mental processes are evoked when conceiving and perceiving their architecture that are an integral part of the ongoing processes to transform their architecture into 'abstractions'. The point of departure for being involved in these similar, processual stage-settings is the creation of uncompleted experiences of wonder; a void, which is recognised from the traditional Japanese expressions for beauty – *shibui* and *yugen* – and described by Soetsu Yanagi as a hidden, subjective beauty. This in turn leads to a new subjectivity in connection with traditional Japanese conceptions of space, where space is a subjective perception and a changeable process in the mind of the beholder, and not an outside object. The references to the architectural tradition include the villa and the garden of Katsura and the architect Kazuo Shinohara, who opposed and criticised Western Modernism with the basis in his own Japanese tradition.

Space: a changeable process
Kunio Komparu's 1983 book *The Noh Theater: Principles and Perspectives* can be read to gain an understanding of Japanese traditional conceptions of space. Komparu explains in his book how the character *ma*, one of several Japanese characters for space, could be translated to space, spacing, interval, gap, blank, room, pause, rest, time, timing, or opening. Noh has also been called the art of *ma*.[1] *Ma* could be described as a continuum over space and time, and in the Noh theatre, time and space change in the mind of the audience, not by changing stage design or décor. Being immersed in a state of total concentration, the

1a,b Katsura Rikyu or the Katsura villa, seventeenth century.

2 Katsura, view in the garden for strolling.

actor strives for a preciseness, characterised by emptiness, where all that is unessential is peeled off, and where the mask, as well as the costume, give a dreamlike, abstract impression; here, it is the audience who have the task of having to complete both the actor's role and the scene. The story is transferred into the audience's world of imagination; the actor makes 'suggestions' and the imagination fills in; here characteristics of emptiness, pauses, and 'stop-action' enable the conditions required for this experience, hereby evoking a connection with the audience as well as involving them in the performance.[2]

The continuum over space and time is also described by Kazuo Shinohara who was critical of the early Modernist picture of space as a measurable entity, a product of time and space, that Sigfried Giedion stated in his book *Space, Time and Architecture*.[3] Shinohara writes instead about 'Non-Existence of Space' and 'Non-Existence of Time',[4] that space and empty space in Japanese architectural tradition are part of one and the same whole in a dynamic, balancing relation of tension and perceived as a changeable experience. He gives Katsura in Kyoto as a good example of this balancing relation. Katsura in

3a **View from Shokin-tei, one of the teahouses in Katsura.**

3b **View of Shokin-tei from another pavilion, Geppa-ro.**

3a

3b

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Kyoto comprises a Japanese garden for strolling with teahouses and rest pavilions, as well as the Imperial palace called Katsura Rikyu or the Katsura villa [1a,b] [2]. Katsura was designed in the seventeenth century during an era when Japanese culture was deeply influenced by Zen Buddhism. The Katsura villa was built in the *sukiya* style, which adds in the teahouse, and the rustic ideals of simplicity and modesty for this architecture were taken from the folk houses (*minka*) and the peasant culture. The villa and garden in Katsura are joined in a dynamic movement of space and empty space; the movable modules of the facades can be removed to open up the building to the garden. Shinohara writes about the villa: 'their quietly flowing spaces might be called transparent extensions'.[5] He continues about the architecture:

> *This splendid architecture is the thing that enables these buildings to express the non-existence of space. Spatial logic as an uncertain aesthetic understanding flows as an undercurrent through Japanese society.*[6]

The Katsura villa has become iconographic for Japanese as well as for foreign architects. In 1960, Walter Gropius and Kenzo Tange wrote about Katsura in the book *Katsura: Tradition and Creation in Japanese Architecture*, where the villa's visual resemblances to Modernism were illustrated by photographs of the facades showing Mondrianesque patterns. The photographer was Yasuhiro Ishimoto and the planar patterns were emphasised through his monochromatic photographs in which the cambered, large roofs, and surrounding landscape were cut off from the facades. Later, Ishimoto meant that Tange had his own agenda, which included communicating Modernism clearly by, among other things, cutting the black and white photographs hard. Ishimoto's second book on Katsura, from 1983, showed a different picture of his own in reading Katsura from a variety of perspectives.[7]

The architect Kengo Kuma also turns to Katsura in his book *Anti-object: The Dissolution and Disintegration of Architecture* via the German architect Bruno Taut's experiences and thoughts of Katsura in Kuma's essay 'Making a Connection: The Hyūga Residence by Bruno Taut'.[8] Kuma had been commissioned to design a small house in Atami, and it turned out that the neighbouring house was the Hyuga Residence, designed partly by Bruno Taut who was staying in Japan from 1933 to 1936, escaping from Nazi Germany. This situation evokes a deeper interest in Bruno Taut's approach to Katsura, as there are similarities to Kuma's own thoughts of architecture and objects. Kuma writes:

> *He [Taut] abhorred objects, believing that architecture was more a matter of relationships. The Hyūga project gave him a rare opportunity to experiment with the relationship between architecture and the environment.*[9]

Kuma means that Taut did not, on the first hand, point out the visual similarities of the Katsura villa with Modernism, and he describes how Taut then differed from his contemporaries, for example, Mies van der Rohe and Le Corbusier. Already in Taut's Glass Pavilion, built in 1914 in Cologne for the Deutscher Werkbund Exhibition, Taut showed how the building glass had changeable qualities and how the interior changed through the use of coloured sheets of glass.[10] Dramatic changes were staged inside the building that evoked complex, subjective experiences. Kuma claims that Le Corbusier and Mies van der Rohe were striving for something else; not complex experiences of form, but pure geometrical shapes whose surfaces did not show any subtle, ambiguous textures. Le Corbusier was instead striving for the design of plane, white surfaces without shadows and nuances, and he even retouched the photos of the projects to get this impression of perfect, plain and white surfaces. Kuma refers to Beatriz Colomina's book *Privacy and Publicity: Modern Architecture as Mass Media*, where Le Corbusier's relation to mass media is analysed.[11]

Kuma also means that Mies van der Rohe and Le Corbusier cut off the buildings from their surroundings to form independent objects that could be placed anywhere in a landscape.[12] He quotes Bruno Taut when he expresses his concern for the dynamic relationship in Katsura between the experiencing subject and the garden, the surrounding landscape: 'The essence of this miracle is the style of relationships – that is architecturalised interrelationships.'[13] The importance of the dynamic relation between space and time is strongly connected to the subjective, changeable experience of the garden interacting with the buildings, not settled by predetermined conceptions of how it should be conceived [3a,b]. Taut is describing time flowing through the garden, from his subjective experiences in the garden, not just the spaces in Katsura. Kuma notices:

> *As he considers relationships, Taut comes face to face with the issue of time and discovers that matter and consciousness are connected in a way that is not just spatial but temporal.*[14]

Thus, Kuma argues that Taut's objective was to stage complex architectural experiences; mental, subjective and changeable processes that could bridge the gap between matter and consciousness, both spatially and temporally.[15]

The Katsura villa interacts with the garden through the different, movable, vertical layers that are links between inside and outside, similar to Kuma's own thoughts about how the materials of the facade could bridge the gap between building, man, and landscape and erase the architecture through a staged experience, variable in time. The layers change during the course of the day and the degree of transparency varies, depending on light and shadow. There is focus on the directing and the stage-setting of complex and changeable architectonic experiences – mental processes where the building materials between inside and outside have the leading part as intermediary links in the interacting dynamic balance with the surrounding landscape. What is then an object to Kuma? He states: 'To be precise, an object is a form of material existence distinct from its immediate environment.'[16]

The uncompleted materiality of the void

In Kengo Kuma's texts, there are often discussions about the void related to his ideas about 'erasing architecture'. He writes:

> If the form taken by conventional architecture is an 'object', then this is a 'void', or the exact reverse of an object. An architectural form has been erased. This void, however, embraces a sequence of human experiences. I thus discovered the potential of architecture to act as an experience or phenomenon rather than as an object.[17]

For Kengo Kuma, the materials of the facades are often the point of departure in the projects, since they have an important role in the stage-setting as links between building, human being, and landscape.[18] The choices of materials come before both the plan and the structure,[19] and the materials of the facades are often organised in different, interacting layers that connect to the architecture in the Katsura villa and the Japanese traditional wooden architecture in *minka*, the commoners' houses, such as *noka*, the farmer's house, and the Japanese town house (*machiya*).[20]

With regard to the materiality of materials, boundaries are stretched, challenged, and explored. This could cause unpredictable, haptic experiences, that is, 'that something else' that happens when materials defy predetermined expectations of how they are to be experienced and perceived in accordance with existing, general beliefs in their intrinsic characteristics. The unexpected becomes the uncompleted, and initiates subjective processes that could dissolve and erase architecture. Through the stage-setting of the unexpected experiences of uncompleted materiality, mental processes are started, but a kind of void is also found which could be expressed as 'wonder'.

