

Kizuna: Reconnecting Machiya and Craft Traditions in Kyoto

by

Carri Ko

Submitted in partial fulfilment of the requirements
for the degree of Master of Architecture

at

Dalhousie University
Halifax, Nova Scotia
June 2024

Dalhousie University is located in Mi'kma'ki,
the ancestral and unceded territory of the Mi'kmaq.
We are all Treaty people.

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Abstract

Kizuna means “connection” in Japanese, implying that everything is inextricably connected. In Kyoto’s Nishijin district, traditional craft and *machiya* townhouses share an uncertain fate — one where they might disappear from everyday life. Artisans face challenges in passing down their craft as many do not have successors to inherit their knowledge, leading to the loss of traditional culture. Traditional *machiya* — the defining vernacular architecture of Kyoto — face a similar fate as they are gradually demolished, resulting in the deterioration of urban heritage. The thesis responds to the disappearance of Japanese craft and *machiya* by mending the disconnect between tradition and modernity while fostering resilience. By reconnecting the Nishijin community to craft, artisans preserve embodied knowledge and connections to cultural tradition. The reinterpretation and revitalization of the *machiya* typology reconnects fragments of the past and present, revealing the beauty in transience and an enduring appreciation for the value of craft.

Acknowledgements

Thank you to my supervisor Roger Mullin for guiding me through my thesis over the past several months. I am incredibly grateful for your wisdom and thoughtfulness throughout this journey. To my advisor, Henry Tsang — thank you for your encouragement and passion for this thesis. I'm always appreciative of your insight and clarity. I would also like to thank Bruce and Dorothy Rossetti for the travel scholarship that granted the opportunity to travel to Japan for thesis research.

To my family and partner Robert — thank you for your endless love and support.

To my friends in architecture — you never fail to inspire me and I would not have made it without all of you.

To the many artisans I spoke with in Japan — thank you for generously sharing your time, craft, and tea with me. I hope this thesis is a small step towards keeping your traditions alive. 日本で話した多くの職人の皆さん、寛大に時間、工芸品、お茶を私と共有してくれてありがとうございます。この論文が皆さんの伝統を存続させるための小さな一歩となることを願っています。

Chapter 1: Introduction

Connection: Kizuna

Kizuna 絆 means “bond” or “connection”. Often used to describe reciprocal bonds and relationships, it also extends to the connections between objects, ideas, places, or events. *Kizuna* implies that everything is inextricably connected by invisible threads: connections between city and community, tradition and innovation, master and apprentice. *Kizuna* is the chain of connections in life, considering not only a single person but also imagining future generations.

The Japanese word *en* 縁 also translates to “connection”, although it has multiple meanings including fate, affinity, relation, connection, edge, or border. Architecturally, it describes the narrow open-air veranda that connects buildings in traditional Japanese architecture, with the garden at its edge.

Disconnection

Currently, there exists a disconnect between tradition and modernity, where Japan’s traditional craft culture is slowly dying. In the city, cultural traditions are usually lost due to an accelerated pace of life.

In Kyoto, the cultural capital of Japan, tradition has always coexisted in conflict and tension with modern life. However, today many artisans are experiencing a shortage of craft successors and the impending disappearance of traditional crafts. Machiya (traditional wooden townhouses) in Kyoto are also slowly disappearing as they are demolished.

A Vanishing World

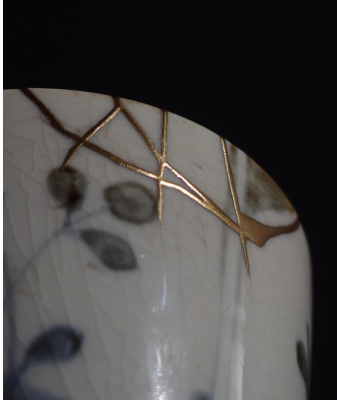
Over the past several decades, both traditional craft and machiya have been in decline due to mass production and societal changes. With the gradual disappearance of machiya and traditional craft, the sense of place and community that was once present in Kyoto is fading.

The thesis uses the framework of time as a cyclical process - one where an understanding of eventual disappearance can lead to the rebirth of something new. Throughout history, Japanese crafts adapted and evolved dynamically to the social and economic constraints of their time. For example, the craft of fan painting was translated to dyeing kimono textiles when a law prohibiting extravagance (such as embroidery and gilding) was issued during the Edo period (1603-1868). The same approach is applied to the thesis, which explores how traditional crafts and machiya can be translated and reinterpreted to give them new life and convey the value of tradition to future generations.

What is the fate of an old building? What is the fate of a tradition at risk of disappearing? Can the fate of traditional craft and machiya be altered?

Reconnecting: Kintsugi

What is the past, present, and potential future of machiya architecture as it relates to traditional Japanese craft? This thesis responds to the disappearance of traditional culture and places in Japan by using architecture as a means of preserving craft knowledge and human connections to material culture. It stimulates creative and social exchange by creating spaces for preserving, sharing knowledge, and innovating traditional crafts.



Kintsugi is a traditional Japanese craft which mends broken ceramics using urushi lacquer and gold powder; work by Aiko Zushi Kintsugi Atelier (Kintsugi Aikozushi n.d.)

The thesis theorizes that architecture and craft can restore the urban condition through the metaphor of *kintsugi* 金継ぎ.

Kintsugi translates to 'joining with gold' and celebrates an artifact's past. It focuses on reimagining an object by embracing its distinctive qualities, rather than restoring it perfectly. The art and craft of *kintsugi* is a lesson in resilience; it is about finding the traces of gold which can connect and mend the fragmented condition. It fills the disconnected space within the site to create something beautiful that will endure into the future.

To address the disconnect, the design methodology and theoretical framework is applied to a site in Kyoto. The thesis investigates the potential for architecture and craft to facilitate cultural preservation in new ways while reconnecting the community to its craft heritage.

Chapter 2: Tradition and Time

In Praise of Shadows

The shadow can be interpreted in multiple ways: the darkness of the unknown and enlightenment, the tension between Japanese traditions and modern life, the tension between East and West. Here the shadow is explored through the lens of tradition, where its relevance is not only architectural, but also a broader commentary on the loss of traditional culture generated by modernization.

Jun'ichiro Tanizaki's essay, "In Praise of Shadows", was written during a critical period of transition in Japan. Throughout "In Praise of Shadows", Tanizaki was deeply aware that traditional Japanese culture might become obsolete in the rapid homogenization of globalized culture. His essay could be considered a discourse on modernization in Japan, symbolized by the disappearance of the shadows which are essential to Japanese aesthetics and culture. When Tanizaki relocated from Tokyo to the Kyoto countryside, he grew to appreciate traditional Japanese culture. "In Praise of Shadows" laments that the culture and traditional aesthetics of Japan was at risk of being forgotten in the process of modernization. The thesis has the same underlying theme, as it aims to preserve Japanese traditional craft and architecture, preventing them from disappearing in the modern world.

Tanizaki's awareness of the West's influence and Japan's rapid progress is another theme that runs throughout the essay. "The Westerner has been able to move forward in ordered steps, while we have met superior civilization and have had to surrender to it, and we have had to leave a

road we have followed for thousands of years. The missteps and inconveniences this has caused have, I think, been many” (Tanizaki 1977, 8). Tanizaki’s discourse painted a polarization between modernization and the vernacular embedded within traditional knowledge.

Tanizaki positions the shadow in the spectrum between darkness and light – modulated by translucency, the glow of candlelight, or the glimmer of gold in the darkness. In traditional Japanese architecture, he observes how the deep eaves, shoji screens, and recessed alcove contribute to a world of graduated shadows. He compares the Japanese room to an “inkwash painting, the paper-paneled shoji being where the ink is thinnest, and the alcove where it is darkest” (Tanizaki 1977, 20). The shoji screen is instrumental to the Japanese room. “Paper-thin and semi-translucent, these walls defy any opposition between inside and outside, and cast the life of inhabitants as a complex interplay of light and shadow” (Ingold 2015, 29). The effect of light can be further enhanced by the contrast between light and shadow, like a brightly lit garden against a darkened Japanese room. “The shadow gives shape and life to the object in light” (Pallasmaa 2012a, 46).

Contrary to Western cathedrals which inspire reverence from the height of its interior, Japanese temples create a deep sense of mystery from horizontality and the shadows beneath the eaves. This extends to traditional houses as well. “In making for ourselves a place to live, we first spread a parasol to throw a shadow on the earth, and in the pale light of the shadow we put together a house... If the roof of a Japanese house is a parasol, the roof of a Western house is no more than a cap, with as small a visor as possible so

as to allow the sunlight to penetrate directly beneath the eaves” (Tanizaki 1977, 17-18).

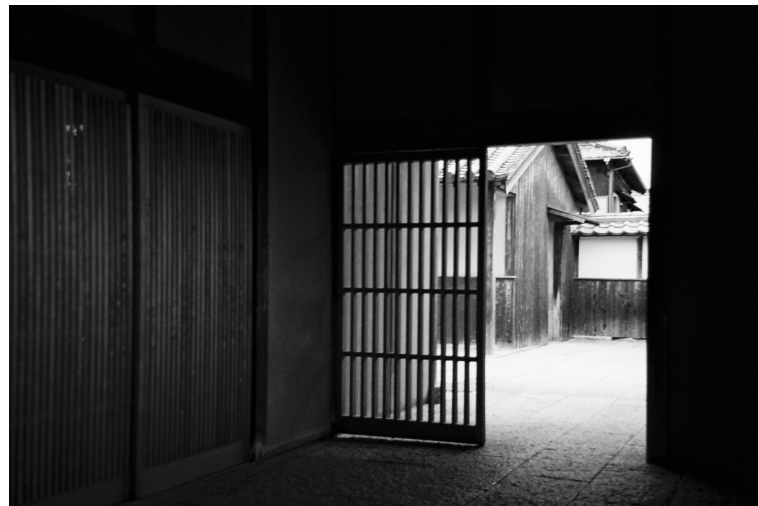
“...Tanizaki’s shadow is also a representation of the cultural time against which the Japanese aesthetic is constituted, a visual image of aesthetic movement over time between light and darkness, darkness and light... the shadow gives visible expression to cultural time, to the chronology of comings and goings, happenings and changes that are difficult to express” (Mizuta 2006, 346).

Preserving Tradition

Traditions express the culture and knowledge that has been passed down from our predecessors and form the groundwork of artistic creation. “Tradition maintains and safeguards the collective and accumulated existential wisdom of countless generations. It also gives a reliable direction to the new and maintains the comprehensibility and meaning of the new” (Pallasmaa 2012b, 19). An understanding and awareness of established traditions is



Shadows in the tokonoma
(Moriyama 2021)



Shadows in the entry passage to a Japanese house.

required to subvert expectations and create innovation. Pallasmaa argues that “nuance, expressive subtlety, and an ambition for an experiential and existential quality in a work require a sense of historical continuum: ‘An embodiment of the essence of tradition’ as a precursor for ‘meaningful creativity’” (Pallasmaa 2012b, 14).

Tradition and Modernity

The tension between tradition and the modern age is not a new phenomenon. Tanizaki remarks that “in recent years the pace of progress has been so precipitous that conditions in our own country go somewhat beyond the ordinary. The changes that have taken place since the Restoration of 1867 must be at least as great as those of the preceding three and a half centuries” (Tanizaki 1977, 39). In addition, tradition is often viewed through a limited lens in the present day. “An interest in the significance of tradition is today usually seen as nostalgia and conservatism; in our age, obsessed with progress, our eyes are exclusively fixated on the present and future” (Pallasmaa 2012b, 15).

Throughout ‘In Praise of Shadows’, Tanizaki speculates that if the Japanese had invented their own technology, it would have better suited their culture. He discusses several examples, including paper, the fountain pen and ink, and the phonograph. “Had we invented the phonograph and the radio, how much more faithfully they would reproduce the special character of our voices and our music. Japanese music is above all a music of reticence, of atmosphere... Most important of all are the pauses” (Tanizaki 1977, 9).

Some of the tension between tradition and mass society is the result of the rapid conversion of Japanese cities to the economy of a post-industrial society. This process was

“part of inevitable global development... the emergence of a mass society... as a consequence of modern capitalism” (Maki 2012, 86).

Traditional Craft

With the increasing modernization of Japan over the past century, daily life has changed dramatically from a time in which everything was made by hand to the present day when most things are manufactured. The accumulated knowledge and skills of generations of artisans and the collaborative spirit of those who work together to create these things is also at risk of being lost forever.

In Japan, artisans and craftspeople are often called *shokunin*, and part of their duty as *shokunin* is the transmission of knowledge to future generations.

The work of each Japanese artisan is not only an expression of an individual artisan, but a collaborative effort among the many who work to complete a single process. From the silk weaver to the artisan who dyes the fabric, to the artisan who embroiders the finished fabric — the work of the artisan is the work of an entire community of craftspeople, each of whom plays a critical role in the creation of a finished object.

In Kyoto, traditional Japanese crafts have a strong focus on textiles, including regional-specific methods of weaving, dyeing, embroidery, and gilding.

Preservation Approach

In contrast to considering Japanese crafts in the context of unchanging traditions and the continuous use of the original materials that shaped everyday objects centuries ago, Guth argues that craft in Japan is dynamic. She frames a dynamic

rather than static view of traditional Japanese crafts, where craft has continuously shifted to reflect changes in society and technology.

Traditional Architecture (Machiya)

Machiya 町家 “merchant or market houses” are traditional wooden townhouses which originated in Kyoto and emerged as its defining vernacular architecture. In Kyoto, they are sometimes specifically referred to as *kyo-machiya*.

The machiya of Kyoto were born out of the city’s growing merchant class, functioning as both residences and workspaces with a shop in the front and living spaces in the rear. Due to strict taxation laws during the Edo period, machiya are characterized by a structurally deep and narrow lot, and usually limited in height to two stories.

Preservation versus Revitalization

Most machiya, unlike the temples and heritage sites deemed as cultural properties and UNESCO sites, are a dynamic form of cultural preservation due to their vernacular character. Thus, the approach when it comes to machiya is ‘Revitalization’ as opposed to ‘Preservation’, where the building becomes frozen in time.

Revitalization and preservation in Japanese culture is not about exact replication, but understanding the essence and proportions of the space.

A survey conducted among machiya preservation committee members in Kyoto revealed that the appeal of the machiya was its intimate connection to nature’s seasonal cycles and their atmosphere or aesthetic harmony (Brumann 2009, 287).

Table 1: Personal reasons for supporting kyô-machiya preservation given by members of one citizens' group

Because (they) is a strong reason	... is a reason	[no opinion]	... is not a reason	0%	50%	100%
are beautiful	<i>utsukushii kara</i>	H 7	40	11	1			
let one feel the changing seasons	<i>shiki no utsurikawari o yoku kanjiru kara</i>	N 12	34	12	1			
fit well into Kyoto's townscape	<i>Kyôto no keikan/machinami ni au kara</i>	H 8	38	13	-			
have a soothing effect	<i>ochitsukeru kara</i>	H 9	36	14	-			
are traditional	<i>dentôteki da kara</i>	P 6	37	15	1			
are made of wood	<i>mokuzô da kara</i>	N 5	37	14	3			
are gentle to the environment	<i>kankyô ni yasashii kara</i>	N 10	29	20	-			
have gardens inside	<i>naka ni niwa ga aru kara</i>	N 6	30	23	-			
have a good atmosphere	<i>naka no fun'iki ga ii kara</i>	H 5	31	22	1			
are in danger of disappearing	<i>kiete iku kanôsei ga aru kara</i>	7	28	19	5			
are connected to old festivals and customs	<i>nenjû gyôji ya mukashi kara tsutawatte kita shikitari ni tsunagatte iru kara</i>	P 6	29	21	3			
represent Kyoto	<i>Kyôto o daihyô suru kara</i>	C 6	28	19	6			
are better than condominiums and prefabricated houses	<i>manshon/purehabu yori ii kara</i>	6	27	22	4			
represent Japan	<i>Nihon o daihyô suru kara</i>	C 5	28	22	4			
are Japanese-style architecture	<i>wafu kenchiku da kara</i>	C 1	32	22	4			
are a resource for town revitalization	<i>machizukuri no shigeki/kibakuzai ni naru kara</i>	3	22	29	5			
have been handed down over generations of ancestors	<i>senso kara daidai uketsuide kita kara</i>	P 2	22	22	13			
are refined/elegant	<i>jôhin da kara</i>	2	19	31	7			
remind me of my childhood days	<i>jibun no kodomo no koro o omoidasu kara</i>	P -	20	26	13			
I own a machiya or other wooden house	<i>jibun ga machiya/mokuzô no ie o shoyû shite iru kara</i>	1	18	20	20			
I live in a machiya or other wooden house	<i>jibun ga machi/mokuzô no ie ni sunde iru kara</i>	1	15	23	20			
are connected to the old-style family system	<i>mukashi-nagara no kazoku seido ni tsunagatte iru kara</i>	P 1	13	27	18			
are chic/cool	<i>oshare da kara</i>	2	11	35	11			
have low heights	<i>takasa ga hikui kara</i>	-	13	35	11			
are old	<i>furui kara</i>	P -	11	40	8			
are comfortable to live in	<i>sumiyasui kara</i>	-	11	39	9			
are a resource for tourism	<i>kankô shigen da kara</i>	2	8	30	19			
are suited to the creation and exhibition of art	<i>bijutsu no sôsaku/tenji ni muite iru kara</i>	1	7	40	11			
I do business in/with machiya	<i>jibun ga machiya de shôbai shite iru kara</i>	-	9	24	26			
are economically promising	<i>keizaiteki ni mitôshi ga aru kara</i>	-	7	35	17			
represent my neighbourhood	<i>jibun no chônai/kaiwai o daihyô suru kara</i>	-	8	32	19			
are one step removed from current mainstream culture	<i>gendai bunka no shuryû kara ippo hanarete iru kara</i>	-	7	28	24			
have become fashionable of late	<i>kono goro hayatte iru kara</i>	-	1	23	35			

Note. The question was "Why are kyô-machiya important for you and should be preserved and revitalized?" [Kyô-machiya wa anata ni totte naze daiji de, hozon/saisei subeki desu ka?]. Informants were asked to mark items that are reasons for them (*jibun de atehamaru riyû*) and those that are no reasons, leaving all other items blank. Informants were also asked to mark particularly strong reasons if there were any. No numerical limit for the numbers of reasons, strong reasons, or rejected reasons was suggested. H = reason is related to aesthetic and emotional harmony, N = reason is related to closeness to nature, P = reason is related to the past, C = reason is related to Kyoto, Japan, or Japanese architecture.

Knowledge of Japanese traditional wooden construction was accumulated and refined for over a thousand years by generations of carpenters. Rather than attempting to resist natural forces, they understood how to use the inherent material characteristics of wood to absorb the lateral movement of earthquakes.

The conventional construction method used today was implemented when Japan was striving to succeed in postwar rehabilitation after losing a significant number of skilled carpenters and craftsmen to war.

As a result of the Building Standards Act created after 1950 in Japan, it is difficult to rebuild machiya in the traditional way. Thus, the craftsmanship of traditional machiya – the fruition of wisdom and skills passed down for centuries – is now in danger of becoming a dying art.

Transferring Cultural Heritage

There are two aspects to cultural heritage: tangible and intangible. Often, the tangible object embodies the intangible culture of generations past.

In Japan, the master artisan is called a Living National Treasure and they are considered a holder or protector of cultural heritage. Similarly, architecture is a tangible vessel of intangible culture and daily life.

Through this thesis, the transfer of intangible cultural heritage through tangible means is explored, as there is significance in the physical (human or architecture) which has the power to hold the intangible.

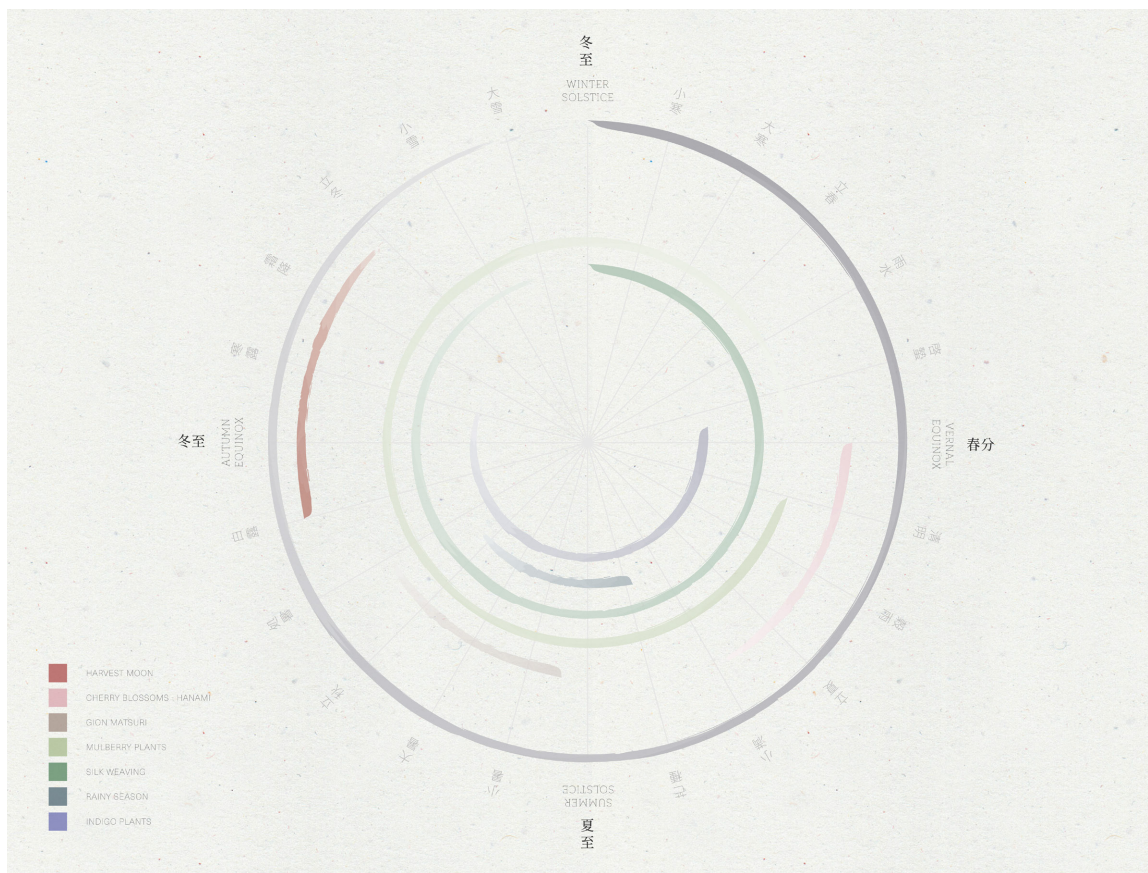
Temporality

The Japanese concept of *hakanasa* 儚さ儚さ evokes the Japanese ideal of beauty as ephemeral and transitory. However, in the modern world, rituals and traditions gradually fade and lose their meaning as progress and efficiency are prioritized. Daily and seasonal rhythms blur indistinguishably into one another.

The Japanese have a calendar of 'microseasons' which divide the year into 24 or 72 seasons according to natural cyclical rhythms. Microseasons are governed by subtle occurrences observed in nature, like the Vernal Equinox 春分 in spring when sparrows start to nest and cherry blossoms bloom. In autumn, "Frosting" 霜降 encompasses the first frosts and when maple leaves turn yellow. Architecture which permits the observation of the microseasons through connections to nature is a method of visualizing time.

In addition, Japanese cities like Tokyo and Kyoto have undergone rapid cycles of destruction and rebirth throughout history. Destruction has been external (war), self-imposed (modernization), and naturally occurring (earthquakes, fires, and tsunamis). As a result, Japanese cities had to be rebuilt very quickly after being destroyed. However, the consequence of rapid reconstruction was a loss of cultural identity.

The traces of time in architecture go beyond the patina that the building develops as it ages. It also includes the time inherent in the materials along with the craftsman's labor. "The *charpente* (workshop), Berger observes, is 'filled with time'. There is the time it took for the trees to grow, the time to let their wood dry, the time to build with them and—now that the building has reached the end of its useful life and

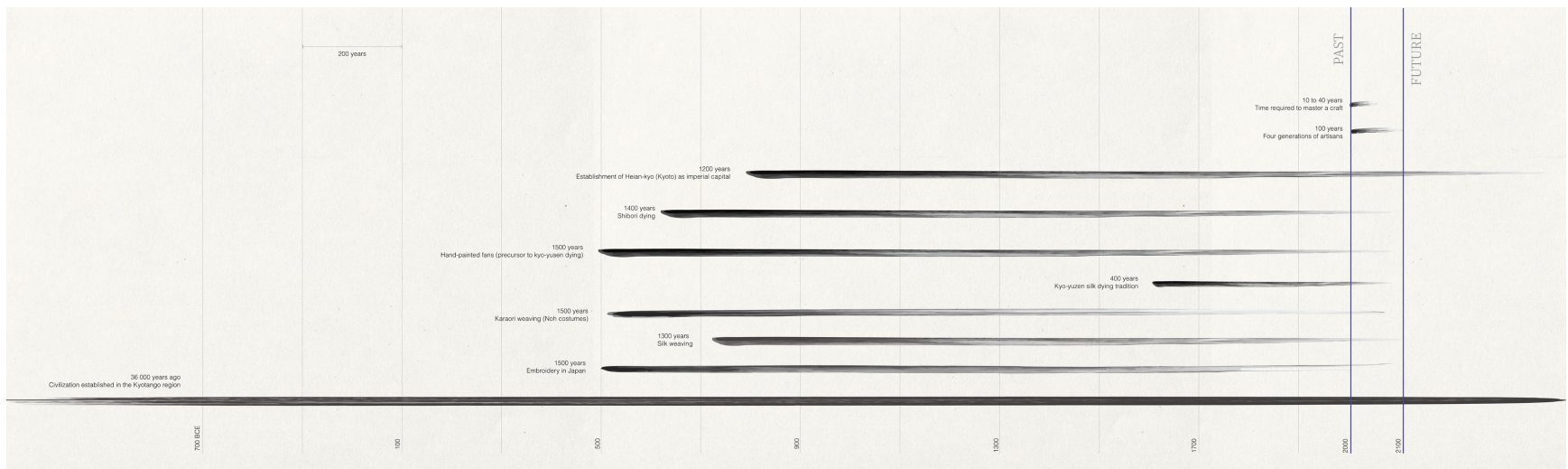


Japan's 24 microseasons based on natural phenomena and the seasonal events that mark the passage of time every year.

its planks can fetch a good price elsewhere—the time spent putting away, taking out and pulling down” (Ingold 2010, 98).

Reframing Time as Cyclical

Rather than thinking of time as linear, we might consider time as a cyclical process similar to the 24 microseasons in Japan, continuously layered upon each other. Reframing time as cyclical highlights the underlying awareness of transience which permeates Japanese culture. According to Girard in *Un moine de la secte Kegon a l'époque Kamakura, Myôe (1173-1232) et le Journal de ses Rêves* (quoted by Hladik), the 'four aspects of duration' in Buddhism are 'apparition'



Timeline of place, craft traditions, and apprenticeship in the context of hundreds of years

(sho), 'duration' (ju), 'deterioration' (i) and 'disappearance' (metsu). These four aspects of duration could also be applied to a building's life cycle.

This idea of cyclical time is related both to the seasonal and agrarian cycles venerated in Shintoism and to the Buddhist concept of cyclical time and rebirth. In Buddhist texts, time is not perceived as a linear process but as cyclical... In the human life cycle, we have the image of birth, living, aging and death. I would like to outline an analogy with the life span of a building: 'apparition' is the moment of construction, 'duration' is when the building is inhabited (*sumu*, living), 'deterioration' is linked with the weathering process, or aging, and 'disappearance' is the ruin or the death of architecture. (Hladik 2003, 257-258)

The most sacred shrine in Japan, Ise Jingu, is famously rebuilt every 20 years, maintaining eternal life by moving through this cycle. Thus, in Japanese culture there is always a potential renewal of form.

What if we framed architecture, craft, and generations in a timeline of hundreds of years? The thesis aims to preserve machiya for another 100 years by redefining the 'present' as the next 100 years, and aims to sustain multiple generations of artisans while honoring the past and the future.

Chapter 3: The Artisan and Craft

Craft and Embodied Knowledge

There is an undeniable connection between embodied knowledge, craft, and making.

Ingold states that the process of making is often framed as a project with a final product, which is hylomorphic, derived from Greek *hyle* (matter) and *morphe* (form) (Ingold 2013, 20). Instead, he proposes a morphogenetic approach, where making is a process of emergence without a finished form. Theoretically, the process of formation continues even without further human intervention, as the object is exposed to the passage of time and weather. Ingold emphasizes that the value of making is not only about the tangible objects, but also the knowledge required to make them. The process is always in flux, continuously being refined and reinterpreted. Ingold proposes the textility of making, where “making is a practice of weaving, in which practitioners bind their own pathways or lines of becoming into the texture of material flows comprising the lifeworld” (Ingold 2010, 1).

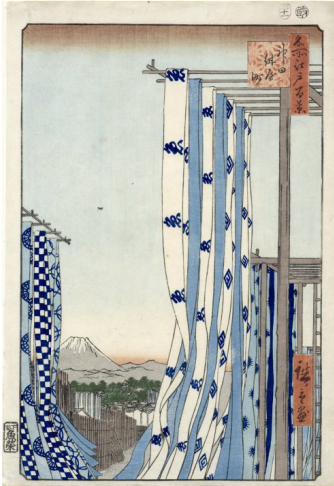
Ingold’s theory of making has many parallels to Japanese craftsmanship: the philosophy that mastery is never fully attained, and the continuous refinement of a process in the pursuit of perfection. An artisan learns the craft technique and processes, eventually refining and reinterpreting them. Living National Treasures are holders or protectors of intangible cultural assets originating in Japan, which implies that they have an embodied knowledge of a particular craft.

Pallasmaa views the craftsman as the embodiment of the process of making. “The craftsman needs to develop specific relationships between thought and making, idea and

execution, action and matter, learning and performance, self identity and work, pride and humility” (Pallasmaa 2009, 53).

For the apprentice, crucial knowledge is transferred and ingrained through the movement of the body and sensory perception. “The body was the principal vehicle for knowledge transfer in early modern craft practice” (Guth 2021, 140). The Japanese expression “*karada de oboeru*” means “to remember with the body”. Traditional knowledge is not communicated through words, instead it is stored in the senses and the muscles. “Learning a skill is primarily a matter of embodied muscle mimesis acquired through practice rather than conceptual or verbalized instruction” (Pallasmaa 2009, 118) from the muscles of the master to the muscles of the apprentice. The continual and symbolic renewal of Ise Shrine and other significant cultural buildings is another example of embodied knowledge transfer. “Traditionally, the dismantling and reconstruction of complex structures is primarily based on the preservation of necessary skills and techniques... The transmission of knowledge is based on the repetition of gestures in the relationship between masters (*iemoto*) and apprentices, thus preserving skills across generations” (Hladik 2003, 268).

“Moreover, the Japanese fully understand, and celebrate, the ‘rhythm of concentration’, their artists and artisans have dedicated their lives to in order to become expert – many being honoured as Living National Treasures... a qualitative approach that harks back to the fundamental elements of craft: of making things well and investing time in learning” (Adkins and Dickens 2012, 25).



Cloth Drying, Dyer's Quarter, Kanda from 100 Views of Famous Places in Edo, 1857; Wood block print by Andō Utagawa Hiroshige (Hiroshige 1857)

The Past

Crafts in Japan could be considered the intersection between art and industry, with an emphasis on workmanship and handicraft. Japan's visual and material culture flourished in early modern Japan between the late sixteenth and nineteenth centuries.

Traditional Japanese crafts have a long history and ranged in scale from small family businesses to industrial operations. However, crafts were threatened in the early Meiji era (1868-1912) when Japan mechanized industrial processes to compete with the West. After World War II, Japan's economy grew rapidly with the introduction of mass production, which caused the demand for traditional handcrafting techniques to decline.

In addition to their skills, craft professionals relied on a supply of raw materials in proximity, which determined where specific crafts flourished. "The materials and skills of craftspeople were carried out in a social context... Their initiatives shaped and reflected the changing values of the wider environment" (Guth 2021, 24-25).

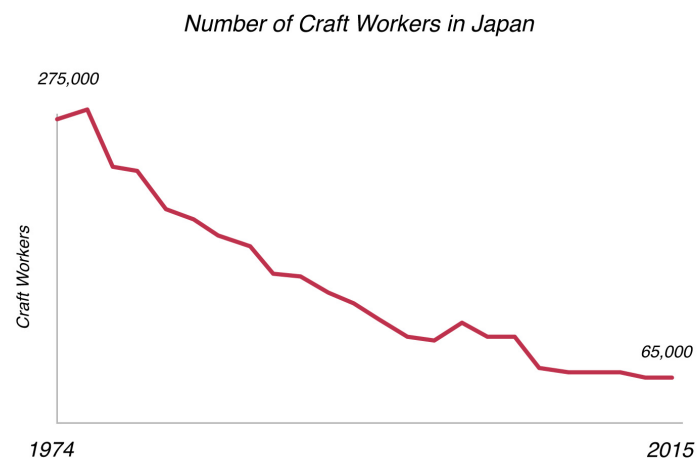
The networks that ensure the transmission of craft skills and knowledge are important but fragile. Traditional crafts were handed down through a strict apprenticeship system or through generational inheritance. Craft knowledge is passed down through a combination of oral tradition, observation, and tacit knowledge. Furthermore, craft techniques require significant time and commitment to master. However, the disappearance of traditional crafts in recent decades means that this system of knowledge transfer may need to undergo change.

The Present: Artisan Narratives

Currently, crafts throughout Japan are facing challenges including attracting a new generation of young artisans and balancing tradition with innovation. These challenges are compounded by the length of time required to learn and master traditional techniques. How can the craft industry reinterpret and reapply traditional techniques in modern and unexpected ways in the face of these challenges?

Highly specialized craft techniques may be lost once elderly artisans retire or pass away, as they are currently practiced by artisans who do not have apprentices.

Using the kimono industry as a representative example, a large proportion of artisans specializing in kyo-yuzen (a method of dyeing kimono) are elderly and have worked in the kimono industry for 20 to 30 years. “Most craftsmen today are over 80 and within the next 10 years many will



Graph of decline in Japanese craft workers from 1974-2015 (data from Association for the Promotion of Traditional Craft Industries n.d.)

pass away. We are in real danger of losing thousands of years of kimono-making techniques” (Demetriou 2010).

A weaver from Nishijin stated, “The master never taught me the secrets, but I learned by observing—nusumi-dori [to steal or acquire]” (Hareven 2002, 132). Many craft apprentices in Japan follow a similar process where they learn from observing their master when they first begin their apprenticeship. “The average length of the apprenticeship period [for weaving] was nine years—three years to learn the basic skills, three years to perfect the skills, and three years to “thank” the master [o-rei boko]” (Hareven 2002, 56).

The kimono industry is suffering a Janus-faced conundrum of transition versus tradition. It shares parallels with Western Art’s recent history of reproduction in the mechanical age in that a computer-generated image of a painting is not an artwork – it is an image of an artwork. The painting becomes something different once it has been reproduced – colours change, spatial depth is lost, materiality is lost... As we move further and further away from the original, we move further away from the point of art itself – the object, how it is made and what it is made of. The reason for this transition in the kimono industry is due in part to the decline of skilled artisans and a younger generation who cannot justify, economically, the time-investment in apprenticeships to learn these skills. (Adkins and Dickens 2012, 108)

Although there is interest from the younger generation in learning traditional crafts, it is difficult to sustain a living as a solo craftsman and it takes a long time to master the necessary skills. It can take over 10 years to master a single step in the kimono-making process. In a published interview with kimono master craftsman Yamaguchi, he was introduced as “one of only three masters left who could actually create a kimono from scratch. All were over 70 years old and none had apprentices. Yamaguchi stated: ‘It is a sign of the times ... I am not sure who will carry on this tradition for future generations. I no longer have the time or

energy to teach someone now. Even if I did, where would they work?” (Adkins and Dickens 2012, 109)

The Fate of Craft

In *The Craftsman*, Richard Sennett discusses how machines and mass production changed the craftsman's role. However, modern perspectives on craft have shifted as handcrafted objects are now rare and more valuable than machine-made. Sennett argues that craft is still valuable and relevant today despite machines and technological advancement (Sennett 2008). While machines can replicate or perform with higher accuracy than people, the ability to innovate and create is exclusively and inherently human.

Japanese society shifted to wearing Western clothing beginning in the late 19th century during the Meiji period (1867–1912), contributing to declining demand for traditional textiles. Due to mass production, inexpensive items are readily available and favored over handcrafted ones, which are a luxury due to the time-consuming labour required to produce them.

The future of the traditional textile industry is focused on exploring innovations in design, production, distribution, and marketing. Hall argues that “these forces are enabling cultural revitalization” (Hall 2020, 157).

Craft in Japan has always been dynamic and must continuously evolve to the societal and technological needs of its time. As a result, the role of crafts in the future must be evaluated and requires the acknowledgement that these traditional techniques may be lost in the future.

Chapter 4: Kyoto Machiya

Machiya City: A Vernacular Typology

Historical machiya (merchant or market houses) in Kyoto are “hallmark architectural elements of Kyoto’s historic landscape and monuments to the city’s robust commercial culture” (Stavros 2014, 57). Thus, the preservation and adaptive reuse of machiya is an important objective of this thesis.

The machiya is the vernacular unit that constitutes the whole. When several machiya are grouped together to create a community, they contribute to the streetscape and atmosphere of the city. “The internal plan of one machiya, the way that one building relates openly to the street, the manner in which a group of machiya relate as a block community, the further relation of many blocks within the city, and finally the relation of the city to the surrounding landscape - all of these stages express the organic quality of a ‘machiya city’” (Kinoshita 2003, 372).

The Past

The traditional machiya’s emergence during the Edo Period (1603-1967) as an architectural typology “coincided with a period of great national peace and prosperity as well as Japan’s self-imposed isolation from the rest of the world,” which had a significant impact on its art and architecture. The creative culture was driven by the new merchant class and the machiya where they sold their wares.

During the Edo period, machiya were taxed according to the size of the storefront facing the street. Thus, the machiya was designed to be narrow to minimize the storefront’s width



Examples of machiya facades from fieldwork conducted in Kyoto. The left machiya is standard width while the machiya on the right is doubled in width.

while providing space behind the shop for living quarters. For most machiya facades, “the standard width was 5.4 metres (18 shaku), and sometimes double that size” (Izumida 2011, 1). They are typically two-story wood structures as Edo laws prohibited merchants from building higher, and the exterior facade is often built up to the edge of the street. Machiya have a specific harmony of facade and proportion since they were constructed based on the dimensions of a single tatami mat. Slatted windows provided privacy and seclusion from the street. During this period, the ruling shogunate introduced strict laws forbidding extravagant displays of wealth, which applied to both machiya and kimono. These conditions shaped the design of the machiya vernacular typology as well as Japanese craft in Kyoto.