In this process that Kuma calls an 'abstractation'[21] – when architecture is dissolved into staged experiences and perceptions of materials and their unforeseen characteristics – it is not the material itself that creates an 'abstractation' and the dissolution of architecture, but the processual *experience* of different materials in the stage-setting.[22] The stage-setting could also mean that new contexts are created, not only through light but also through the unexpected usage of materials – to open up new conceptions of what these materials could be through saying through what they are not.

We recognise the former reasoning of staging wonder in Shinichi Hisamatsu's book *Zen and the Fine Arts*. In this book, he introduces seven different characteristics that could describe the influence by Zen on the traditional Japanese arts. Those characteristics are: *Asymmetry*, *Simplicity*, *Austere Sublimity* or *Lofty Dryness*, *Naturalness*, *Subtle Profundity* or *Deep Reserve*, *Freedom from Attachment*, and *Tranquillity*. To explain these characteristics, Hisamatsu uses negations of the opposites of the seven characteristics: *Asymmetry* is *No Rule*, *Simplicity* is *No Complexity*, *Austere Sublimity* or *Lofty Dryness* is *No Rank*, *Naturalness* is *No Mind*, *Subtle Profundity* or *Deep Reserve* is *No Bottom*, *Freedom from Attachment* is *No Hindrance*, and *Tranquility* is *No Stirring*. Hence, you have to make wider conceptions about what these expressions could mean, and a mental process is started; through applying a negation of dualism, you intuitively have to open up and create further dimensions of these seven characteristics.[23]

Kakuzo Okakura writes about *Asymmetry* in the tearoom in his well-known *The Book of Tea* and relates this characteristic to a process of completion, which has a parallel in the earlier mentioned Noh performance.[24] Other expressions for the tearoom are 'the Abode of Vacancy' or 'the Abode of the Unsymmetrical', and Okakura describes the avoidance of symmetry, repetition and completion in the composition of the interior [4a,b]. The tearoom is instead formed from other ideals, where the mental process in completing the incomplete is central in the experience of beauty:

> The Taoist and Zen conception of perfection, however, was different. The dynamic nature of their philosophy laid more stress upon the process through which perfection was sought than upon perfection itself. True beauty could be discovered only by one who mentally completed the incomplete. The virility of life and art lay in its possibilities for growth. In the tea-room it is left for each guest in imagination to complete the total effect in relation to himself.[25]

In the tea bowls that are used in the Japanese tea ceremony, you will find examples of uncompleted materiality; the glazing is uneven and the shape

4a Shokin-tei, the entrance to the tearoom.

4b Shokin-tei, detail of the roof.

5 Raku Tannyu X (1795–1854). Black Raku tea bowl with Mount Fuji design. Collection of the Raku Museum.

4a

4b

is often asymmetrical, non-perfect [5]. The tea bowls express a kind of rustic beauty, which was borrowed from the culture of common people. Here a 'hidden beauty' is expressed, something incomplete, a void, and the observer himself fills in and completes the form. The incomplete evokes an experience of beauty that is subjective, and the phenomenon connects to several Japanese aesthetic expressions – for example, *shibui* and *yugen*. This 'non-perfect', originating a mental process, is completed by the experiencing subject and creates another relation to material and materiality, which still includes craftsmanship and preciseness. The non-perfect is planned and related to a craftsman's skill, and the ideal is that it should look as if it was made 'by chance', but the skilfulness is to know how the ceramics and glazing behave during the process.[26]

In the book *The Unknown Craftsman: A Japanese Insight into Beauty*, Soetsu Yanagi describes *shibui* as a suggested, hidden beauty in the chapter 'The Beauty of Irregularity':

> It is this beauty with inner implications that is referred to as shibui. It is not a beauty displayed before the viewer by its creator; creation here means, rather, making a piece that will lead the viewer to draw beauty out of it for himself. In this sense, shibui beauty, the beauty of the Tea ceremony, is beauty that makes an artist of the viewer.[27]

The Japanese character for *shibui* could be translated as 'astringent' and is one of the most applied expressions of beauty.[28] It represents a simple and modest beauty and carries meanings of quietness and unobtrusiveness. Yanagi also refers *shibui* to 'roughness':

> A certain love of roughness is involved, behind which lurks a hidden beauty, to which we refer in our peculiar adjectives shibui, wabi, and sabi.[29]


5

The expressions *wabi* and *sabi* are strongly connected to the tea ceremony, as well as to the utensils that are used here and to the ritual it represents. The roughness can include a rustic atmosphere close to an 'ugly' beauty, but also a lofty, sublime beauty.[30] *Shibui* includes an invisible dimension of beauty that requires the subject's active participation in a perceiving, changeable process. In the simplicity, there is still complexity through the uncompleted that the perceiving subject has to add with the imagination, and there are ideas about dissolving subject and object, which are part of one and the same whole.

A hidden dimension is also included in *yugen*, but this expression of beauty is more related to the darkness and the vague.[31] Daisetz T. Suzuki, a well-known intermediary of Japanese culture, divides *yugen* into *yu* and *gen* that can be translated as 'cloudy impenetrability', and the combination of them, *yugen*, can mean 'obscurity', 'unknowability', 'mystery', and 'beyond intellectual calculability'.[32] *Yugen*, which still influences artistic work in Japan, carries an atmosphere of dark mystery and profound beauty and is referred to as being an aesthetical ideal developed by dramatists and poets. In the book *The Noh Theater: Principles and Perspectives*, mentioned before, Kunio Komparu describes *yugen* as 'Subjective Beauty' and 'Invisible Beauty'[33] and it relates to 'stop-action', the pause or freezing in the Noh play when the audience has to fill in the story through the imagination.[34]