Authentic machiya were built with intricate traditional carpentry techniques, including ‘kumiki’ joinery methods (strong joinery pieces made without nails). These traditional construction methods were highly sophisticated and earthquake resistant.

In the past, machiya were grouped together in small neighborhoods with a strong communal spirit. These blocks of machiya generated a sense of community as they connected merchants and artisans of related trades. This community and the live-work organization characterized by the machiya typology has significantly contributed to the continuity of textile craft production in Nishijin.

The machiya typology developed alongside the everyday life and culture of Kyoto. “[The] layers of culture gathered in Kyoto form the cultural base of the machishu and machiya, and machiya districts as a whole served as the stage for this development. From medieval times through to the modern period, the seed, growth, fruition, and rebirth of various aspects of Japanese culture such as literature, painting, theater, crafts, and music can be seen to have happened as part of Kyoto’s urban life” (Kinoshita 2003, 371).

The Present

Regarding the current state of machiya in Kyoto, a study of machiya demolition in Nishijin found that areas with a lower concentration of machiya were more likely to be demolished. In Nishijin, 60% of former machiya sites were converted into conventional houses and 15% into apartments, office, or commercial buildings. 11% of machiya sites became parking lots and 9% became vacant lots (Hanaoka 2009, 230). Hanaoka’s study found a polarization in demolition: machiya in areas with higher densities of machiya were less likely to be demolished but areas with fewer machiya were more likely to be demolished. “It is likely that the owners of the remaining Kyo-machiya will lose interest in preserving their Kyo-machiya as the surrounding Kyomachiya are demolished and modern homes increase... it can be



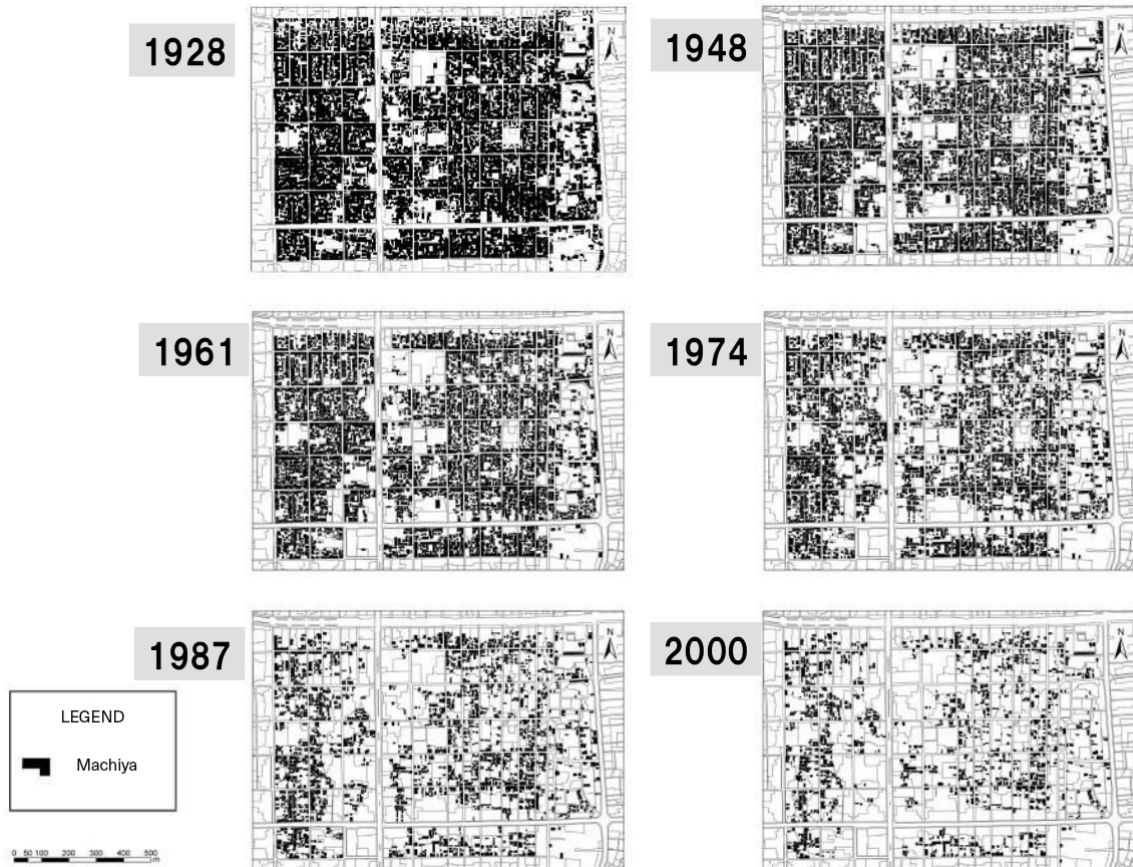
Demolition rate of machiya in the Nishijin district. Darker areas indicate higher rates of demolition. (Hanaoka 2009, 230)

assumed that trend will be accelerated” (Hanaoka 2009, 238).

The Fate of Machiya

Once an authentic machiya is demolished, it is nearly impossible to rebuild it with the same traditional construction and carpentry techniques due to the Building Standards Act. As a result, authentic machiya will become increasingly rare in the future.

In the past 20 to 30 years, interest in preserving machiya in Kyoto has grown as communities began to recognize their intrinsic cultural value. “Of late, in some areas of Kyoto like the textile district of Nishijin, a movement has begun to rent out to artists old machiya that are no longer being



The disappearance of machiya in Kyoto from 1928-2000 based on GIS analysis (Yano 2016)

lived in. This process is being increasingly supported by local communities... the communities in districts with a concentration of old town-houses, once on the verge of dying out, are now experiencing a revival” (Kinoshita 2003, 383) This recent development seems to be an evolution of the creative spirit of Nishijin’s past, although many machiya have also been adapted for commercial use. “Nishijin... has undergone one of the most dramatic examples of neighborhood change in Japan with regard to commercial renovation of traditional townhouses” (Kim 2018, 164). Since the 1990s, many of the machiya in the Nishijin area were forced to choose between being demolished, remaining in

the shadows of multi-residential developments, or being converted to commercial use. Although preserving machiya for commercial use prevents demolition, “it does not necessarily maintain the culture and lifestyle that is its essence” (Kim 2018, 177).

Unless the cultural value of the remaining machiya in Nishijin is demonstrated to the community, the fate of demolition is foreseen to be imminent based on the factors presented.

“...the machiya, symbols of Kyoto’s urban vitality, are disappearing by the thousands, and there is little support to reintegrate the remaining machiya into the needs of modern Kyoto. What we hope to achieve is balance and desire to preserve the essence of Kyoto not just for the people of the city but for the whole world. We need to foster a relationship where modern and traditional can coexist in a positive way to create a beautiful city, and we need to enlist the support of the younger generation because soon it will be their city, and, like us now, they will be the ones responsible for maintaining and passing on traditions, customs, and a healthy and active community.” (Kinoshita 2003, 383)

Chapter 5: Situating

Methodology

When approaching the thesis, the question arises on how one might design craft through architecture.

The first approach to craft is anticipating the unique imperfections of a material while also maintaining a high level of workmanship. Architecture that showcases craft should communicate how it was made. The relationship between the architect and the craftsman is built on mutual respect and collaboration. The architect experiments and proposes ideas that push the boundaries of tradition. The craftsman, with their experience and material familiarity, works together with the architect to anticipate the material's inherent qualities. Without attentive craftsmanship, an excellent design cannot be fully realized. Pye's analogy of workmanship and musical performance is apt: "The quality of the concert does *not* depend wholly on the score, and the quality of our environment does *not* depend on its design. The score and the design are merely the first of the essentials, and they can be nullified by the performers or the workmen" (Pye 1968, 17).

Another approach is the incorporation of traditional local craftsmanship and knowledge into the project, allowing it to be continuously practiced. It is effective when "the deployment of traditional local skills elevates the practicalities of architecture and engineering to the level of unique handicraft. The presence of skill, craft and attention to detail give even commonplace materials the air of luxury" (Pallasmaa 2016, 186). This approach perfectly captures the essence of Japanese craftsmanship, which utilizes a

high degree of manual skill and care to create extraordinary beauty from modest materials.

Japanese architecture firm New Material Research Laboratory (Shinsoken) incorporates traditional techniques that have been forgotten, searching for possibilities where the old can become new again. Their design approach “seeks to liberate traditional materials and techniques from the traditions and regions constraining them, and to investigate their possible uses from a more free-thinking perspective” (Sugimoto and Sakakida 2021, 40). Their innovative perspective on traditional techniques brings a contemporary lens to vernacular techniques.

In Japanese, the expression *onkochishin* 温故知新 means “learn from the past to gain new knowledge”. *Onkochishin* implies that to create something new, one must respect the traditions of the past. Thus, the study of how *machiya* are traditionally built is critical before design can begin.

To synthesize these design approaches to craft with the spatial requirements of Kyoto artisans and traditional *machiya*, the design methodology drew from a three-step process of Fieldwork, Anatomy, and Transformation. The Fieldwork and Anatomy are drawn from *onkochishin* and designing craft. Transformation is the interpretation and application of these learnings to the design.

Fieldwork

The fieldwork objectives were twofold:

- Determine practical requirements for textile craft production spaces and discuss current challenges with artisans
- Begin assembling an anatomy of machiya and their associated atmospheric experiences

From the fieldwork findings, the anatomy of the machiya and programmatic spaces are developed.

In terms of work conditions, many kyo-yuzen artisans work while kneeling, although some work at tables depending on their preference and equipment. On the other hand, hikizome artisans rely on mobility to dye long lengths of silk. Weavers sit at the looms they operate. Dyeing methods which involve submerging in water such as shibori are performed while standing as the floor becomes wet.

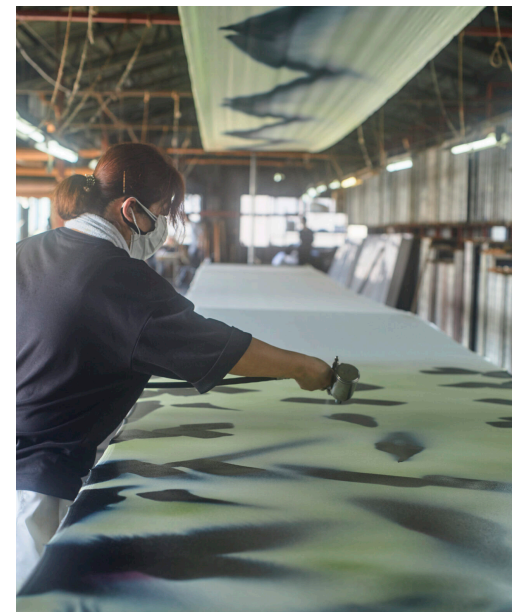
Natural light is required to check the accuracy of colors when dyeing fabric. Many artisans also require additional task lighting, especially for weaving, kyo-yuzen, and embroidery.



The task lighting used by a Nishijin-ori weaver at Orinasukan illuminates the fabric from below since the design is woven on the underside. The weaver uses a mirror to view the design from above.



Atmosphere and lighting conditions of a silk workshop visited in Yosano, Kyoto, where silk thread is spun in preparation for weaving. The workshop is primarily lit with natural light diffused by frosted glass which was common across all workshops visited.



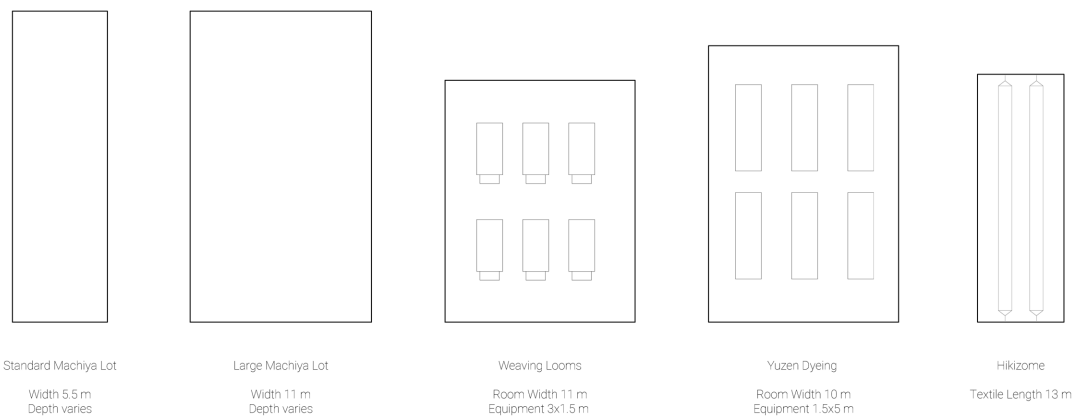
Textile crafts related to kimono and their workshop conditions observed through fieldwork and research.

Top left: Kyo-yuzen dyeing
 Top right: Testing dyes for kyo-yuzen
 Center left: Hand-weaving

Center right: Kasezome indigo dyeing (Abe 2023)
 Bottom left: Hikizome brush dyeing workshop (Miyake 2022)
 Bottom right: Hikizome (Miyake 2022)

	<i>Shinichiro</i>	<i>Okayama Kougei</i>	<i>Ikeuchi Yuzen</i>
Employees	One	30 (15 are yuzen artisans)	Two (Father and son, second generation)
Building Type	Machiya 2 storeys	Commercial Building 4 storeys	Machiya 2 storeys
Programs	1F Workspace (tatami) Showrooms Kitchen 2F Floating tearoom Lecture / meeting room	1F Workspace (tatami) 2F Workspace Kitchen 3F Offices Library 4F Offices	1F Workspace Showroom Meeting / fitting room Kitchen 2F Workspace Private living area
Notes	<ul style="list-style-type: none"> - Work is completed while kneeling on tatami flooring - Occasionally holds workshops and lectures on the 2nd floor - No apprentice at this time - Exhibited work overseas and collaborated with luxury designer Hermès - Workshops are available to the public 	<ul style="list-style-type: none"> - Female-founded company, majority of artisan employees were female - Work is primarily completed while kneeling - Some steps in the process are outsourced to other companies - Rooms were standard office height - Workshops are available to the public - Library contains design inspiration 	<ul style="list-style-type: none"> - Work is completed while sitting at a desk or standing - Design inspiration from nature and travel - Use silk sourced from Tango - Clientele includes maiko and the Imperial Family - Rooms have multiple purposes (ex. the meeting room is also used as a fitting area)

Table summarizing the working environment of the kyo-yuzen artisans visited in Kyoto



Programmatic space requirements for various textile crafts compared to typical machiya widths, determined based on fieldwork.

Anatomy of the Machiya

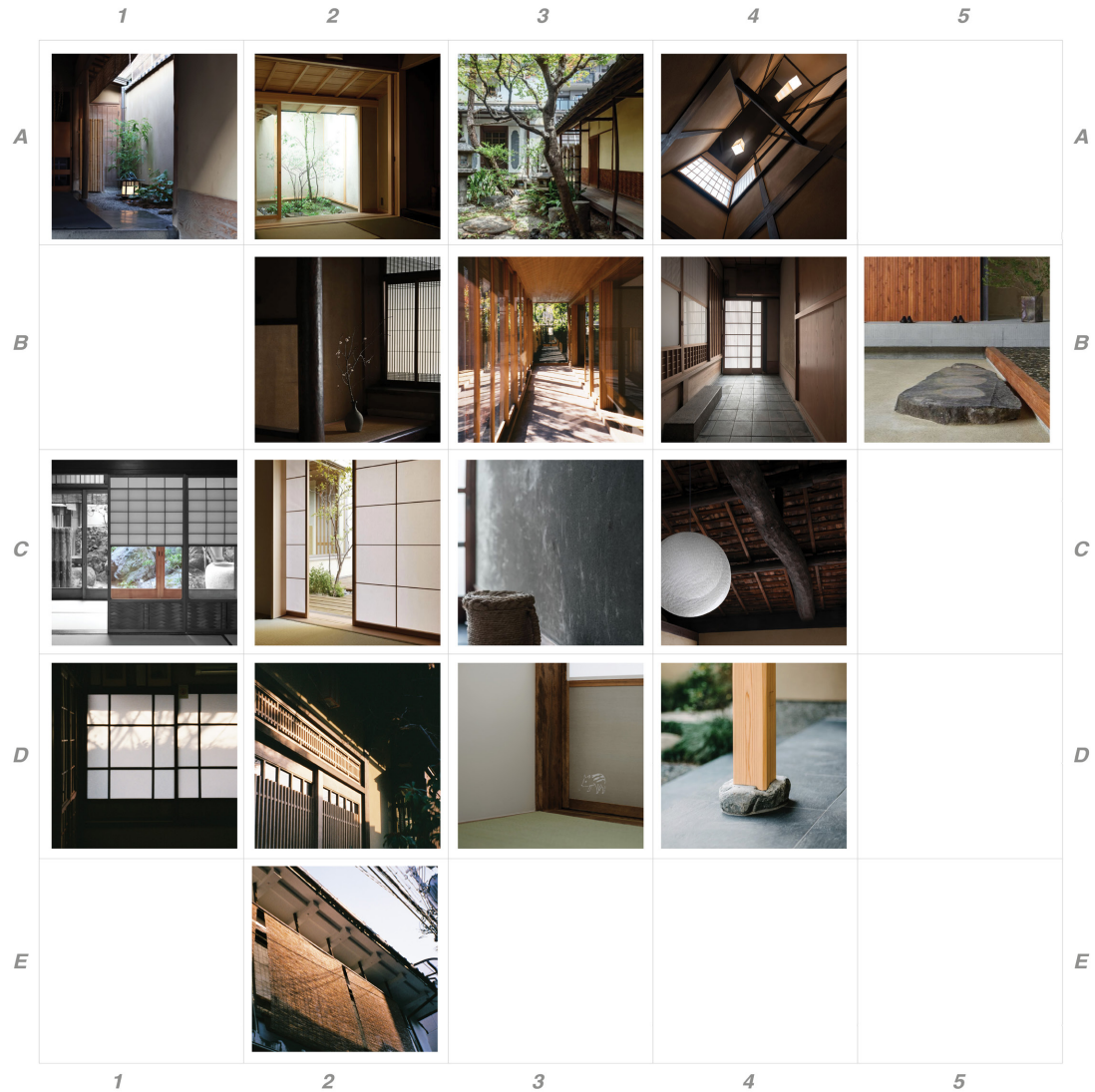
An “anatomy” of machiya elements was studied and assembled to establish the architectural language of the thesis. The machiya’s defining spatial relationships and elements were analyzed, extracted, and translated onto the site in the final step, Transformation.

The traditional organization of the machiya was defined by the coexistence of work (active) and living (solemn) spaces.

The spatial relationships within the machiya - indoor/outdoor, light/dark, active/solemn - create complex and poetic spaces... This clear progression of space, public to private, from shop to storehouse, reflects the practical needs of the traditional inhabitant and also embodies a spiritual hierarchy. Active daily spaces such as the shop, kitchen, and passageway are the closest to and most accessible from the street. Traditionally, these areas were paved, like the streets once were, with compacted earth. Although found ‘inside’ the house, they are used like outdoor areas... More private areas, however, are always a step up from the ground and are covered in tatami mats or wooden floor.