Challenging and exploring the materials

The list of materials that has been challenged and explored by the architectural office Kengo Kuma and Associates is long. What has been challenged here has been viewed from different perspectives, such as the perspective of construction, as well as by questioning the predetermined expectations of the immanent and intrinsic characteristics of materials. In the Stone Museum from 2000, the building material is Ashino-stone, and in the masonry, the sizes of the openings are balancing on the edge of what the construction can take [6a–c]. In the LVMH Osaka from 2004, the stone onyx has been cut into thin slices, 4 mm, and then laminated between sheets of glass. Interplaying with light, the thin slices of onyx unexpectedly turn transparent with an exciting texture. The opposite of transparency is opacity, which is normally associated with stone material; however, the onyx stone here is negated by showing characteristics of transparency [7a,b]. In the project, you can tell what the material is not and by doing so, new conceptions of the characteristics of the material are formed. Here, mental processes are activated into play, and a relation, a link, is created between the building and the experiencing subject, and this takes place through the wonder that is evoked. There are parallels in the reasoning of Shinichi Hisamatsu, who uses negations of the opposites to make wider conceptions of what the seven characteristics could be by evoking the intuition and opening for mental processes.[35]
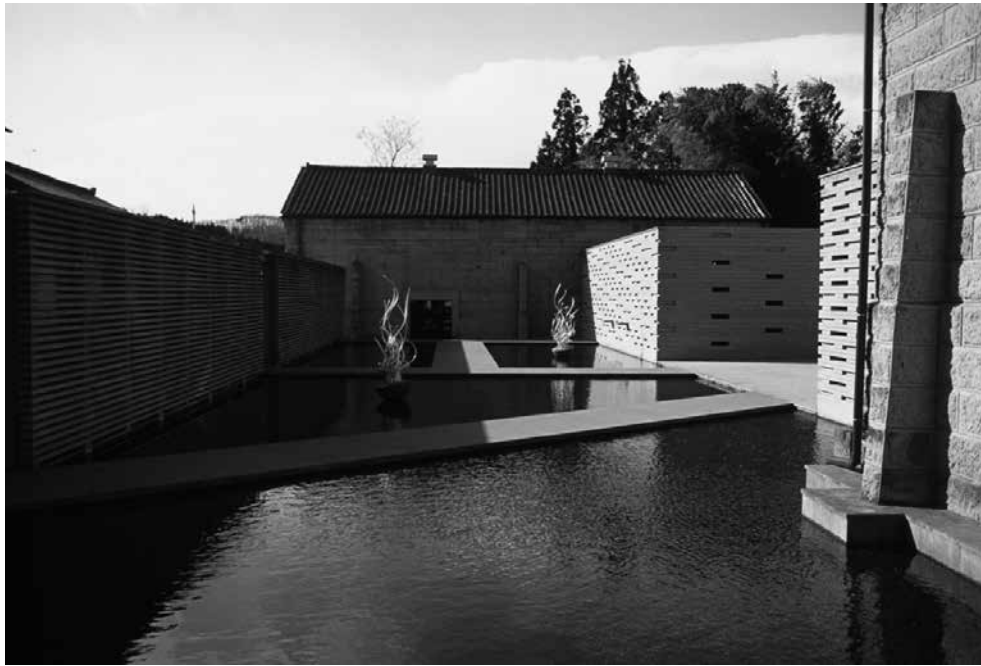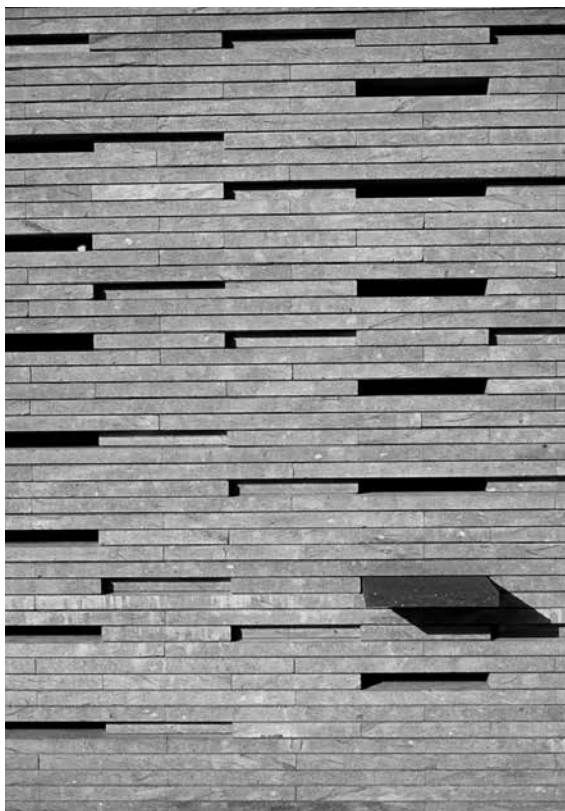
6a

6b

7a

6c

7b

In Kuma's Stone Museum, there are also louvers of stone which form a lattice work – louvers normally expected to be made of wood, since the stone is heavy and difficult to cut into such thin slices. The same idea is used in the Nagasaki Prefectural Art Museum from 2005, where louvers of stone, which interplay with the water landscape outside, are put vertically on a construction of steel [8a–c]. The landscape outside interplays with the 'particlized' layers, which is a method that is introduced by Kengo Kuma. The method of 'particlizing' could be described as such as the

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8a

8b

8c

facade is built up, and consists of many small parts that have been added to a whole; here is a relation to scale and to the size of the modules, as well as to the empty spaces between them. Characteristics of changeability are then added, the materials are changing appearance, interacting with light and shadow during the course of the day and

with the surroundings, but are also changing in perception depending on a person's viewing angle in relation to the building. Adding small parts to a whole is also part of the traditional way of building structures in Japan, that is, you start from the small part and not from an overall structure. Through 'particlizing' the materials, the building

9a

9b

9a,b Kengo Kuma and
Associates:
Restaurant
Waketokuyama,
2004.

is interacting and balancing with the light and the
landscape – a link is brought to mind and formed
by staging these experiences of changeability
and the mental processes that are evoked 'erase'
architecture.[36]

In the restaurant Waketokuyama from 2004,
the facade consists of simple, prefabricated and
standardised floor modules of concrete, which
have been cut and particlised [9a,b]. The context
of the concrete modules has been changed from
forming a horizontal dense surface to a vertical
transparent surface. They surprisingly form a
transparent facade, since the inside is not solid but
full of empty spaces, caused by reducing the weight
of the modules, and the layer is interacting with
the urban space outside and the interior inside as
an intermediary link.[37]

As noted, this way of borrowing from other
contexts – such as the *minka* (folk houses) – is
recognised from the Japanese tradition in the
sukiya architecture. However, what was borrowed
had to be refined, interpreted and improved by
creative originality, called *sakui*.[38] This way of
borrowing is called *mitate* and the architectural
historian Teiji Itoh writes:

*Mitate, we may say, is the discovery of new beauty
and value in things previously ignored or overlooked
and the functional adaption of such things in new
forms or settings.*[39]

Just as the shifting of the context of materials
is deployed as an elaborating variable in stage-
setting, Kengo Kuma also strengthens the context
of place in some of the projects undertaken, such
as the Community Market Yusuhara from 2010
[10a–d]. This is a market for locally produced food
combined with a small hotel, and it is situated

on the island of Shikoku, up in the mountains in a small village called Yusuhara. The market is in the central triple-height hall, which is characterised by a number of cedar tree trunks that have been moved inside, still keeping parts of the bark. The space is dominated by other 'natural' and rough wooden materials on the walls and the ceiling that together form a rustic atmosphere. The unexpected in this project is the facade of the entrance, where modules of thatched straw cover the wall, connecting to thatched roofs; however, the elements are treated as fittings and can be turned horizontally in order to take in fresh air. The thatched modules refer to the way of Tea, Chado, and connect to the historical references of the place, in a local tradition of travellers' sheds where, free of charge, tea was offered in a thatched shelter as a friendly meeting point with people from the villages round about. However in Yusuhara, the strict tea ceremony was more informal and popular in character. The other rough materials in the building connect to the hidden beauty of *wabi* and *sabi*.[40]

The emerging grid

In the architectural office Toyo Ito & Associates, Architects, architecture and engineering meet in challenging the interplay between construction and materials. Toyo Ito works close to several well-known, skilful engineers, including Mutsuro Sasaki, who also collaborates with the Japanese architectural office SANAA. Ito challenges the materiality of materials, in collaboration with
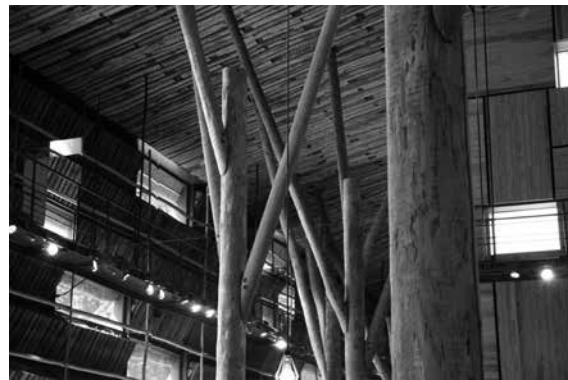
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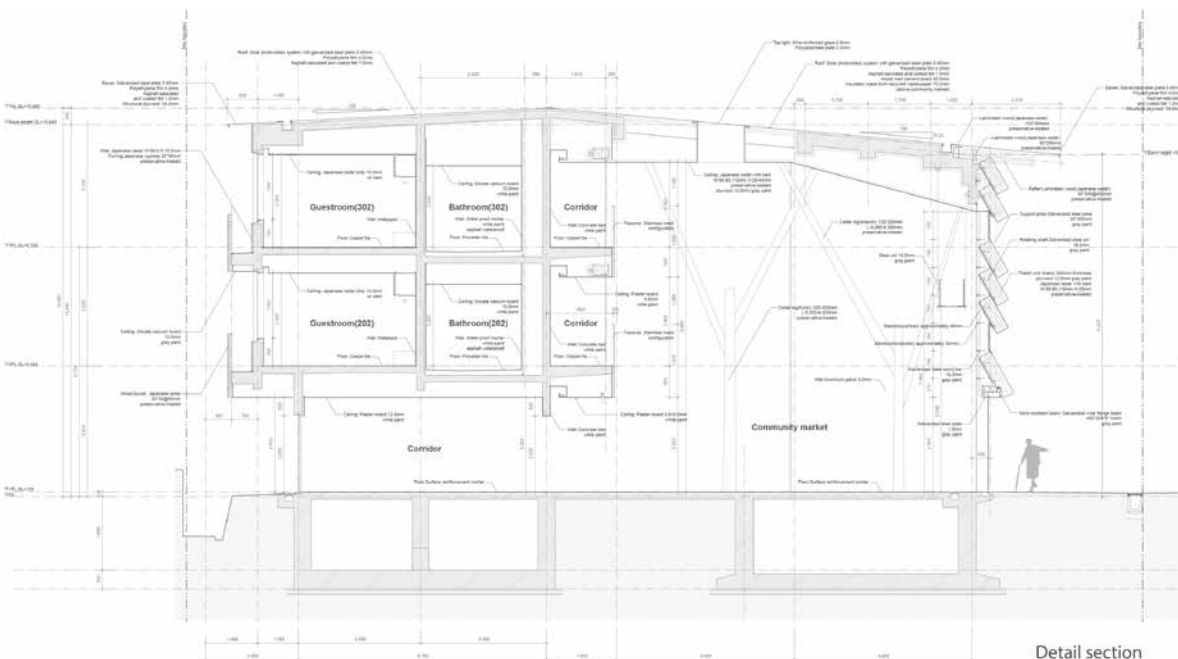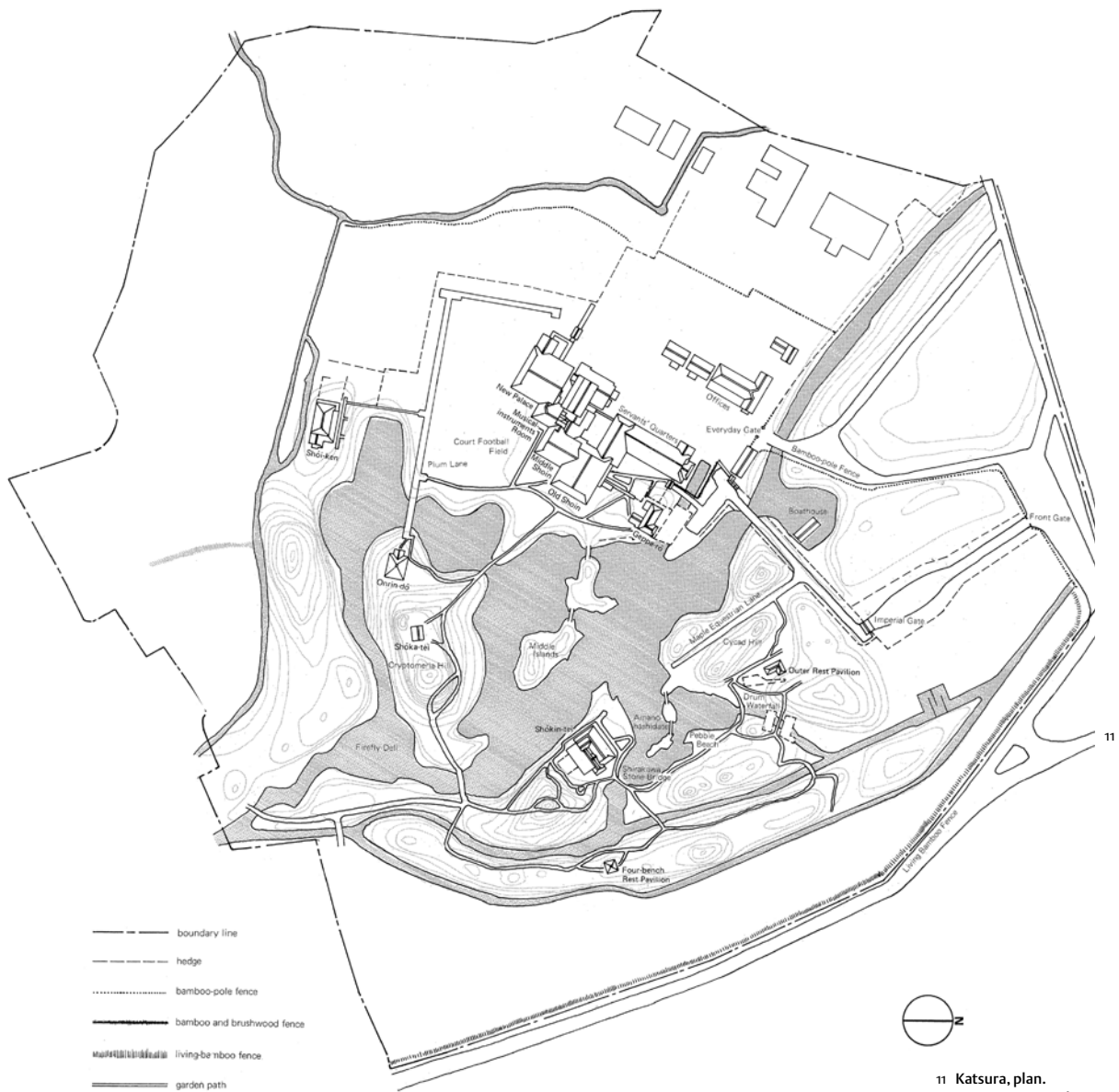10a–d **Kengo Kuma and Associates: Community Market Yusuhara, 2010.**

Detail section

10d

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engineers, by designing buildings that put the materials used, their supporting capacity, span and strength, to the test. He often uses concrete while Kuma avoids concrete as facing material in his buildings.[41]

Differences are found in Kengo Kuma's point of departure when forming space, where the structure is subordinated to the materials. Toyo Ito is making use of a strong structure of indefinite elements, but a non-hierarchical structure. He is striving for 'emerging the grid' and the form is not predetermined by the grid – the architect's form should instead be released from the engineer's fixed framework:

> We have dubbed this the 'emerging grid': a system by which a uniform grid is manipulated to yield a continuum with a three-dimensionally curved shell; a method for transforming simple regular spaces into complex spaces rich in variation, hard inorganic space into supple organic space.[42]