Deep in the machiya are the most private, protected, and sacred spaces. These include the main room, main garden, and storehouse. The main room contains the most spiritually significant spaces, the tokonoma or display alcove and the butsudan or family altar... The room is situated next to the main garden, providing light and a formal scenic composition for the pleasure of the view. (Kinoshita 2003, 368-369)

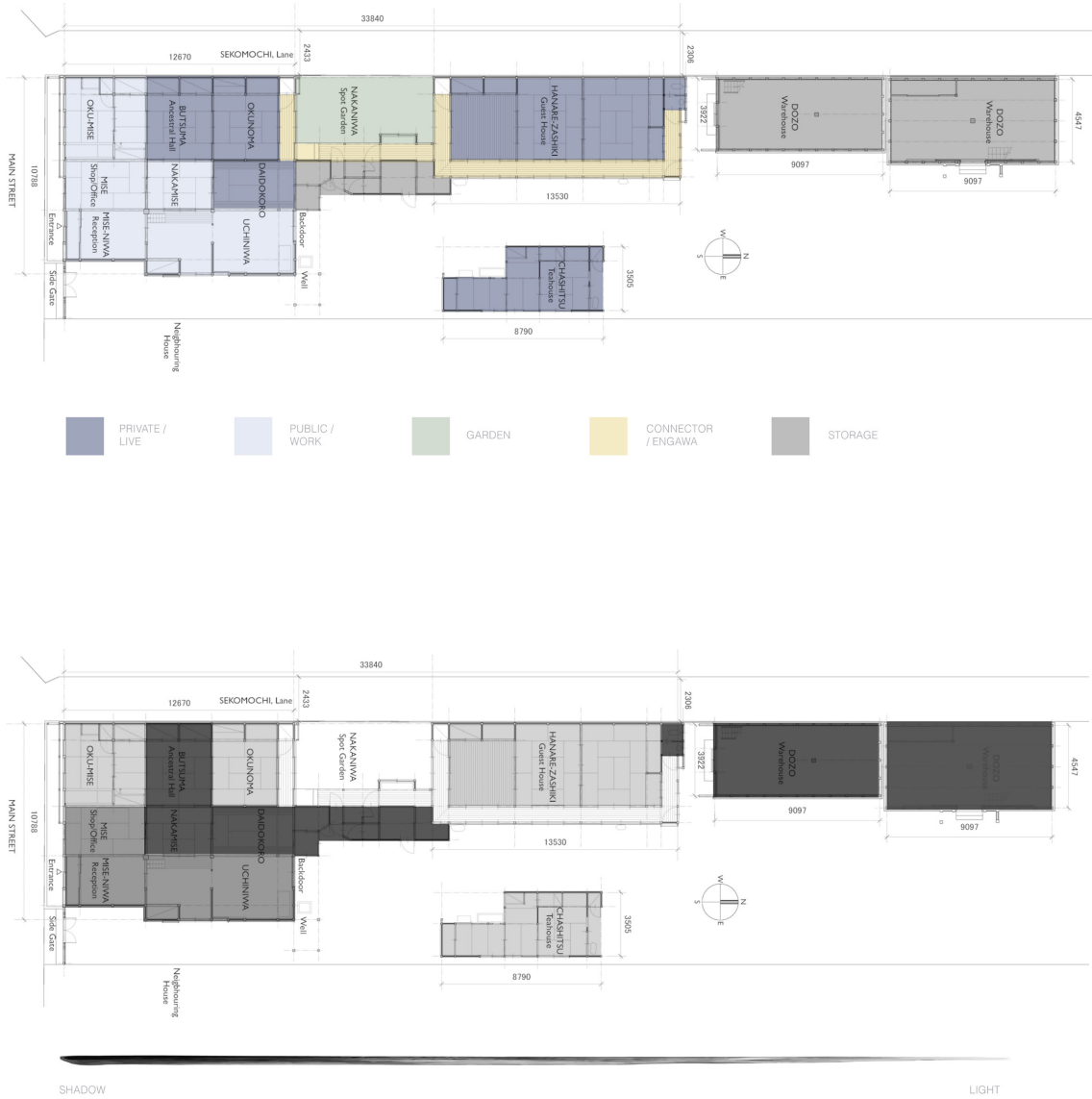
This spiritual hierarchy and progression from active spaces to inner solemn spaces informed the spatial organization of the design. “Space in Japanese architecture is made up of transitory units. Each unit serves, in essence, as a bridge between the foreground and the deeper interior, and space consists of a series of such units, like the links of a chain. It is endlessly fluid, especially where the interplay between interior and exterior is concerned, with a fluidity that depends both on design stratagems and on the atmosphere of a place” (Nakagawa 2005, 1).



Anatomical matrix of machiya elements: establishing the vocabulary and grammar of the thesis while conveying the atmosphere, materiality, and tectonics of the machiya's anatomy.

A1 Tsuboniwa
 A2 Tsuboniwa (Iyeya 2024)
 A3 Niwa Garden (Iyeya 2024)
 A4 Hibukuro (Hachise 2024)
 B2 Tokonoma (Iyeya 2024)
 B3 Engawa
 B4 Toriniwa (Iyeya 2024)
 B5 Kutsunugi-ishi shoe-removal stone (Fujii 2022)

C1 Yukimi-shoji snow-viewing window
 C2 Shoji (Kawano 2009)
 C3 Tsuchikabe clay walls (Iyeya 2024)
 C4 Exposed wood beams (Design it 2024)
 D1 Mado
 D2 Koshi latticework
 D3 Tatami-shoji joint (Iyeya 2024)
 D4 Ishibadate (Reiichi Ikeda Design 2024)
 E2 Sudare bamboo blinds



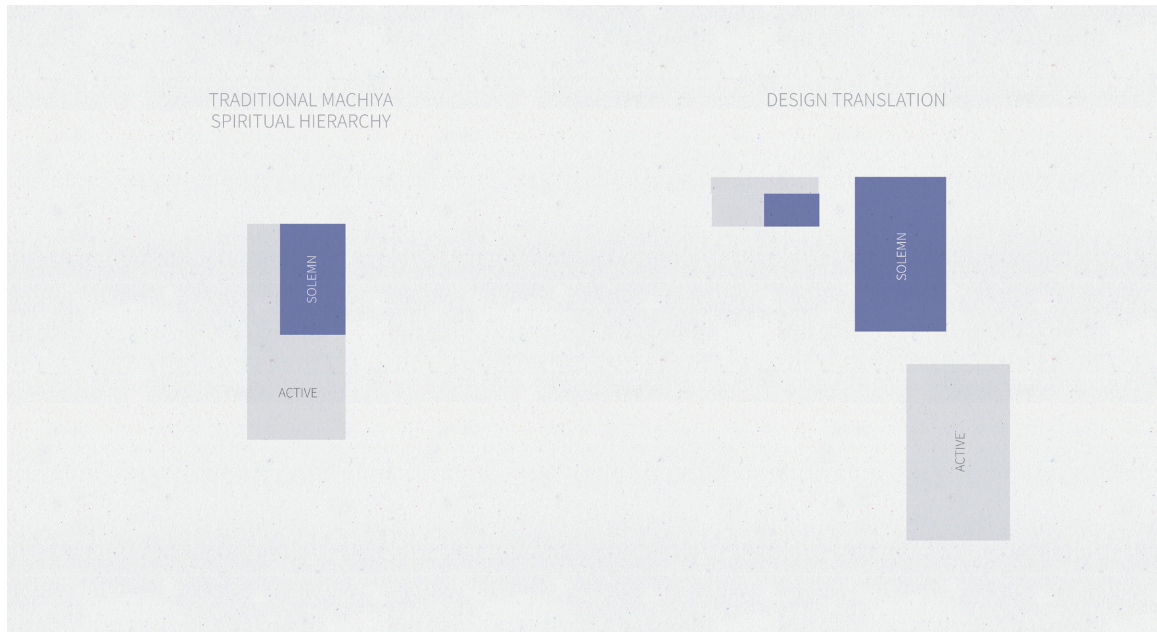
Distilling the essence of machiya through analysis of program, light/shadow, and spatial relationships; Base plan by Hideo Izumida (Izumida 2011, 45)

Transformation

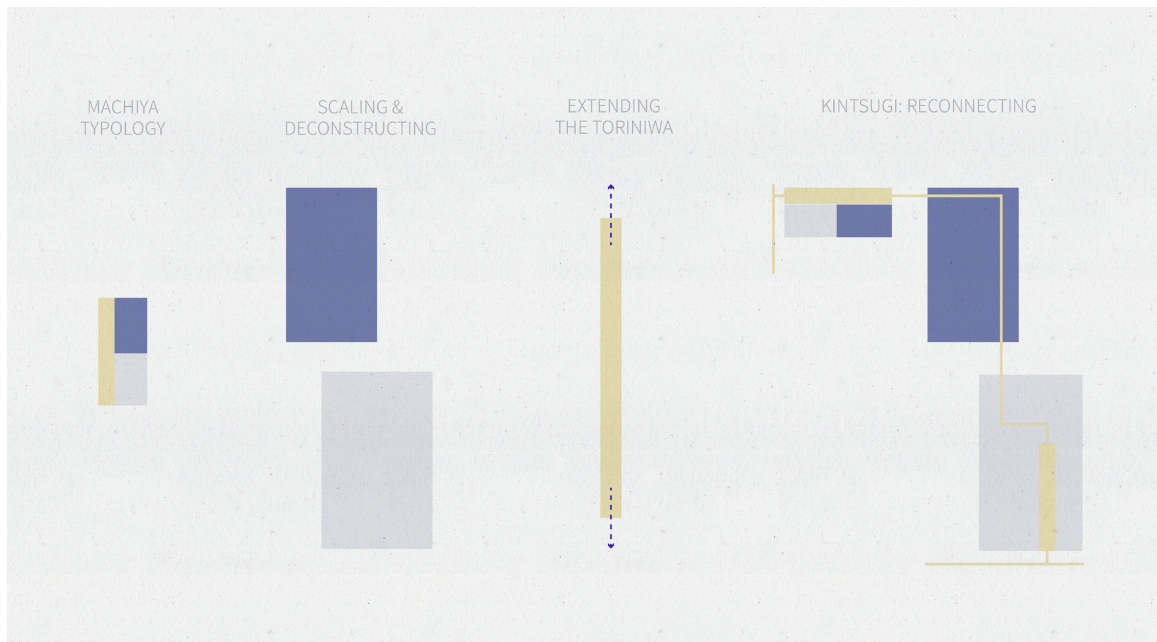
The machiya anatomy was reinterpreted through various transformations and translations in the design. However, the spiritual hierarchy of the machiya — where the innermost spaces are the most sacred — is maintained. Conceptually and programmatically, the “solemn” spaces become the connector linking the two “active” spaces.

Transformations were applied to the program, machiya elements, spatial relationships, and craft techniques. Some machiya elements (like the toriniwa and engawa) were translated by extending or scaling up. Programs like the workshop were scaled up to accommodate more equipment and artisans. Craft techniques such as clay plastering would be completed at a larger scale than normal, which would require additional labor force and adjustments to the process.

Using the concept of kintsugi, the transformed active and solemn spaces are reconnected. A connection to the street is strengthened at both entrances using the toriniwa as an extension of the street, revitalizing its functional essence.



Maintaining the solemn/active spiritual hierarchy of the machiya in the design, with the “solemn” spaces acting as the connector between the two “active” spaces.



Translation and transformation of machiya spatial relationships within the design. The concept of kintsugi reconnects the active and solemn spaces while also creating a connection to the street using the toriniwa.

Site

Kyoto: The Imperial Capital

Kyoto is the historical center of Japanese culture, art, and craftsmanship. It is also home to the highest number of Living National Treasures in the country and well as traditional heritage buildings. Kyoto avoided destruction during World War II and thus was able to preserve more heritage buildings compared to other Japanese cities. In the year 794, Kyoto was established as the imperial capital of Japan and was known as Heian-kyo. During this time, the productivity of the Nishijin textile district increased to provide the nearby Imperial court and aristocracy with the garments they required. The thesis site was once part of the Hana-no-Gosho (花の御所 Flower Palace) which was renowned for its beautiful gardens during the Muromachi period.



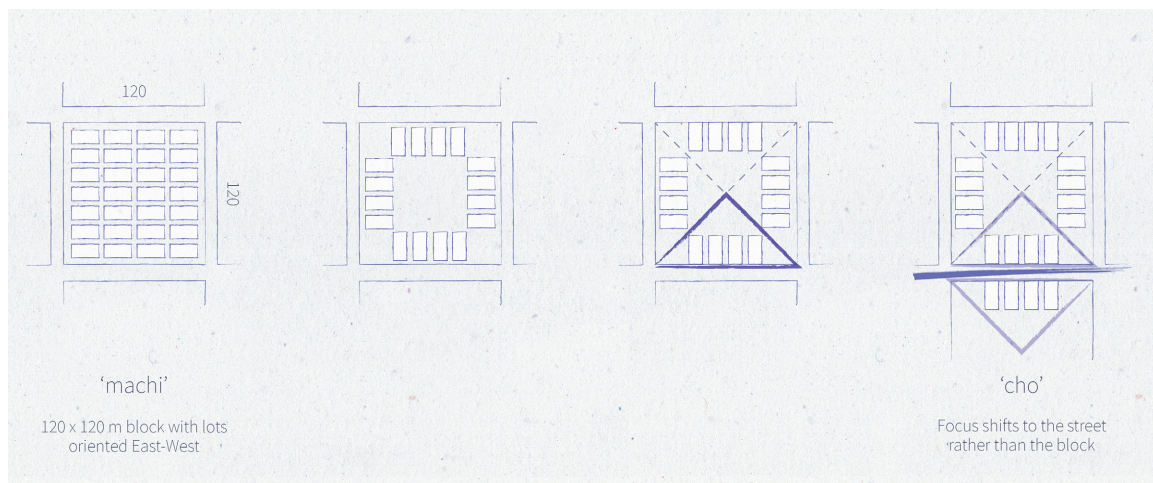
The site was once part of the Hana-no-Gosho (花の御所, Flower Palace), which was an important cultural and political center. The palace was depicted in *Rakuchū-Rakugai Zu Uesugi-bon Tōban* (*Scenes in and Around Kyoto*). (Kyoto ASNY Collection Archive 京都アスニー収蔵 circa 1532-1554)

Community as Laboratory

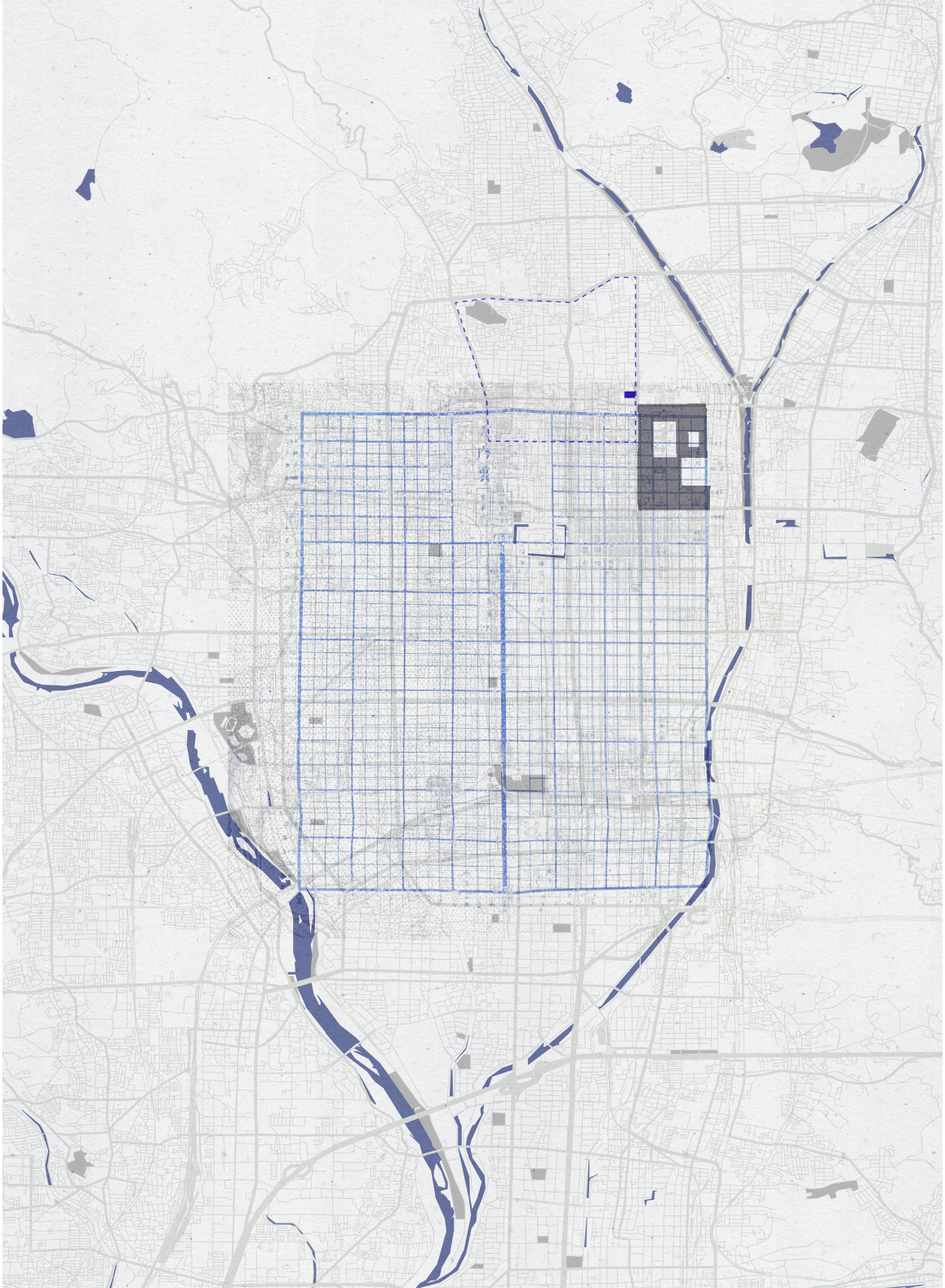
The Heian-kyo grid was imposed when Kyoto became the Japanese imperial capital, creating blocks of 120 by 120 meters. These blocks were originally called 町 'machi'.

However, over time the focus shifted from the block (machi) to the street (cho). The top-down approach of "machi" came to be called "cho" as communities were self-defined by the residents of Kyoto (Stavros 2014, 35). Although the character 町 remained the same, the transformation placed more emphasis on the street as the genesis of community.