Ito means that the computers are part of releasing us from the rigid grids,[43] and wants to create another relation to materiality than the one you find in Modernism:

> Thus, both in Berlin and in Sendai, contrary to the historical order of architecture taking shape in nature, I attempted the reverse process: to induce nature out of built forms, as well as to inject materiality into 'Less is more' space, precisely in order to return some living reality to the void of economics and data. What we might call a 'new real' in materiality beyond Modernism.[44]

In the text that has the heading 'The New "Real": Toward Reclaiming Materiality in Contemporary Architecture', Ito refers to his installation from 2006 in Neue Nationalgalerie in Berlin by Mies van der Rohe, where he planted a white, undulating landscape to dissolve the almost perfect grid to form something new, organic. The architecture should be released from firm, 'perfect' and rigid forms by means of forming dynamic flow. The text is from the exhibition catalogue for 'Toyo Ito: The New "Real" in Architecture', an exhibition in Tokyo Opera City Art Gallery in 2006.[45]

A desire to create organic, challenging forms was also expressed by Toyo Ito in his lecture about the Japanese architect Kiyonori Kikutake at Harvard University in October 2012, connected with the opening of an exhibition about Kikutake.[46] Kikutake was part of the Metabolist movement in Japan in the 1960s, and Ito worked as a young architect in Kikutake's architectural office. In the lecture and also in the essay Ito wrote for the book published in 2016 after the exhibition,[47] he turns against Kenzo Tange's more sophisticated approach to architecture, such as Tange's visual references of Modernism to the Imperial Katsura villa in Kyoto. Ito has comments on this in the exhibition catalogue from 2006:

Contemporary architecture – and especially Japanese contemporary architecture – is almost entirely concerned with Modernist sophistication. Minimal and stoic, many are the buildings that showcase a pure geometric beauty, but do they really invigorate people? As all too often art history shows, in some ways, nothing spoils creative impulses as much as sophistication.[48]

Ito, just like Kikutake, instead advocates the folk culture, coming from the farmer's plain living in the countryside and he refers to *noka*, the farmhouse and *minka*, folk houses.[49] He goes on arguing for his criticism of sophistication in the essay published in 2016:

By refining something, something very beautiful can be made. However, I find that there will be nothing beyond the sophistication. Though the Katsura Imperial Villa is quite photogenic, we can create something better from something dynamic, raw, and primitive – like earlier farmhouses.[50]

He continues by discussing Kikutake's villa Sky House in Tokyo:

In contrast to the prevalent high modernism of the time, with flat roofs, the Sky House's almost pitched roof could even be seen to recall a farmhouse. Sky House's square plan features the half-inside, half-outside interstitial verandah space known in Japanese as the engawa. Here is an expression of Metabolist thinking with the primary living space unchanging, while the surrounding space, including the kitchen and the bathroom, actually changing quite a lot over time.[51]

Here are the dynamic flow and characteristics of spatial changeability described and also recognised from the Japanese tradition, where the spatial and changeable zone between inside and outside is called *engawa*. In another lecture in Harvard University in March 2016, Ito is describing his work as designing Japanese gardens not Japanese architecture; the infinite elements of the building interplay with the surroundings into a mutual landscape: 'The emerging grid flexibly responds and adapts to its surroundings and thereby creates a new environment.'[52] He takes Katsura as an example, where elements such as teahouses and rest pavilions, as well as the main building, are interplaying with the garden, and there is not a defined way how these places are connected and should be perceived. Every visitor's spatial experiences of Katsura is subjective, that is to say the spatial sequences are not predetermined by a rigid structure [11].[53]

The reasoning here is recognised from Kazuo Shinohara and his article 'Anthology' from 1979, where he puts 'spatial connection' in opposition to 'spatial division' – according to him, the latter term describes Japanese architectural tradition. Shinohara explains the garden of Katsura being built up by forming a variety of *independent* sceneries, using 'Absence of Continuity', that is to say 'spatial division', which have not been linked or coordinated from an overall perspective, continuous in time. They are balancing parts, and pauses and empty space, wonder or void, are formed, and come to be the prerequisite for the involvement of the subject.[54]

When you move through Ito's landscapes, you also experience and perceive the materiality in the physical movement, where the variable light has a leading part in sculpturing the forms and in the way one experiences the feeling of changeable materiality. The non-hierarchical structures, where the grid has been allowed to emerge, evoke wonder and experiences of abstraction, in interplay with the landscape and the challenges of the materials' supporting capacity and strength. Ito means that we live in a new kind of reality today, thoughts he had already when he was working with the Mediatheque in Sendai from 2000:

Until now abstraction in architecture was mostly visual. As Mies van der Rohe said, 'Less is more'. The minimal spaces he designed are said to be abstract. However, I think the entire human body can sense this abstraction. These are the kinds of things I am thinking about. I think the human body has changed, based on our varied and virtual world of today. For that reason, I think there might be a new abstraction. I call it the 'new real' in architecture.[55]

The new 'real'

In this new 'real', digital techniques have played a key role in the emergence of the grid and the release of the form – for example in Ito's work with the crematorium, Meiso no Mori or Forest of Meditation, close to the little village Kakamigahara outside Gifu from 2006 [12a,b]. The casting of the thin shell roof and the organic columns, both of which are made of concrete, was possible to realise through computer-controlled virtual constructions. The crematorium has a white, floating and undulating roof of concrete with challenging spans between the curved columns, 'melting' down from the roof. The columns, positioned in relation to the organic roof and not to a rigid, framed grid, are placed as floating elements, contributing to the experience of ambiguous space.[56]

A dynamic interplay has been staged with the landscape outside, and the white landscape of the roof is reflected in the beautiful mirror of the pond. The interaction between inside and outside takes place – an interaction that Kuma regards as so important to prevent buildings from

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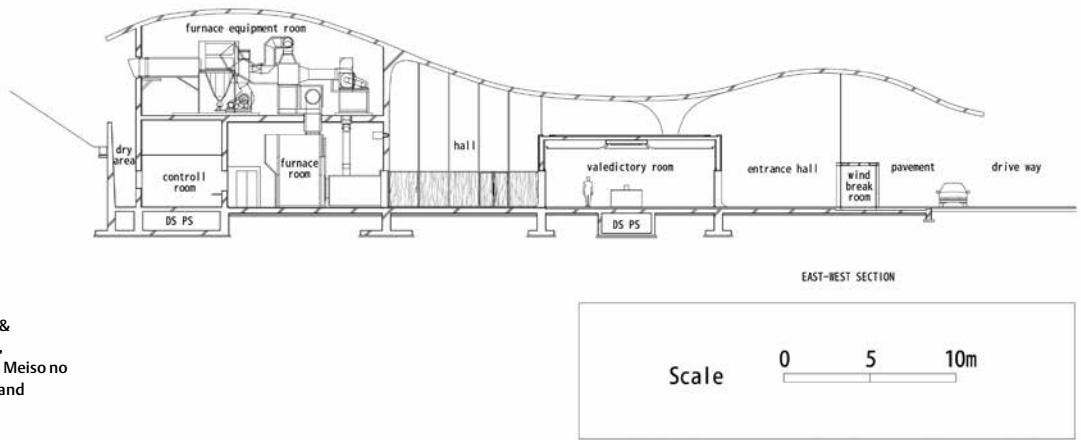
12a,b Toyo Ito &
Associates,
Architects: Meiso no
Mori. Plan and
section.

12b

becoming merely objects. The mirror of the water recurs in the surfaces of the glossy materials of stone in the interior, which also mirrors the whole landscape outside, and the organic flow of space between inside and outside is strengthened by the rounded floor socles, the columns and the undulating ceiling [13a–d]. In the local context, the stated intention is that the white roof represents clouds, slowly drifting in the sky, creating a soft, white field that has settled in the dynamic, undulating surroundings of woodland and mountain scenery.[57]

The roof evokes an experience of wonder since the organic, large shell construction is only 200 mm thick, and at the opening ceremony people were allowed to climb up and walk in the roof landscape and to bodily try out the construction

[14]. The white concrete shows changeable characteristics, not least evoking experiences of transparency and lightness rather than of the density and solidity that could be expected of concrete. The interior is undulating and indirect light forms the spaces and sculptures the materials. Here, particlised layers are not interplaying with light, but a non-hierarchical structure comes into being here, where spatial flow between inside and outside is created, dynamically moving between horizontal planes. The physical experience of the stage-setting is intensified in the building; the sensuous connections to material and materiality are perceived through the play of light on surfaces. By staging these experiences of changeability and wonder, also linked to experiences of materiality, a mental process is

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13a–d Toyo Ito & Associates, Architects: Meiso no Mori (Forest of Meditation), crematorium in Kakamigahara, 2006.
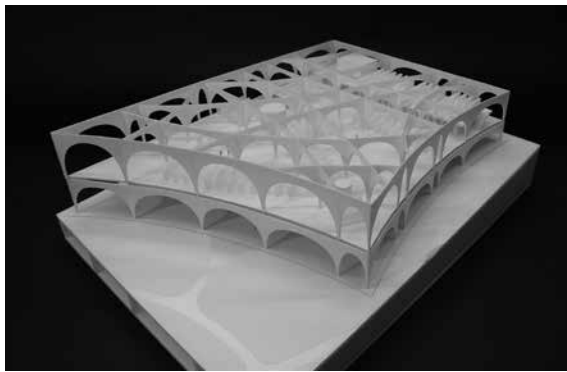
started, building bridges between consciousness and matter into an abstraction, with points of similarity to the architecture of Kengo Kuma.[58]

In the Tama Art University Library from 2007, which was designed after the crematorium, the idea of an emerging grid recurs, but here the columns are instead crosses in a three-dimensional vault construction with arched, slightly curved screens. The elements are made
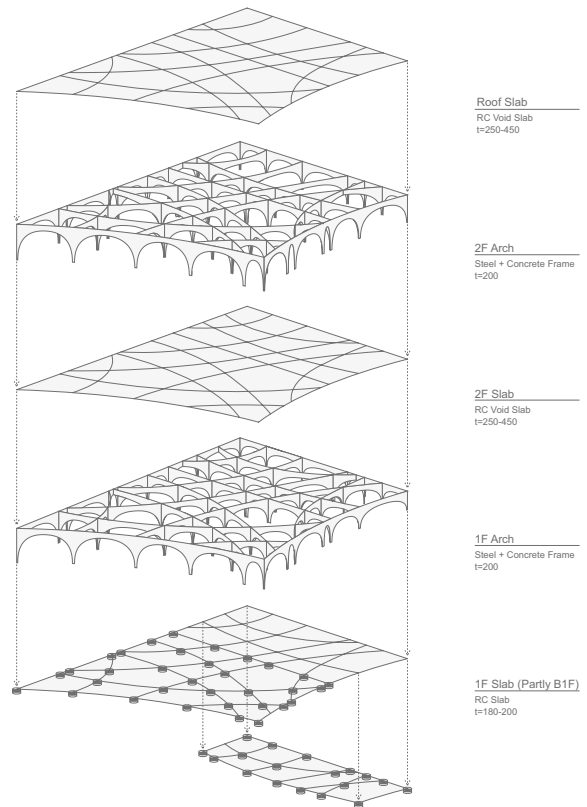
of steel, which have been covered by a thin surface of light grey concrete. They have different measurements and different arches that together form an asymmetrical plan, and the result is a dynamic flow of space through the whole building *[15a,b]*. The structure of arches recurs in the facade, which is curved on two sides, and the glass is put in line with the walls giving the impression of screens with empty spaces formed

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14

15a

Roof Slab
RC Void Slab
t=250-450

2F Arch
Steel + Concrete Frame
t=200

2F Slab
RC Void Slab
t=250-450

1F Arch
Steel + Concrete Frame
t=200

1F Slab (Partly B1F)
RC Slab
t=180-200

15b

as arches, and which interplay with the interior creating a dynamic movement of spaces between inside and outside [16a–c]. The interplay with the landscape outside is continuous, just like in the crematorium, and staged by the asymmetrical structure into dynamic change.[59]

Vaults are formed inside, which are lit up from below, creating an airy atmosphere. The thin modules, only 200 mm thick, evoke different shadows because the light is spread in different directions and gives an impression of spatial complexity full of nuances. The unexpected in the building is the lightness and the atmosphere of air that is perceived, which starts a mental process of wonder. A vault construction has been formed that rather has the character of lightness and transparency despite the material dominance of the naked, grey concrete in the interior.[60]

The grid is asymmetrical and is perceived as irregular in spite of the fact that this is a system built from precise modules. You find the structural challenge; a light, thin construction illusorily made of concrete, which is characterised by an

14 **Meiso no Mori.**

15a,b **Toyo Ito & Associates, Architects: Tama Art University Library. Model, plans and sections.**

irregular but precise asymmetry, and whose spaces, inside and outside, are continuously flowing in and out – the grid has been released from a rigid and strict form into experiences of abstraction.[61]

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Architecture into abstractions

Visually, Toyo Ito's and Kengo Kuma's architecture differs in the choice of materials; Ito chooses materials such as concrete and glass that refer to Modernist ideals and industrial production whereas Kengo Kuma refers to craft. Juhani Pallasmaa writes in the article 'Hapticity and Time – Notes on Fragile Architecture' that whiteness and nakedness express objectivity and matter-of-factness in Modernism:

> *In its quest for the perfectly articulated autonomous artefact, the main line of Modernist architecture has preferred materials and surfaces that seek the effect of flatness, immaterial abstractness and timelessness. Whiteness, in Le Corbusier's words, serves 'the eye of truth', mediating thus moral and objective values. The Modernist surface is treated as an abstracted boundary of volume, and has a conceptual rather than a sensory essence.*[62]

In his article, Pallasmaa refers to the French philosopher Gaston Bachelard, who has investigated poetic imagery from a phenomenological approach. Bachelard writes that there is a difference between 'formal imagination' and 'material imagination' and that images from a 'matter project' evoke more profound experiences than 'images of form'.[63] Even if you use pure geometrical forms and materials that give the effect of shining, smooth and glossy surfaces, which in Modernist architecture was considered to create an experience of objectivity and matter-of-factness, the one does not necessarily exclude the other. In the projects of Toyo Ito, glass, steel and concrete are used in simplified, naked and geometrical forms, but they also evoke as strong experiences of materiality and hapticity as do Kengo Kuma's projects. In Kuma's projects, the materials are experienced as more 'rustic', but Ito's work also initiates equally strong mental processes. In both Kuma's and Ito's architecture, the usage of materials, challenged in terms of building construction and staged by light, and the spatial organisation, interacting in dynamic flow with the surroundings, give rise to changeable perceptions and mental processes of wonder, which can involve a subject, bridge between consciousness and matter, and create a conversation between building, human being and landscape that counteract buildings to be experienced merely as objects.

Architect and architectural historian Terunobu Fujimori has a theory that divides contemporary Japanese architecture into white and red schools of architecture:

> *Mathematical, abstract, scientific, technical – these are the fundamental properties of the White School. Material, existential, carnal, earthy – this is the Red School.*[64]

The White School is connected to the Bauhaus School and the Red School to the architecture of Le Corbusier, which here is associated with material. Fujimori argues that Ito does not fit into either one of the schools, but Toyo Ito, as well as Tadao Ando, was part of the first generation

16a

16b

16c

16a Toyo Ito & Associates, Architects: Tama Art University Library, 2007.

16b,c Tama Art University Library. Photo: copyright of Ishiguro Photographic Institute.