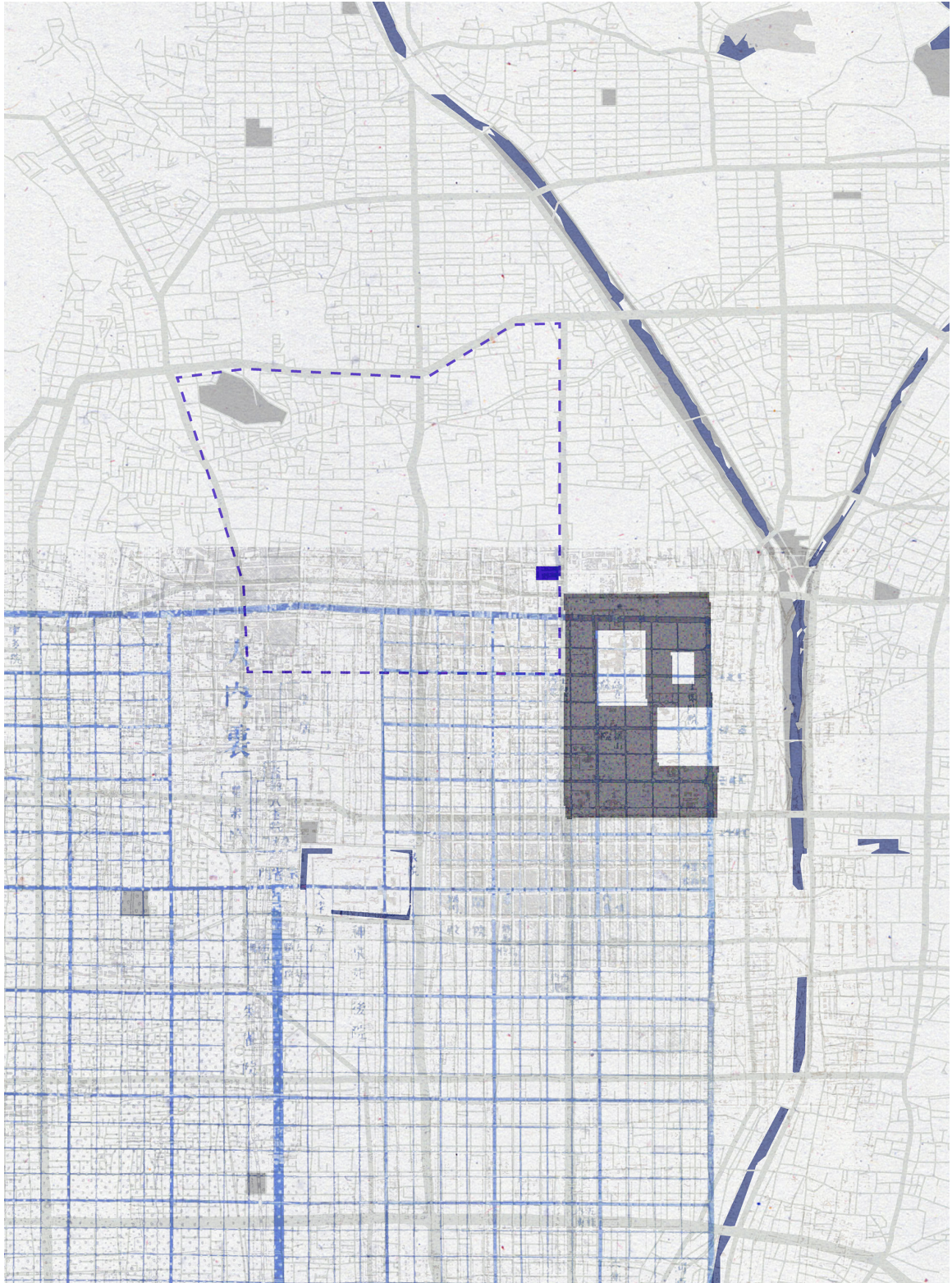
In Chapter 8 of *Intercultural Architecture: The Philosophy of Symbiosis*, Kisho emphasizes the significance of the street in Kyoto and the Nishijin District. "Historically, Japanese streets were not merely transportation routes, communities were built around them. They were much more intimately involved with the fabric of daily life... [Kyoto's] streets were divided into broad avenues and narrower streets. Citizens of relatively high social status lived along the avenues, which were also used for festivals and processions... In contrast,



Transformation of the Kyoto block from machi (block) to cho (street). (Adapted from Stavros 2014, 35)



Map overlaying the Heian-kyo grid over present day Kyoto. Nishijin district (dashed blue outline) is shown in the context of the city. (Heian-kyo map by Hirooka Kenjiro 廣岡顕二郎 and Matsuda Shousuke 松田庄助, 1903. Base map from ArcGIS 2023.)



Detail of Kyoto map with the thesis site highlighted within the Nishijin district. Craftspeople in Nishijin supplied garments to the Imperial Palace (highlighted in dark grey). Situated to the east is Kamogawa River, where craftspeople washed their textiles in the past. (Heian-kyo map by Hirooka Kenjiro 廣岡顕二郎 and Matsuda Shousuke 松田庄助, 1903. Base map from ArcGIS 2023)

the small streets, like those that can still be seen weaving in and out among the houses of the citizens in Kyoto's Nishijin District today, formed the actual centers of city life" (Kisho 1991).

The environment of Kyoto stimulated a direct architectural response in the form of the machiya, which was linked to the city and its community both physically and spiritually. In the past, the community of the city was a laboratory.

"Here, collaborative forces made building an entirety that related house to site, site to block, block to street, street to palace and temple, thereby creating a universal order of architecture... In this sense, the community of the city was the laboratory where the material and spiritual essentials of the Japanese residence were prepared and were then "assembled" by the most proficient craftsmen." (Engel 1964, 386)

Nishijin

"Glimpses through the semi-open screen doors revealed the array of activities related to weaving, such as dyeing and winding of the thread, tying of the warp, pattern-making, and the production of the punch cards for the jacquard, as well as weaving. In some of Nishijin's narrow streets, the sound of clicking looms filled the air into the early evening." (Hareven 2002, 32)



The density of the Nishijin neighborhood around 1970; photograph by Hiroko Matsuo, ca.1970 (Hareven 2002, 26)

Kyoto's Nishijin district partially encompasses the Kamigyo Ward, where the elite of Kyoto resided in the past. Nishijin is famous as the origin of Nishijin-ori traditional textiles and was once home to large numbers of craftspeople. Many former textile workshops were situated in machiya.

Since the Nishijin area once thrived on its textile industry, over 10,000 machiya still remain as part of the streetscape (Seto et al. 2009, 1). However, as investigated in the previous chapter, Nishijin's machiya continue to be demolished and replaced with commercial buildings or conventional houses. Although the community is starting to preserve machiya in Nishijin, the neighborhood's cultural heritage and identity as

a place to practice craft is still at risk. Nishijin's decline in textile activity has affected the neighborhood's character.

Following the decline and depression of Nishijin's industry since the 1980s, the texture of the Nishijin "village" and its atmosphere have changed considerably. As increasing numbers of manufacturers closed their companies, the intensity of activity in Nishijin declined precipitously. Because of high land values, the area has become a hunting ground for real estate developers, who have been transforming Nishijin's historical streetscapes into a hodgepodge of poorly designed, modern, commercial buildings. (Hareven 2002, 32)

Although the Nishijin area is important to the history of Kyoto, it receives less attention than more well-known historical areas like Gion. To prevent Nishijin's machiya and urban heritage from being eroded in pursuit of rapid development, it must reconnect to its cultural past as a community for craftspeople.

Chapter 6: Reconnecting

Design Response

Due to limitations of space, many artisans today cannot take on apprentices. In addition, most craft-centric buildings in Kyoto focus on production or exhibition, neither of which are conducive to craft education. The design aims to restore the essence of machiya through the blending of public, residential, and production spaces in Nishijin. It provides space for the coexistence of several traditional crafts and the teaching of craft which is rare in the city. Through the concept of kintsugi, the architectural response mends the site and revitalizes the community through the re-introduction of live-work spaces for artisans as an evolution of the machiya's communal spirit.

The proposed programs support four dimensions of craft:

- Education & Preservation
- Experimentation
- Exhibition
- Community

The programs connect the present to the future by focusing on the innovation and potential of crafts through collaboration and experimentation with craftspeople and artists. The Laboratory harnesses the city's strength as a source for new ideas, bringing traditional techniques for craft into the modern day. In parallel, the building's design and construction experiment with re-imagining traditional techniques for architecture through a contemporary lens.

CONNECTION - DISCONNECTION - RECONNECTION

SITE

**The Street**

The symbiosis of activity in the street space.

“Toriniwa” Passageway

The primary connecting corridor which links the machiya to the street, navigating between public and private.

Pathways & Boundaries

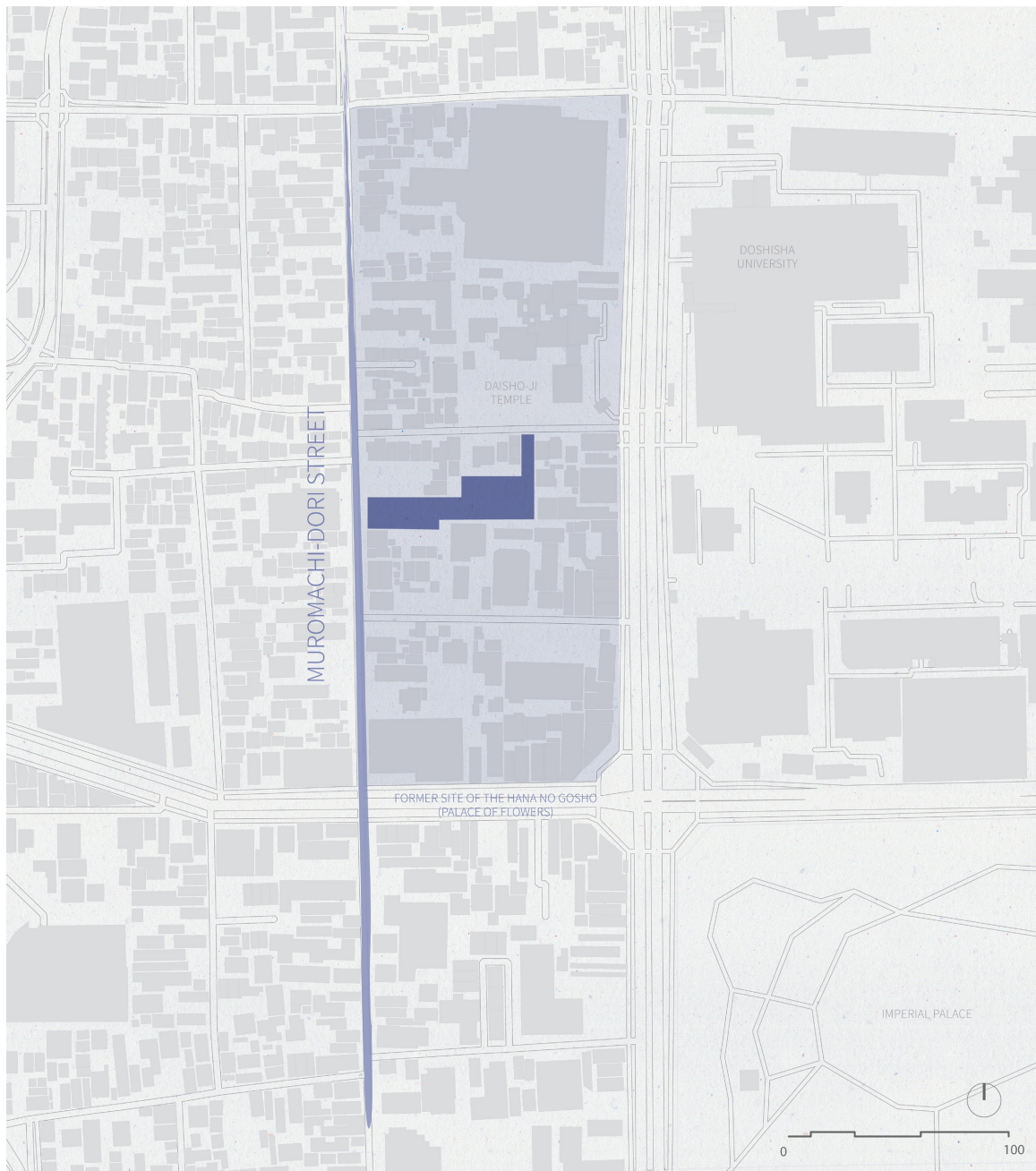
Within a building, transitional pathways that connect spaces and gardens (engawa); The fluid spaces created by sliding shoji doors; The tension between open space / enclosure generated by light and shadow.

Tectonics

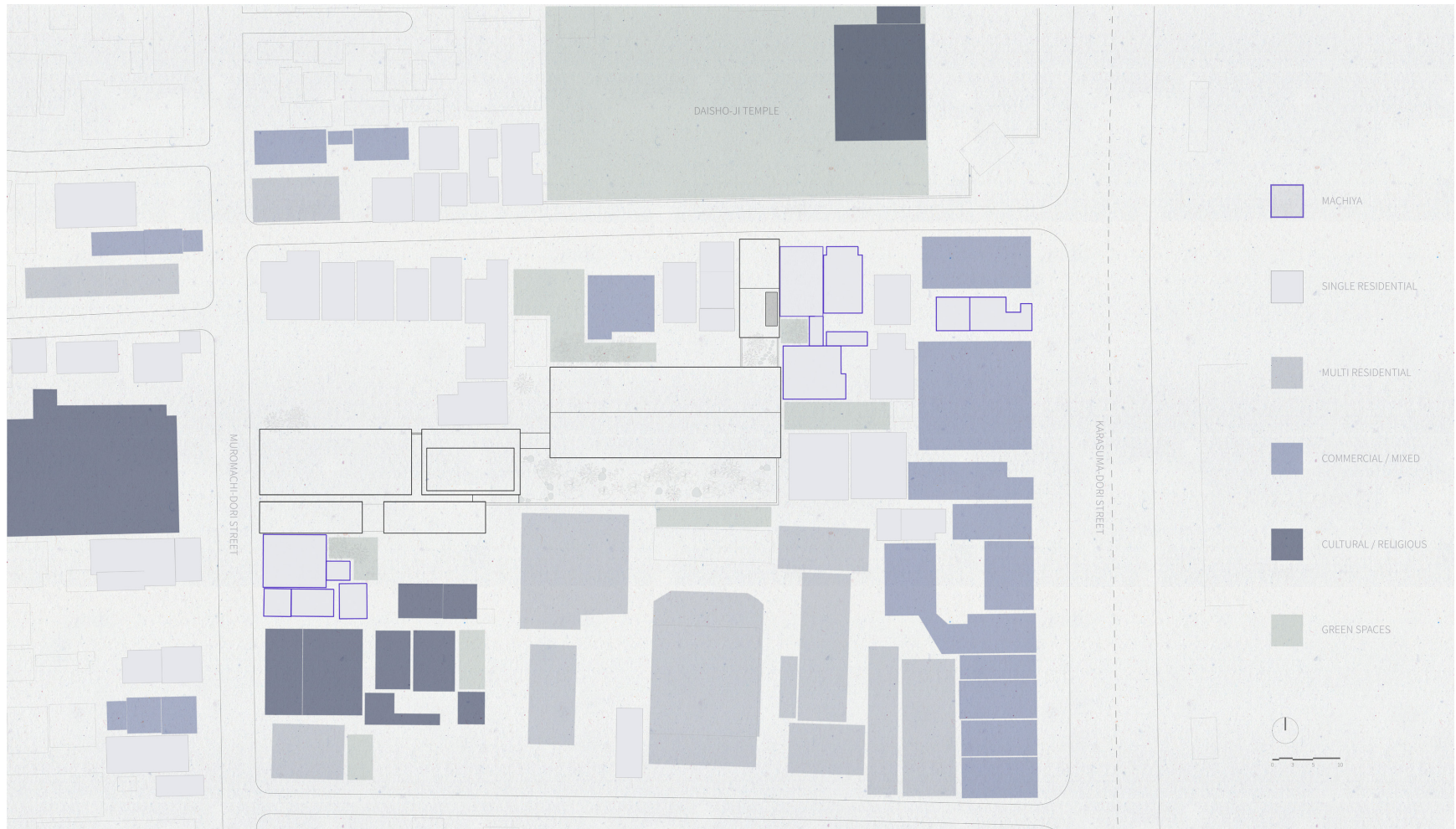
The joining of floors, walls, ground, and structure.

DETAIL

The theme of connection at different scales within the thesis



Site context in modern day Kyoto with the thesis site highlighted in dark blue. Muromachi-dori street was once populated by kimono shops, though few remain today.



An analysis of the site block reveals that most of the context is commercial or modern residential buildings with very few machiya. The only remaining traditional structures are within the grounds of Daisho-ji Temple. A disconnect between tradition and modernity is evident in the site.

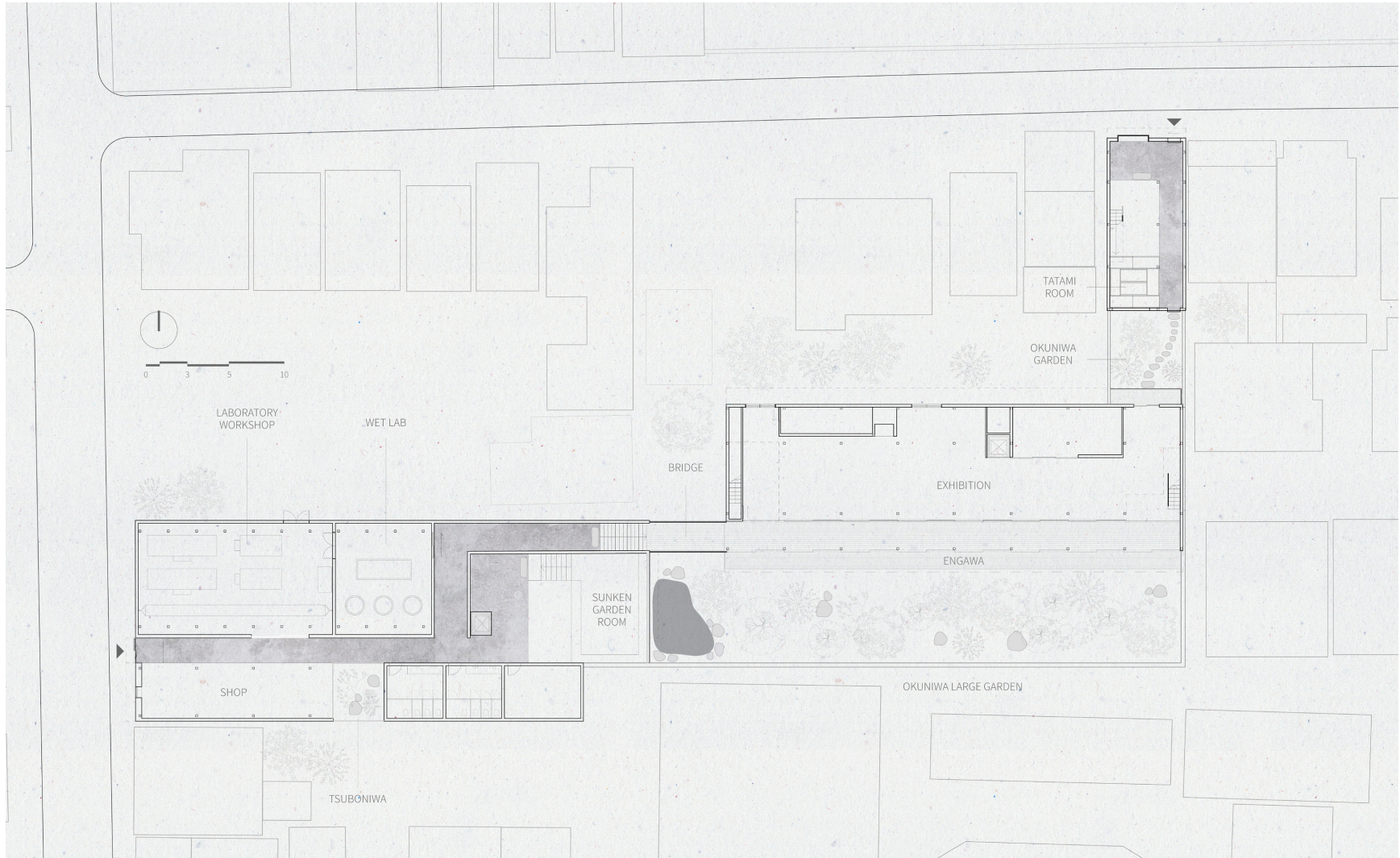
There are three buildings inhabiting the site with transitional spaces connecting them.