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to fuse these two schools. This is confirmed by Ito; he means that he is interested in the middle space of the poles between abstract and real.[65] Fujimori also indicates that architecture should be physically experienced when passing through it, and the two schools are like magnetic poles and architecture exists somewhere between abstraction and materiality.[66] Thus, Ito expresses this dynamic relationship by designating a term for new abstraction, 'the new "real"', and Kuma introduces 'abstractation' with emphasis on the mental process when architecture is being dissolved.

The point of departure to use stage-setting of experiences as a tool when forming space and architecture is the same for Kuma and Ito. Ito's way to challenge the constructional qualities of the building materials is also found in the approach to architecture in Modernism; a process of wonder was created in the experience of Modernism while inventing, developing and applying new, shining, even, and light-coloured building materials. Still, to direct and stage an architectonic, changeable and subjective experience through the materials in the interplay of light as well as the building and the surrounding landscape in spatial flow, is different. However, there are differences in Kuma's and Ito's methods of balancing with the landscape. For Ito, the whole dynamic volume of the building is forming spatial flow, interacting with the landscape, and his method of emerging the grid in asymmetrical structures helps to create this dynamic movement. For example in the library of Tama Art University, the arches in the facade are dynamically interplaying with the vaulted spaces that are formed inside the library, as well as with the landscape outside. For Kuma, it is the layers of the facade that are interacting on the first hand, not the whole volume of the building, but more the spaces close to the facade. Unlike the surfaces of Ito's outer layers, these layers are particlised in order to interact with light and shadow, forming transparent surfaces between inside and outside. However, Ito and Kuma are working with non-hierarchical structures, forming dynamic, spatial flow between horizontal planes (the floor and the roof), and interaction with the surrounding landscape according to Japanese tradition.

The materials in Kuma's and Ito's projects are surprisingly challenged and they are sculptured through the interplay between light and shadow, and this experience is subjective, changeable, and shifting in time. Kengo Kuma challenges the materials and wants to tell what they are not and in that way creates wonder and wider conceptions of what they can be, where mental processes are activated into play. The materials are put to the test in terms of building construction, as

well as from a perspective that challenges what you think you can realistically do through craft in production, as in the case of stone, when thinking of how thin it could be cut. Toyo Ito challenges borders with more emphasis on new techniques – that is, predetermined conceptions with connections to building construction, where how a grid might emerge, and how thin a shell roof may be cast without breaking are put to the test; here also mental processes and created wonder come into play. Still, they both relate to craft; in Toyo Ito's lecture at Harvard University in 2016, he emphasises the importance of craft and the hands of the workers in his project National Taichung Theater in Taiwan, and he sees no gap between craft and computing – they are parallel activities. He shows a film where the casting process of the infinite elements of the building, elements that differ in size, can be followed, as well as where and how they are placed in the floating grid. Ito also demonstrates how the views change when moving around in the building; there is not a predetermined way of how it will be conceived, with similarities to the garden for strolling in Katsura.

In this context, the building materials could play a role through expanding the prerequisites for the stage-setting of uncompleted experiences and perceptions, and by means of that, the building materials could gain another meaning. Unexpected, incomplete experiences are evoked, through which the materials create links between building and human being and start a processual experience in the perception of materiality and space – this is a kind of hidden beauty that is revealed. The creation of unexpected, incomplete experiences of void is the playing-ground for being involved in these processual stage-settings, something we recognise from Soetsu Yanagi, when he writes about a hidden beauty that makes an artist of the viewer. In the expressions for beauty, *shibui* and *yugen*, from the Japanese tradition, there are subjective dimensions of beauty comprised in the mental processes that are aroused. Ito and Kuma translate and transfer this tradition into a new era which includes new techniques, materials, and contexts and the unexpected is focused on the subjective experiences of wonder, including challenges of materials, constructions and contexts combined with stage-setting processes and interaction with the surrounding landscape. Toyo Ito, as well as Kengo Kuma, connect to the spatial Japanese tradition, described by Kazuo Shinohara, where space is a changeable experience and a mental process, not an object, and the basis of being subjective is that there is something unpredictable and uncompleted, a void or wonder, in the experience.