Beginning at the north side of the site, the first building is the Machiya, which is dedicated to the preservation of craft. It contains a library of craft reference materials and a traditional tatami room. An intimate garden (okuniwa) behind the machiya, which can be viewed from the tatami room, becomes the transitional space connecting the machiya to the next building.

The second building is dedicated to the exhibition of crafts. It houses a flexible exhibition gallery and artisan-in-residences for those pursuing apprenticeships in craft. An engawa (veranda) opens the exhibition spaces to the main garden, allowing visitors and artisans to appreciate the ephemeral beauty of nature throughout the seasons. A floating bridge connects the engawa to the third building.

The final building is the Laboratory, which is dedicated to craft education, experimentation, and community. It contains workshops, classrooms, and a shopfront.

As an extension of the street, the pathway through the project transforms from toriniwa to engawa, and from engawa back to toriniwa. The floor of the toriniwa is made from compacted earth, while the floor of the engawa is wood. These flooring materials delineate “active” programs from “solemn” programs. Both north and west facades are “active”, engaging the street and Nishijin craft community.



Ground floor plan. The pathway through the project transforms from toriniwa to engawa to toriniwa. The floor of the toriniwa is made from compacted earth while the floor of the engawa is wood. These materials delineate 'active' programs from 'solemn' programs.



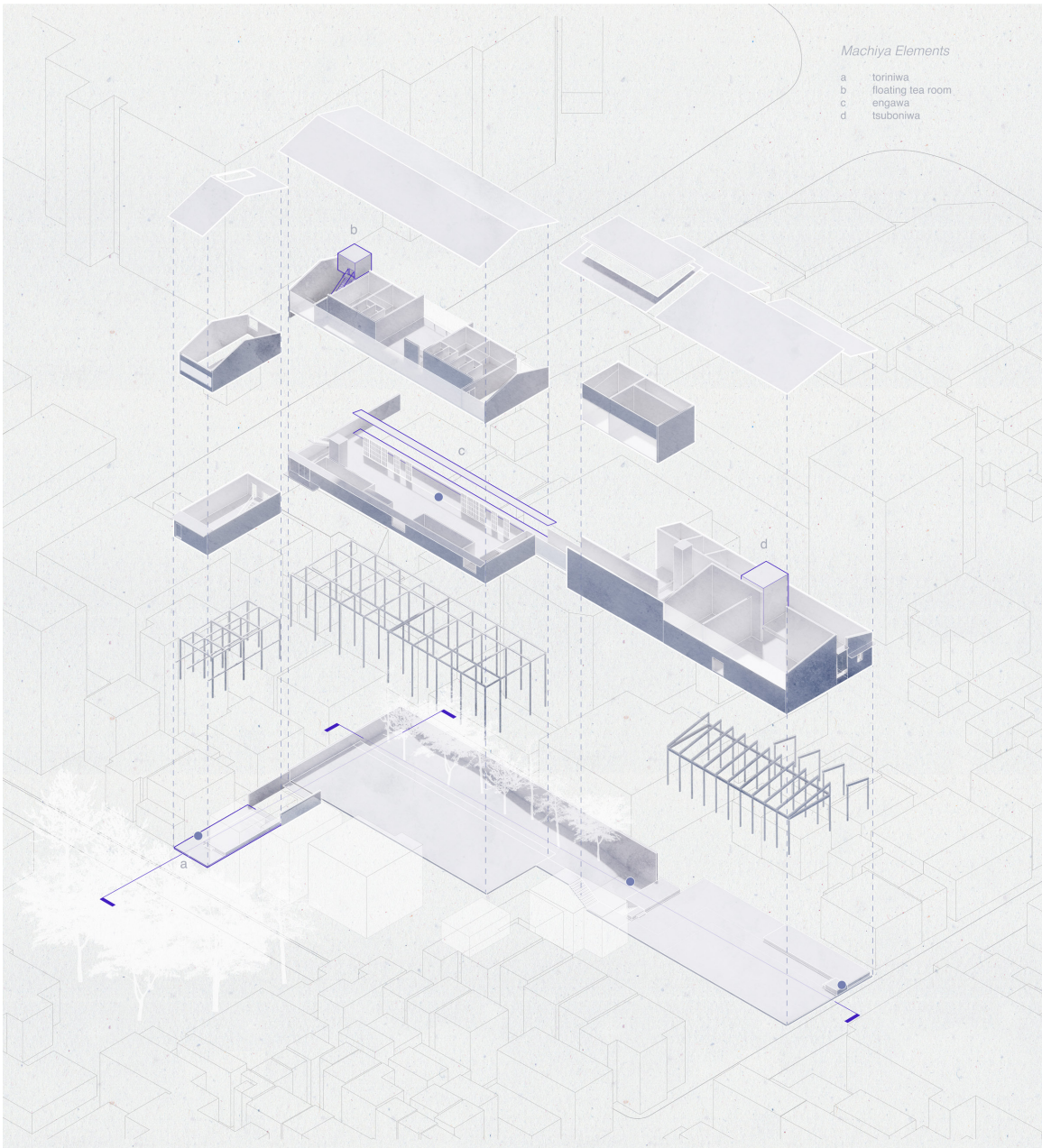
Second floor plan

Layering Time

In *A Feeling of History*, Zumthor discusses his process of reading a site and interpreting the place, weaving it into a new building: integrating, overlaying, or absorbing the memories like a palimpsest. An “ensemble of structures somehow resurrects fragments of the past through architectural means” (Zumthor and Lending 2018, 42). After the process of reading and reinterpreting the site’s culture and history, the thesis design incorporates an ensemble of traditional machiya elements which conveys the atmosphere of machiya.

Symbolizing Deterioration (aging), the machiya reminds us to preserve cultural heritage and the transfer of knowledge from one generation to the next. Symbolizing Duration (living), the garden and engawa at the heart of the project are the most sacred spaces. Symbolizing Apparition (birth), the laboratory projects craft into the future by becoming a place for innovation and community collaboration. The project aims to prolong the life of buildings before their ineluctable disappearance by using techniques that account for deterioration.

Ultimately, the design is a dynamic approach to revitalization, where the building can adapt and be renewed over time to accommodate change. By learning from the past, the methodology attempts to capture the essence of machiya and translate it into the future by weaving it into something new.



Exploded axonometric highlighting machiya elements. Above are watercolors of the experiential sequence moving along the pathway from Machiya to Laboratory.

I: The Machiya

With its gaze fixed upon the walls of Daisho-ji Temple across the street, the machiya is built using traditional wood construction and craftsmanship techniques with the hope that it will remain for the next 100 years. It symbolizes embracing tradition and accumulated traces of the past.

On the ground floor of the machiya is the *toriniwa* (passageway), which is a machiya element characterized by a double-height space and compacted earthen floor. A tatami mat area for viewing the okuniwa (rear garden) is traditionally stepped up 50 cm from the toriniwa, signaling that shoes must be removed at the shoe-removal stone.

On the machiya's second floor, a reference library of traditional craft designs acts as a repository for centuries of craft. The library becomes a valuable resource and inspiration for artisans and the community.

The wood beams of the roof's structure are exposed to bring awareness to the machiya's craftsmanship and materiality.



Short Section through the Machiya and the Engawa.



Closer detail of the Machiya section



The atmospheric experience from the machiya's toriwa. Natural light permeates from the skylight at the top of the double-height toriwa. The floor of the toriwa is made from compacted earth, while the tatami mat area on the right is elevated.



Machiya craftsmanship detail: Traditional wood assembly joint between column and overlapping beams

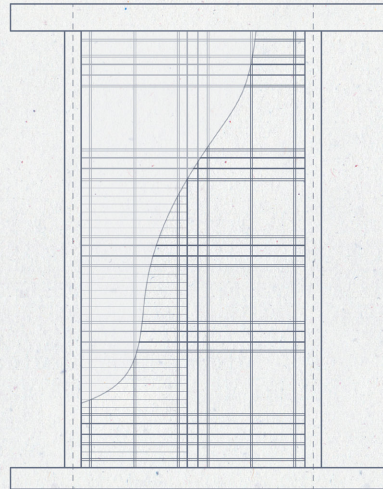
Clay plaster walls are another traditional craft element that is continuous throughout the project. Clay walls are manually plastered and require extensive training even though the technique may appear simple at first glance. In *Old is New*, Sugimoto's foreword describes how three expert craftsmen were required to plaster six walls, each 17 meters long and 4 meters high. Each wall must be plastered in a single day due to the nature of the wet construction method. Sugimoto marveled at the traces left by the craftsmen through "the subtle, almost unconscious marks of the trowel" on the wall's surface (Sugimoto and Sakakida 2021). Although relatively bare, the beauty of the clay wall is how it captures the shifts in light and shadow throughout the day, as poetically described by Tanizaki.

And so it has come to be that the beauty of a Japanese room depends on a variation of shadows, heavy shadows against light shadows — it has nothing else. Westerners are amazed at the simplicity of Japanese rooms, perceiving in them no more than ashen walls bereft of ornament. Their reaction is understandable but it betrays a failure to comprehend the mystery of shadows. Out beyond the sitting room, which the rays of the sun can at best but barely reach, we extend the eaves or build on a veranda, putting the sunlight at still greater a remove. The light from the garden steals in but dimly through paper-paneled doors, and it is precisely this indirect light that makes for us the charm of a room. We do our walls in neutral colors so that the sad, fragile, dying rays can sink into absolute repose. The storehouse, kitchen, hallways, and such may have a glossy finish, but the walls of the sitting room will almost always be of clay textured with fine sand. A luster here would destroy the soft fragile beauty of the feeble light. We delight in the mere sight of the delicate glow of fading rays clinging to the surface of a dusky wall, there to live out what little life remains to them. We never tire of the sight, for to us this pale glow and these dim shadows far surpass any ornament. And so, as we must if we are not to disturb the glow, we finish the walls with sand in a single neutral color. The hue may differ from room to room, but the degree of difference will be ever so slight; not so much a difference in color as in shade, a difference that will seem to exist only in the mood of the viewer. And from these delicate differences in the hue of the walls, the shadows in each room take on a tinge peculiarly their own. (Tanizaki 1977, 18-19)

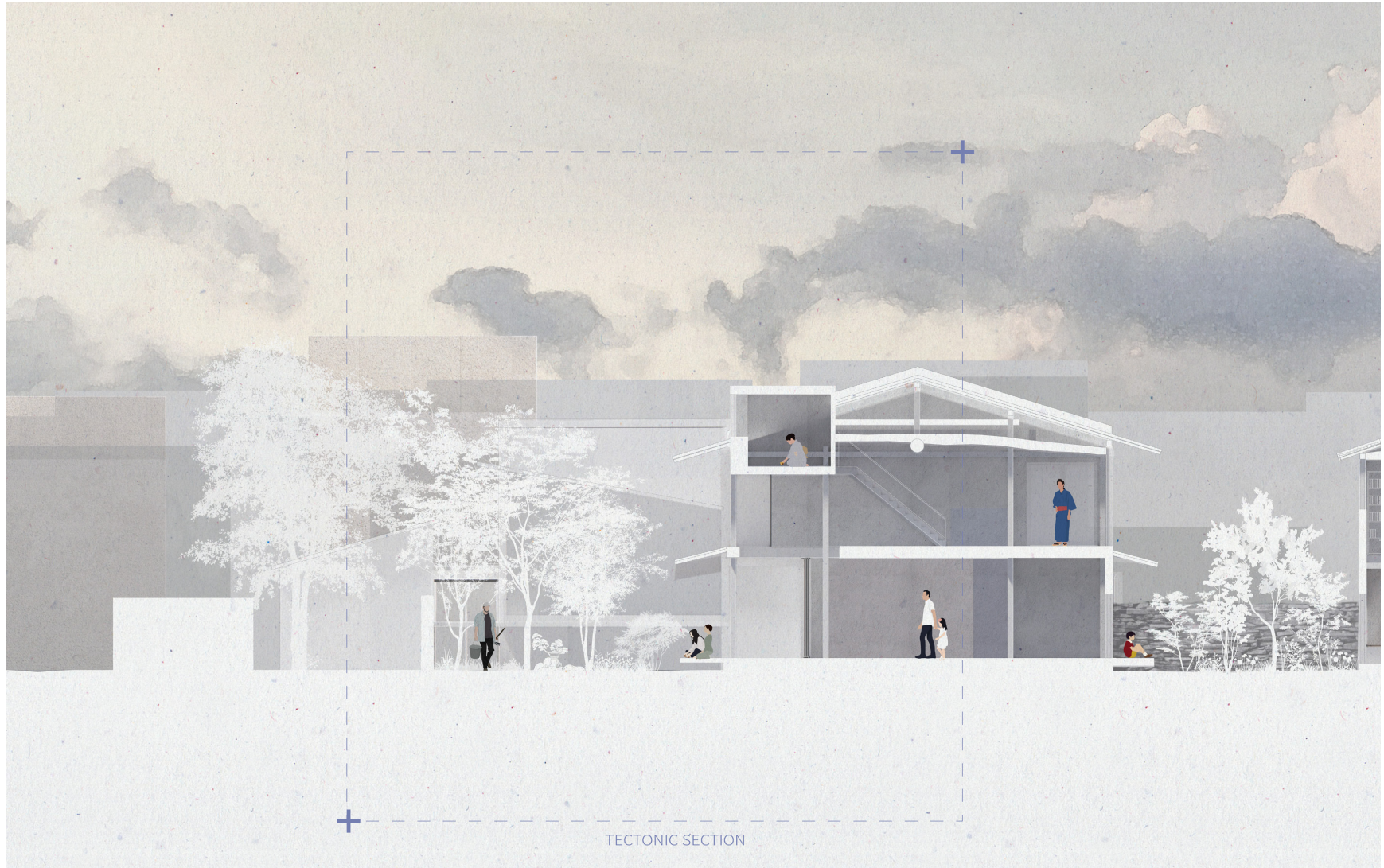
土
壁

TSUCHIKABE

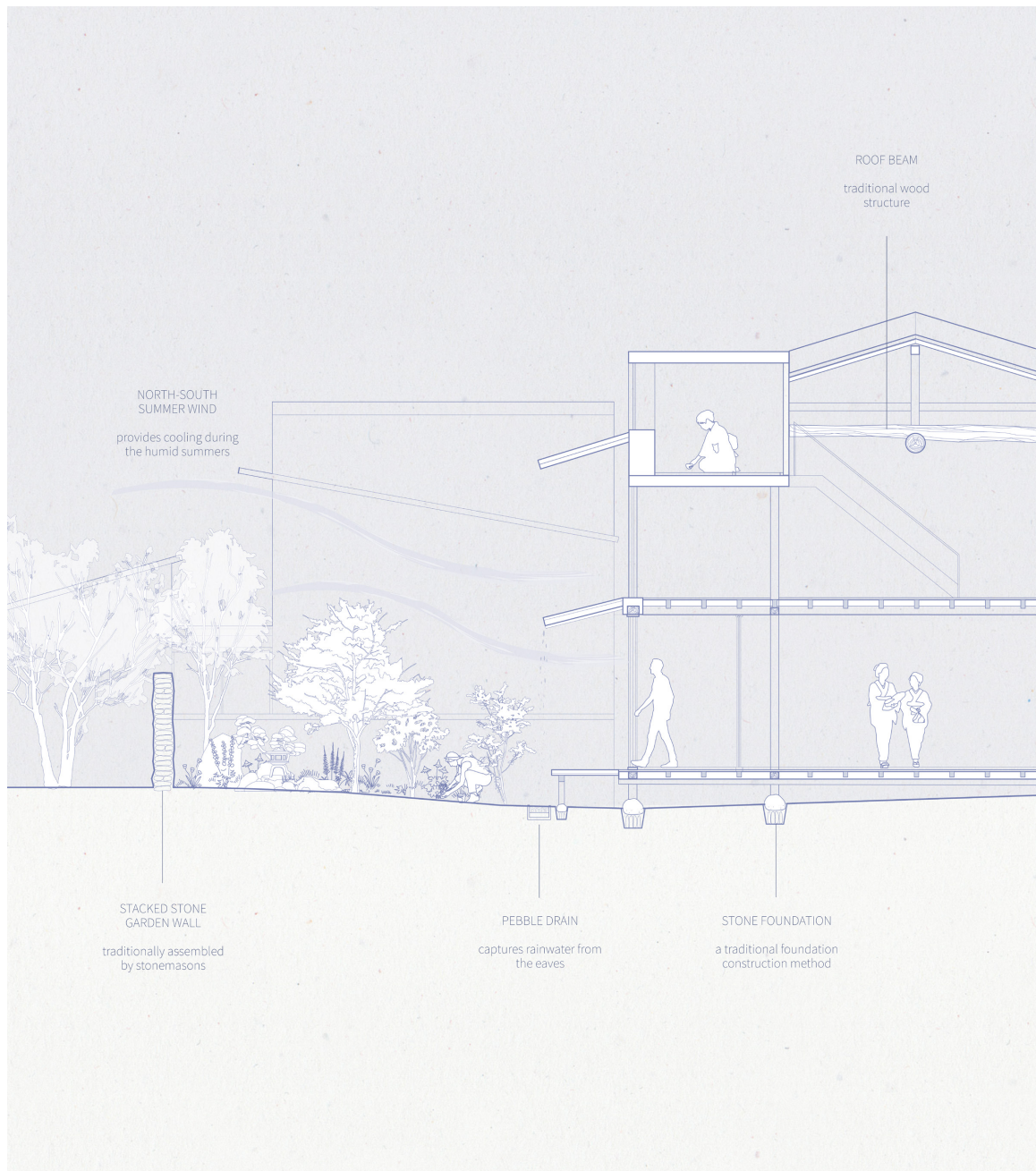
A 'skeleton' frame of bamboo is constructed between columns as the basis for the wall. The tsuchikabe technique requires the application of several layers of clay plaster on either side of the bamboo skeleton, starting with a thick layer and gradually becoming thinner until the wall is at least 75 cm thick. A finishing coat can be applied at the end for a refined interior wall finish. Since there is no trim applied to the plastered wall, creating clean joint against the wood is difficult even for a trained craftsman.



Machiya craftsmanship detail: Tsuchikabe clay plaster walls



Closer detail of engawa section as approached from the machiya



Tectonic section illustrating elements of traditional craftsmanship along with the flows of North-South summer wind and rainwater. A multitude of sliding doors allow inhabitants greater control over interior temperature during Kyoto's humid summers by harnessing the wind for cross-ventilation.



Craftmanship detail of the stacked stone garden walls

II: Engawa and Garden

At the heart of the project and the most sacred spaces in the machiya are the garden and the engawa.

The traditional engawa's most enduring elements are its rhythmic columns, its horizontality and sense of intimacy formed by the overhanging eaves and flooring, and its connection to the garden. The engawa is a device for observing the garden, such that inhabitants and visitors can visualize time and the seasonal cycle. Its role as a connector and 'an in-between space' mediates indoor and outdoor, blurring the boundary between nature and building. As an architectural element, the engawa is a familiar place for both gathering and reflection. In the design, the engawa was elongated to emphasize its horizontality.

The garden is a symbol of life, a reminder of nature's eternal cycle which only grows more beautiful with the passing of time. It is also an homage to the site's past life as the Palace of Flowers during the Muromachi period in the 15th century. As time can be tangibly measured by the seasons and the growth of the garden, the connection of spaces to the garden became the heart of the design.

Floating above the earth on columns, the building navigates the sloped topography. On the first floor, the flexibility of spatial division provided by removable sliding shoji allows the exhibition space to be open to future adaptations. The shoji in the exhibition space can be opened to frame views to the adjacent garden. Against the subdued material palette of wood and washi paper, the colors of the garden stand out in contrast.

On the second floor are residences for young artisans who are undergoing apprenticeships. The residence's communal living area and kitchen aims to promote community among the artisans in residence. A floating tea room on the second floor serves as a contemplative place for tea ceremonies.

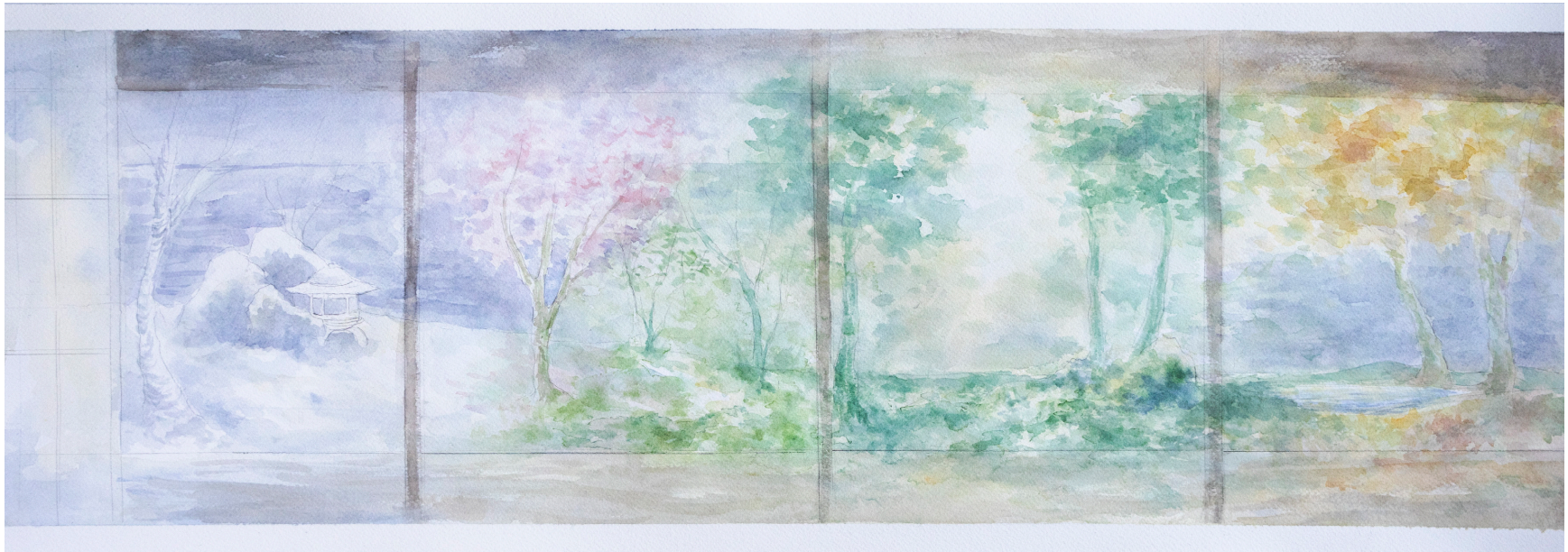
The building represents a place where traces of "old and new sensations intermingle" (Zumthor and Lending 2018, 20), pairing the traditional engawa and shoji with innovative craft exhibitions.



Long Section encompassing the Engawa spaces and the Laboratory



Detailed view of the engawa building, which houses exhibition space on the first floor and residences on the second floor.



Watercolor of the view from the engawa through the seasons as a mode of visualizing the passage of time, from subtle seasonal shifts to the growth of trees over years.

Shoji and Transparency

Traditional shoji are paper-paneled sliding screens which fulfill the function of windows in Japanese architecture. Shoji screens modulate light while also maximizing the flexibility of spaces in traditional Japanese architecture. Shoji screens can be closed, opened, or removed entirely and stored away, resulting in a highly flexible space. During the colder months, they can be replaced with heavier sliding doors to increase thermal comfort.

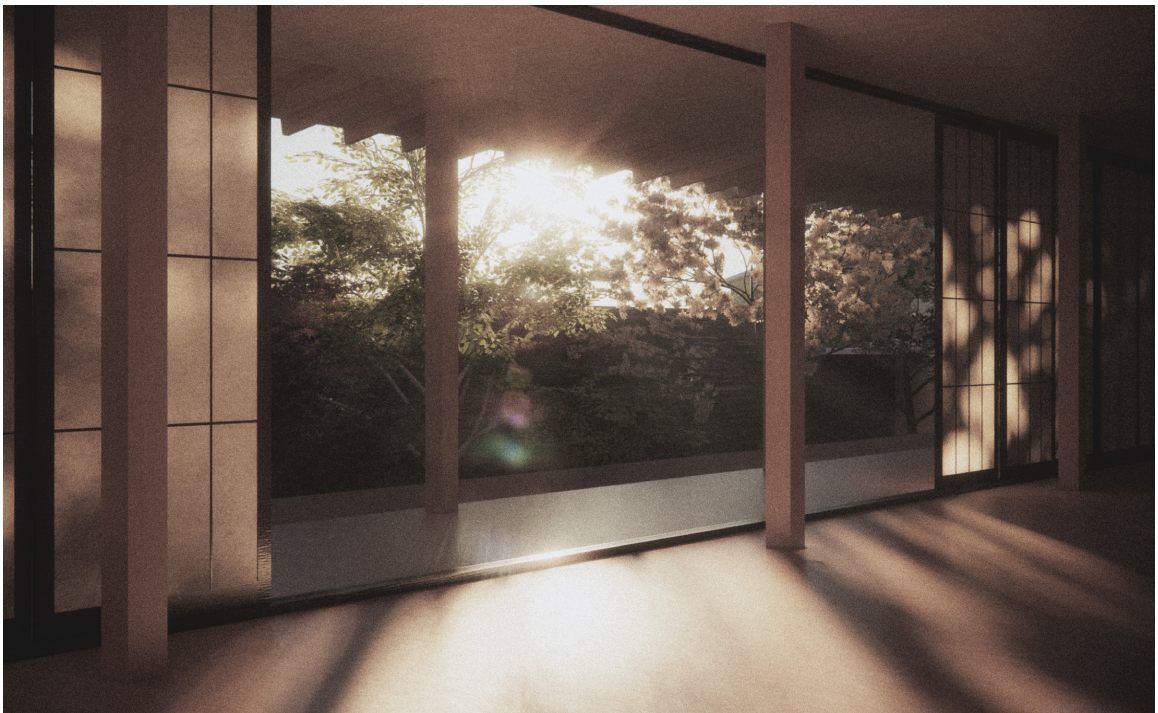
Shoji is assembled from a lightweight wood frame and washi paper (another traditional craft). The translucent quality of the paper allows light and shadows to permeate through while maintaining privacy.



Shoji light studies to capture the quality of light using a physical model and washi paper. Left: Shoji in indirect sunlight; Right: Shoji in direct sunlight.



Shoji partially closed to diffuse light in the exhibition space overlooking the garden, embracing the shadows that it creates.



Shoji opened to allow more air and light to enter the exhibition space, framing views to the garden and blurring the boundaries between interior and exterior.



Watercolor of the floating bridge connecting the Engawa and the Laboratory, as viewed from the garden at twilight.

Floating Bridge

Connecting the engawa to the Laboratory, the elevated bridge is the transitional path from solemn to active space. Full-height glazing creates the sensation of floating above the garden as one passes through the bridge.

III: The Laboratory

The Laboratory represents a state of rebirth, where the atmosphere of machiya and craft knowledge is inherited. In the Laboratory's classrooms, lost crafts can be rediscovered and taught. In the collaborative workshops, new ideas are born.

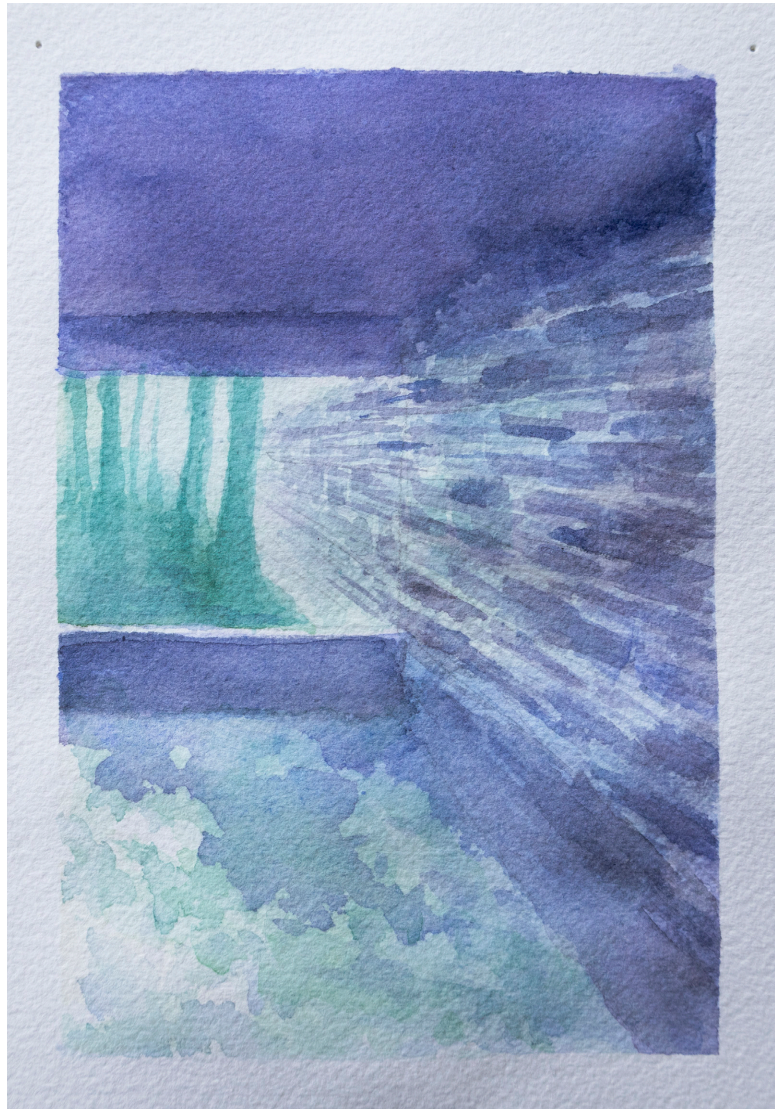
In the Laboratory, the toriniwa re-appears with the same width and earthen floor as the passageway in the machiya, calling attention to the contrast between traditional and contemporary. In Japanese, toriniwa translates to "street garden". Thus, the in-between qualities of this pathway were exaggerated to blur interior and exterior. A glimpse of the garden beyond through the *noren* (fabric dividers traditionally hung above shop doorways) draws passerby from the street.

This path between the storefront and workshops was intended to simulate a continuation of the street, retaining the spirit and atmosphere of the machiya communities of the past. Initiating a dialogue between the shopfront and workshops, a clear connection between meticulous handicraft and final product is created.

The sunken garden room provides an area for artisans to take breaks and form social connections with visitors. Creating the feeling of being immersed within the garden, a large window frames the landscape of the garden which slopes up to fill the entire view. Just outside the window is a pond which reflects the scenery of the garden. To further blur the interior-exterior boundary, the stone wall outside continues from the garden into the room and becomes an interior wall.



Detailed view of the Laboratory's workshops, classrooms, and sunken garden room



Watercolor depicting the atmosphere of the sunken garden room. A pond reflects the foliage just outside the window and the garden slopes up, immersing the viewer within the landscape.



Watercolor of the Laboratory toriniwa passageway connecting to Muromachi-dori Street, which is designed to be an extension of the street. A glimpse of the garden beyond through the *noren* (fabric dividers traditionally hung above shop doorways) draws passerby from the street.

Time, Assembly, and Repair

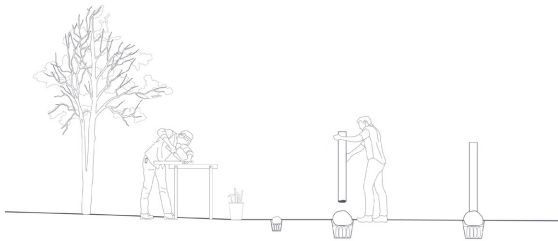
The structural frame of the design is the framework for creating a series of volumes due to its relatively fixed and unchanging nature. Comprising the “bones” or “skeleton” of the machiya’s anatomy, this frame is simultaneously concealed and revealed as you move through the space.

In traditional Japanese wood construction, the structure is assembled without the use of fasteners, relying on complex joinery. Beams are fitted and hammered into place while carpenters balance upon the frame.

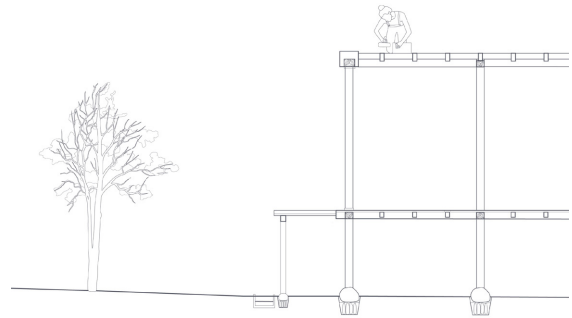
Using wood for the structure enables parts of the frame to be repaired over a long period of time, ensuring that the buildings can be continuously renewed and mended. For example, the technique of netsugi enables the replacement of a damaged portion of a column with new wood through traditional joinery.

The entire exhibition building is elevated in the traditional Japanese style of *ishibadate* or “standing on the stones” (Soma Ko Sha 杣耕社 n.d.)

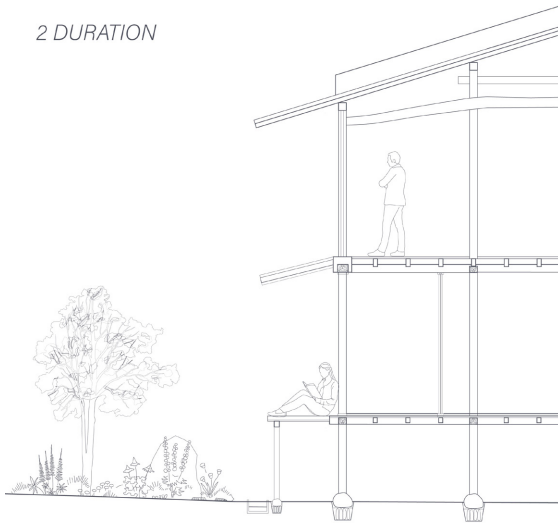
1a APPARITION



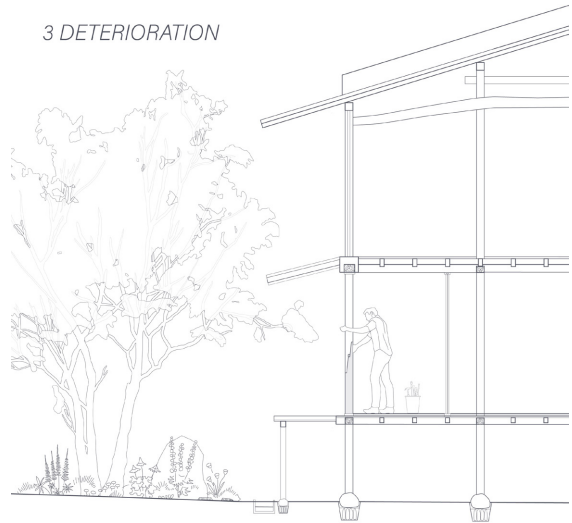
1b APPARITION



2 DURATION

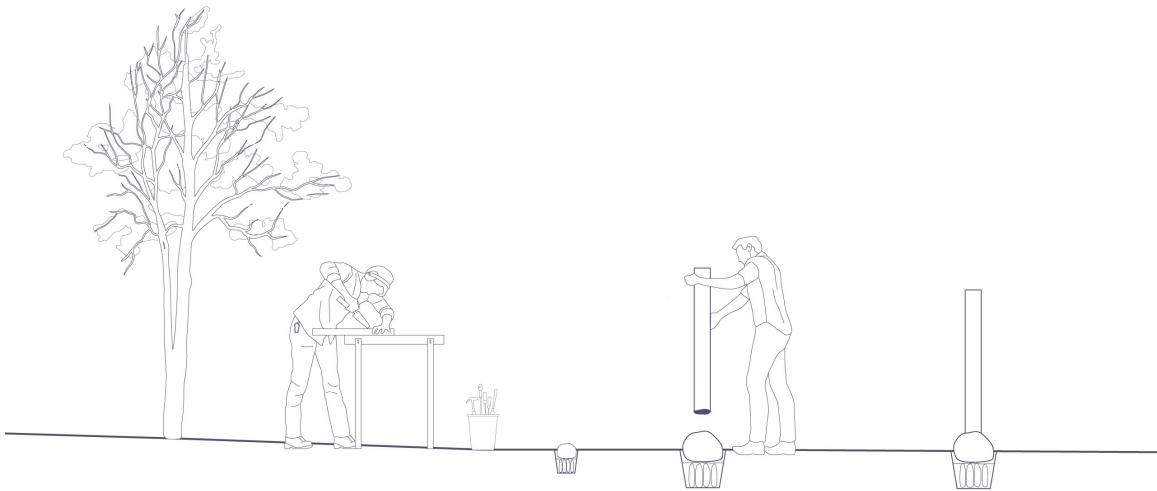


3 DETERIORATION



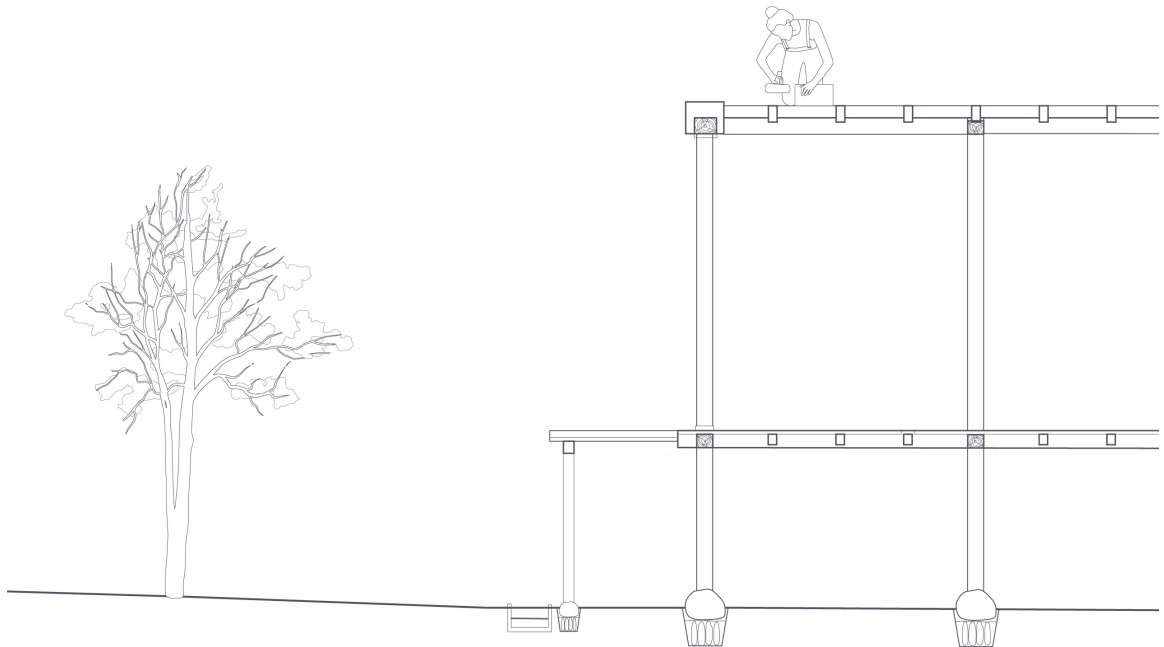
Sequential assembly, weathering, and repair of wood columns in the building throughout its life cycle of Apparition, Duration, and Deterioration.