Notes

1. Kunio Komparu, *The Noh Theater: Principles and Perspectives* (New York, Tokyo: Weatherhill/Tankosha, 1983), p. 70.
2. Ibid.
3. Sigfried Giedion, *Space, Time and Architecture: The Growth of a New Tradition*, 5th rev. edn., enlarged (Cambridge/MA: Harvard University Press, 1974 [orig. pub. 1941]).
4. Kazuo Shinohara, 'Anthology', *Space Design* 172 (1979), 73–85 (p. 74).
5. Kazuo Shinohara, 'The Japanese Conception of Space', *The Japan Architect* (June 1964), 57.
6. Ibid.
7. Walter Gropius, Yasuhiro Ishimoto, Kenzo Tange, *Katsura: Tradition and Creation in Japanese Architecture* (New Haven: Yale University Press, 1967 [orig. pub. 1960]). The commission of the book was first given to the photographer Yasuhiro Ishimoto. See Arata Isozaki, *Japan-ness in Architecture* (Cambridge, MA: MIT Press, 2006), pp. 249–56, and Yasufumi Nakamori, *Katsura: Picturing Modernism in Japanese Architecture: Photographs by Ishimoto Yasuhiro* (Houston, The Museum of Fine Arts: Distributed by Yale University Press, 2010).
8. Kengo Kuma, *Anti-object: The Dissolution and Disintegration of Architecture* (London: AA Publications, 2008), pp. 4–33.
9. Ibid., p. 5.
10. See also Kai K. Gutschow, 'From Object to Installation in Bruno Taut's Exhibit Pavilions', *Journal of Architectural Education* 4 (May 2006), 63–70.
11. Kuma, *Anti-object*, pp. 13–15, p. 17. For references to Colomina, see also Kengo Kuma, 'Digital Gardening', in Luigi Alini, *Kengo Kuma: Works and Projects* (Milano: Electa, 2006), pp. 223–5. The article was first published in 1997.
12. Kuma, *Anti-object*, pp. 13–14, p. 17.
13. Taut quoted in Kuma, *Anti-object*, p. 21.
14. Kuma, *Anti-object*, p. 22.
15. Ibid., pp. 14–15.
16. Ibid., p. 1, 'Preface'.
17. Kengo Kuma, 'Introduction', in Botond Bognar, *Kengo Kuma: Selected Works* (New York: Princeton Architectural Press, 2005), pp. 14–17 (p. 14).
18. See also Kenneth Frampton, *Kengo Kuma: Complete Works* (London: Thames & Hudson, 2012), pp. 11–25, 'The Anti-Objective Architecture of Kengo Kuma'.
19. Interview with Kengo Kuma, Tokyo, 2 October 2012.
20. Teiji Itoh, *The Essential Japanese House: Craftsmanship, Function and Style in Town and Country* (New York, London, Tokyo: Harper & Row Publishers/John Weatherhill Inc., 1967); Teiji Itoh, *Traditional Domestic Architecture of Japan* (New York, Tokyo: Weatherhill/Heibonsha, 1974); Teiji Itoh, *Traditional Japanese Houses* (New York: Rizzoli, 1983); Günter Nitschke, *From Shinto to Ando: Studies in Architectural Anthropology in Japan* (London: Academy Editions, 1993).
21. Interview with Kengo Kuma, Tokyo, 7 October 2006.
22. Kuma, 'Introduction', in Bognar, *Kengo Kuma*.
23. Shinichi Hisamatsu, *Zen and the Fine Arts* (New York, Tokyo: Kodansha International, 1982), pp. 28–40, pp. 52–9.
24. Kakuzo Okakura, *The Book of Tea* (London: Penguin Books, 2010 [orig. pub. 1906]), pp. 45–58.
25. Ibid., p. 57.
26. Soetsu Yanagi, *The Unknown Craftsman: A Japanese Insight into Beauty* (Tokyo, New York, London: Kodansha International, 1989), pp. 119–26.
27. Ibid., p. 124.
28. *Kodansha Encyclopedia of Japan*, Vol. 7 (New York, Tokyo: Kodansha, 1983), pp. 85–6; Kenneth G. Henshall, *A Guide to Remembering Japanese Characters* (Rutland, VT/Tokyo: Charles E. Tuttle Company, 1998), p. 435. *Shibui* is an adjective, and the term has been cherished since the fourteenth century.
29. Yanagi, *The Unknown Craftsman*, p. 123.
30. *Wabi* means 'poverty' and *sabi* 'loneliness' or 'solitude', but in a positive sense. They express an unpretentious, hidden beauty marked by the ravages of time; *wabi* reflects more a subjective state of things or an atmosphere, and *sabi* concrete characteristics of an object or environment. Daisetz T. Suzuki, *Zen and Japanese Culture* (Princeton: Princeton University Press, 1993), pp. 22–8, p. 284; *Kodansha Encyclopedia of Japan*, p. 361, Vol. 6; *Kodansha Encyclopedia of Japan*, p. 197, Vol. 8.
31. *Kodansha Encyclopedia of Japan*, p. 355, Vol. 8. This aesthetic ideal was developed from the twelfth through the fifteenth centuries.
32. Daisetz T. Suzuki, *Zen and Japanese Culture*, pp. 220–1, fn. 2. *Yugen* originates from China, you xuan or yu hsüan, *Kodansha Encyclopedia of Japan*, p. 355, Vol. 8.
33. Komparu, *The Noh Theater*.
34. *Kodansha Encyclopedia of Japan*, pp. 355–6, Vol. 8. One example from the twentieth century is the work of Junichiro Tanizaki, who wrote the essay 'In Praise of Shadows', well-known by architects and for reminding us of the necessity of shadows in the interplay between light and darkness when forming space.
35. 'Kengo Kuma', *GA Architect* 19 (2005), 92–3, 171–3; Kengo Kuma, *Materials, Structures, Details* (Basel: Birkhäuser, 2004); Kuma, 'Introduction', in Bognar, *Kengo Kuma*; Kengo Kuma, 'A Return to Materials', in Alini, *Kengo Kuma: Works and Projects*, pp. 14–29.
36. 'Kengo Kuma', *GA Architect*, 92–3, 184–9; Kengo Kuma, *Materials, Structures, Details*; Kuma, 'Introduction', in Bognar, *Kengo Kuma*; Kengo Kuma, 'A Return to Materials'; Kengo Kuma, 'Particle on Horizontal Plane', in Alini, *Kengo Kuma. Works and Projects*, pp. 220–1 (first published in 2000); Kengo Kuma, 'The Relativity of Materials', in Alini, *Kengo Kuma. Works and Projects*, pp. 222–3 (first published in 2000).
37. 'Kengo Kuma', *GA Architect*, 152–5.
38. Teiji Itoh, *The Elegant Japanese House: Traditional Sukiya Architecture* (New York, Tokyo: Walker/Weatherhill, 1969), p. 72.
39. Ibid., p. 65.
40. *Kengo Kuma 2006–2012* (Tokyo: ADA EDITA, 2012), pp. 206–09; Frampton, *Kengo Kuma: Complete Works*, p. 20, pp. 196–207, <http://kkaa.co.jp/works/community-market-yusuhara> [accessed 27 April 2017].
41. Kuma, *Materials, Structures, Details*, pp. 6–15.
42. Toyo Ito et al., *Toyo Ito: The New 'Real' in Architecture* (Tokyo: Toyo Ito Exhibition Executive Committee [exhibition catalogue], 2006), p. 38.
43. Ibid., p. 34.
44. Ibid., p. 32. Ito refers to the Mediatheque in Sendai from 2000.
45. Ibid., pp. 30–52; Ito et al., *The New 'Real' in Architecture* (Tokyo: Tokyo Opera City Art Gallery, 2006. Exhibition 7 October–24 December.)
46. Lecture Toyo Ito, 'What Was Metabolism? Reflections on the Life of Kiyonori Kikutake', Graduate School of Design, Harvard University (16 October

2012), available online:
<https://www.youtube.com/
watch?v=2orYUAeiL10> [accessed
27 April 2017].

47. Toyo Ito, 'What Was Metabolism?
Reflections on the Life of
Kikutake Kiyonori', in *Kiyonori
Kikutake: Between Land and Sea*, ed.
by Ken Tadashi Oshima (Zurich:
Lars Müller Publishers/Harvard
University, Graduate School of
Design, 2016), pp. 58–65.

48. Ito et al., *Toyo Ito: The New 'Real' in
Architecture*, p. 42.

49. Lecture Toyo Ito, 'What Was
Metabolism? Reflections on the
Life of Kiyonori Kikutake'.

50. Ito, 'What Was Metabolism?
Reflections on the Life of
Kikutake Kiyonori', in Oshima,
ed., *Kiyonori Kikutake: Between Land
and Sea*, p. 60.

51. Ibid., pp. 60–1.

52. Lecture by Toyo Ito, 'Tomorrow's
Architecture', Graduate School
of Design, Harvard University (7
March 2016), available online:
<https://www.youtube.com/
watch?v=GFgCHxrJAOA> [accessed
3 May 2017].

53. Ibid.

54. Shinohara, 'Anthology', pp. 73–4.

55. Ito in Blaine Brownell, *Matter in
the Floating World: Conversations
with Leading Japanese Architects and
Designers* (New York: Princeton
Architectural Press, 2011),
pp. 206–7.

56. 'Toyo Ito 2005–2009', *El Croquis*
147 (2009), 70–87; Pedro Gadanho,
A Japanese Constellation (New
York: The Museum of Modern

Art, 2016), pp. 40–3; Toyo Ito,
Toyo Ito (London: Phaidon
Press, 2009), pp. 220–7; Toyo Ito,
'Generative Order 2009', in *Toyo
Ito: Forces of Nature*, ed. by Jessie
Turnbull (New York: Princeton
Architectural Press, 2012),
pp. 32–89 (pp. 32–41).

57. Ibid., pp. 32–41.

58. Ibid., pp. 32–41.

59. 'Toyo Ito 2005–2009', *El Croquis*,
106–25; Gadanho, *A Japanese
Constellation*, pp. 44–7; Ito, *Toyo
Ito*, pp. 144–155; Ito, 'Generative
Order 2009', in Turnbull, ed., *Toyo
Ito*, pp. 32–53.

60. Ibid., pp. 32–53.

61. Ibid., pp. 32–53.

62. Juhani Pallasmaa, 'Hapticity
and Time – Notes on Fragile
Architecture', *Architectural Review*
1239 (2000), 78–84 (p. 79). The
article is also published in
Juhani Pallasmaa, *Encounters
1: Architectural Essays* (Helsinki:
Rakennustieto Publishing, 2012),
pp. 320–33. 'Modernist' is here
replaced by 'Modern'.

63. Ibid., p. 80.

64. Terunobu Fujimori, 'Magical
Spatial Inversion', in Gadanho,
A Japanese Constellation, pp. 73–6
(p. 74).

65. Interview with Ito in Brownell,
Matter in the Floating World, p. 207.

66. Fujimori, 'Magical Spatial
Inversion', in Gadanho, *A Japanese
Constellation*, pp. 73–6. See also
Brownell, *Matter in the Floating
World*, p. 14, pp. 132–43; Dana
Buntrock, *Materials and Meaning in
Contemporary Japanese Architecture:*

Tradition and Today (London/New
York: Routledge, 2010). According
to Buntrock, Kuma belongs to the
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Illustration credits

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