1a APPARITION



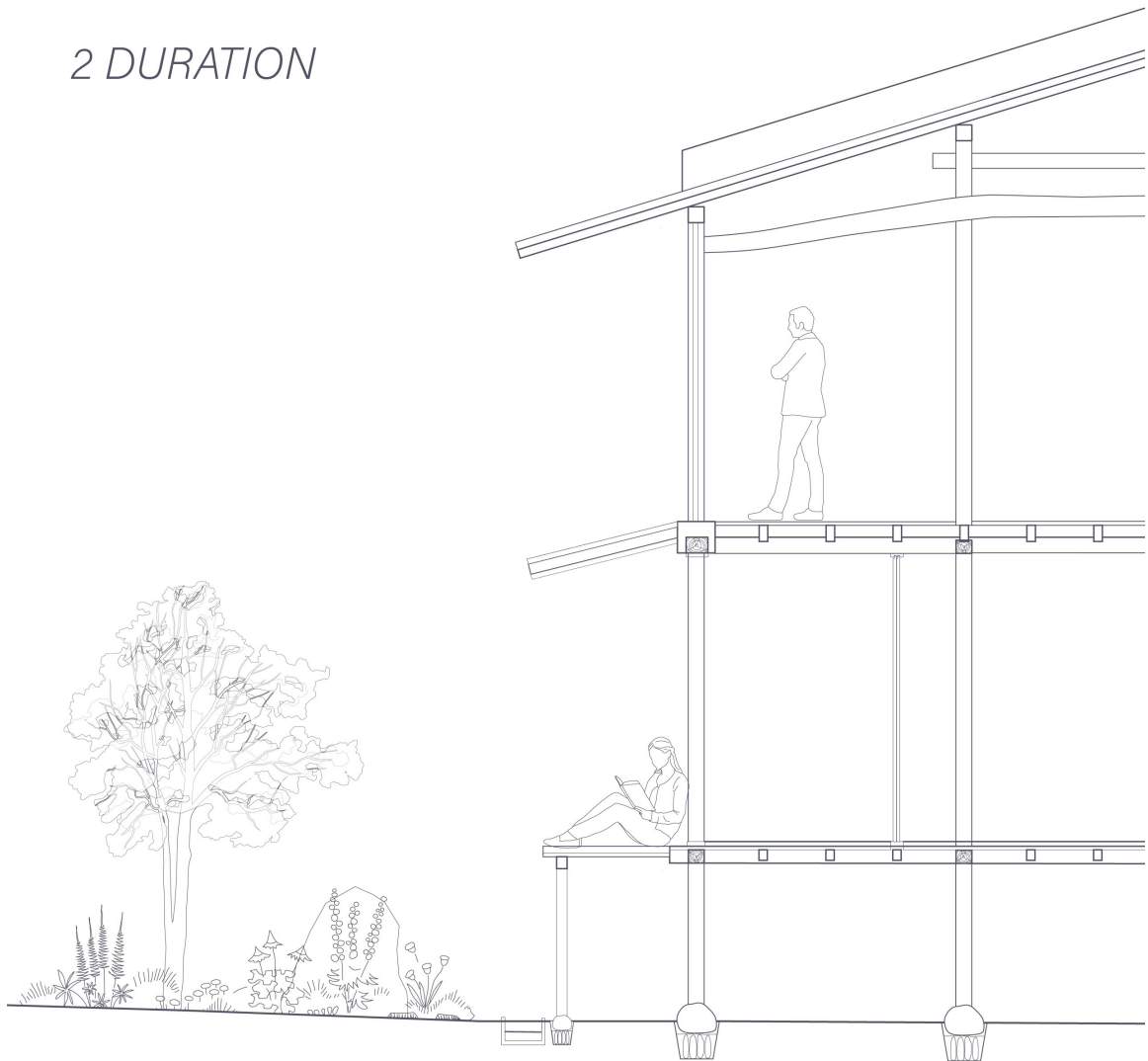
Phase 1a - Apparition (Construction): Foundation stones are laid, and each wood column is scribed to a stone.

1b APPARITION



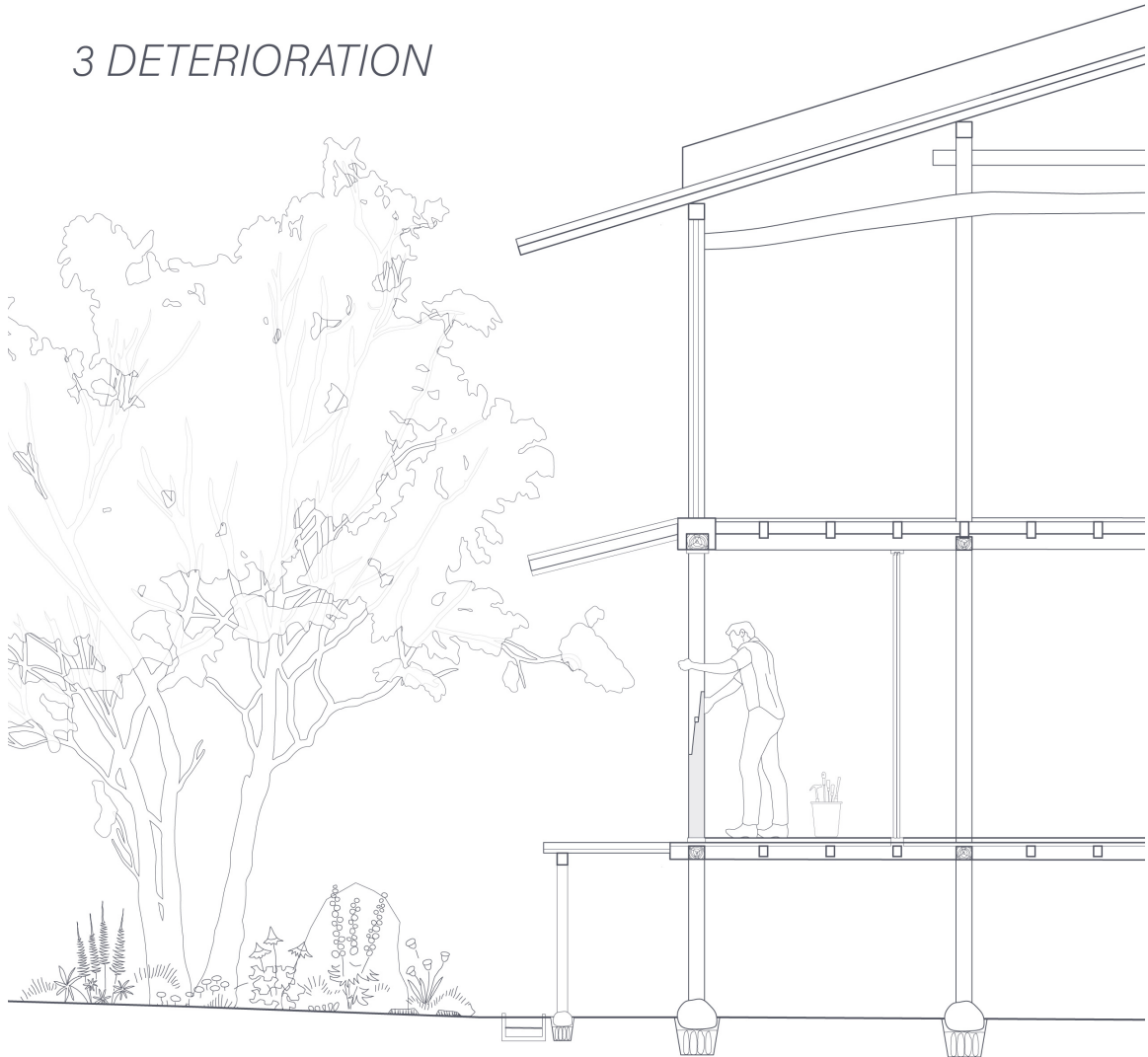
Phase 1b - Apparition (Construction): The first floor is assembled

2 DURATION

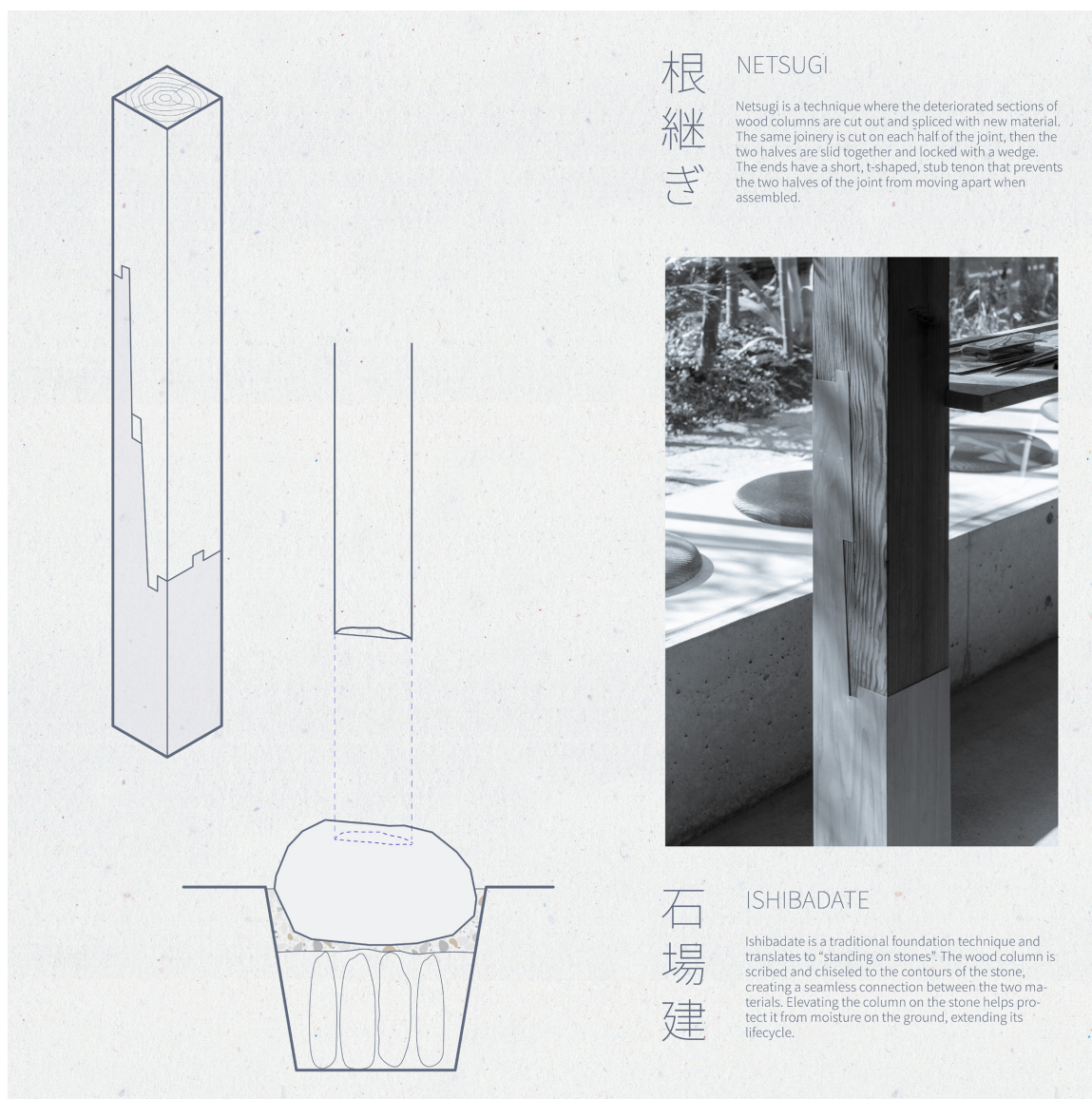


Phase 2 - Duration (Inhabitation): The building is completed and occupied.

3 DETERIORATION



Phase 3 - Deterioration (Aging): A deteriorated column is repaired using the netsugi technique (new wood is shaded).



Craftmanship detail: Netsugi repair and ishibadate stone foundation

Chapter 7: Conclusion

In Kyoto, where tradition and modern life coexist side by side, the thesis harnesses the city's strength as a laboratory for creativity and reconnects a disjointed site to its urban heritage and the broader craft community.

The experimentation and dynamic progression of craft ensures the future of traditional techniques, which is essential for its continuation. The incorporation of a machiya townhouse sets an example for dynamically preserving cultural heritage and advocates for the prevention of their demolition. The workshops, residences, and classrooms — an evolution of the machiya's original live-work configuration — not only provides additional space for collaboration and knowledge transfer, but ultimately re-activates the historical Nishijin community as a place of creative and cultural value.

Looking towards the fate of machiya and craft, the project hopes to spark the revitalization of machiya and craft innovation that is beginning to emerge in the Nishijin district of Kyoto. The thesis imagines a future for craft and the machiya typology in an era where new development and mass production threaten to erode traditional culture.



A Nishijin-ori weaver; photograph by Hiroko Matsuo (Hareven 2002)



A craftsman applying plaster (Anami and Nagao 2023)

References

- Abe, Takeshi. 2023. Photograph of kasezome dyeing. Visvim. <https://www.visvim.tv/dissertation/material/kasezome.html>.
- ArcGIS. 2023. Map of Kyoto. Base map from ArcGIS.
- Adkins, Monty, and Pip Dickens. 2012. *Shibusa: Extracting beauty*. Huddersfield, UK: University of Huddersfield Press.
- Anami, Haruki and Shuhei Nagao. 2023. Photograph of craftsman applying clay plaster. Toru Shimokawa Architects. <https://torushimokawa.com/archives/works/takenokuma>.
- Association for the Promotion of Traditional Craft Industries. n.d. Accessed November 8, 2023. <https://kyokai.kougeihin.jp/data>.
- Brumann, Christoph. 2009. "Outside the Glass Case: The Social Life of Urban Heritage in Kyoto." *American Ethnologist* 36, no. 2: 276–99. <https://doi.org/10.1111/j.1548-1425.2009.01135.x>.
- Demetriou, Danielle. 2010. "Kimono Making in Japan is a Dying Art." *The Telegraph*, October 23, 2010. <https://www.telegraph.co.uk/news/worldnews/asia/japan/8082875/Kimono-making-in-Japan-is-a-dying-art.html>.
- Design it. 2024. Photograph of wood beams supporting the roof of a machiya. ArchDaily. <https://www.archdaily.com/1014271/machiya-east-of-kinkakuji-temple-house-design-it>.
- Engel, Heino. 1964. *The Japanese House: A Tradition for Contemporary Architecture*. 1st ed. Rutland, VT: C.E. Tuttle Co.
- Fujii, Koji. 2022. Photograph of stepping stone. Toru Shimokawa Architects. https://torushimokawa.com/archives/works/also_moonstar.
- Guth, Christine M.E. 2021. *Craft Culture in Early Modern Japan: Materials, Makers, and Mastery*. 1st ed. Berkeley, CA: University of California Press. <https://doi.org/10.2307/j.ctv1nh3m22>.
- Hachise. 2024. Photograph of hibukuro in a machiya. <https://www.hachise.com/>
- Hall, Jenny. 2020. *Japan Beyond the Kimono: Innovation and Tradition in the Kyoto Textile Industry*. First edition. Dress, Body, Culture. London, England: Bloomsbury Visual Arts.
- Hanaoka, Kazumasa. 2009. "Analysis of the Determinants of Kyo-machiya (Traditional Wooden Townhouse) Demolitions in Nishijin District, Kyoto." *Geographical Review of Japan*, series A 82, no. 3: 227-242. <https://doi.org/10.4157/grj.82.227>.

- Hareven, Tamara. 2002. *The Silk Weavers of Kyoto: Family and Work in a Changing Traditional Industry*. Berkeley, CA: University of California Press.
- Hirooka, Kenjiro 廣岡顕二郎 and Shousuke Matsuda 松田庄助. 1903. Map of Kyoto. International Research Center for Japanese Studies. https://lapis.nichibun.ac.jp/chizu/map_detail.php?id=002792075.
- Hiroshige, Andō Utagawa. 1857. *Cloth Drying, Dyer's Quarter, Kanda from 100 Views of Famous Places in Edo*. Woodcut print. Buffalo AKG Art Museum Collection. <https://buffaloakg.org/artworks/p199185-cloth-drying-dyers-quarter-kanda-100-views-famous-places-edo>.
- Hladik, Murielle. 2003. "Time Perception, or the Ineluctable Aging of Material in Architecture". In *Japanese Capitals in Historical Perspective: Place, Power and Memory in Kyoto, Edo and Tokyo*. Edited by Nicolas Fiévé and Paul Waley, 257-279. London: Routledge.
- Ingold, Tim. 2010. "The Textility of Making." *Cambridge Journal of Economics* 34, no. 1: 91–102.
- Ingold, Tim. 2013. *Making: Anthropology, Archaeology, Art and Architecture*. London: Routledge.
- Ingold, Tim. 2015. *The Life of Lines*. Milton Park, Abingdon: Routledge.
- Iyeya. 2024. Photographs of machiya elements. <https://iyeya.jp>.
- Izumida, Hideo. 2011. "Machiya: A Typology of Japanese Townhouses 町屋：日本の都市型住居の伝統と保存". Paper presented at 1st TTCL Annual Symposium Conference, Malaka, May 2011. DOI:10.13140/RG.2.1.3690.8245.
- Kawano, Masato. 2009. Photograph of shoji sliding screen. TSC Architects. <https://archello.com/project/house-in-hinomiya>.
- Kim, Sunmee. 2018. "The Machiya Boom and Neighborhood Changes in Urban Central Kyoto: A Case Study of Nishijin." *The Annals of Japan Association for Urban Sociology* 36: 164-179. <https://doi.org/10.5637/jpasurban.2018.164>.
- Kinoshita, Ryōichi. 2003. "Preservation and Revitalization of Machiya in Kyoto." In *Japanese Capitals in Historical Perspective: Place, Power and Memory in Kyoto, Edo and Tokyo*. Edited by Nicolas Fiévé and Paul Waley, 367-384. London: Routledge.
- Kintsugi Aikozushi. n.d. Photography of kintsugi. Accessed July 1, 2024. <https://www.kintsugiaikozushi.com>.
- Kisho, Kurokawa. 1991. *Intercultural Architecture: The Philosophy of Symbiosis*. <https://www.kisho.co.jp/page/305.html>.

- Kyoto ASNY Collection Archive 京都アスニー収蔵. Circa 1532-1554. *Rakuchū-Rakugai Zu Uesugi-bon Tōban (Scenes in and Around Kyoto)*. <https://www2.city.kyoto.lg.jp/somu/rekishi/fm/nenpyou/htmlsheet/toshi17.html>.
- Maki, Fumihiko. 2012. *Nurturing Dreams: Collected Essays on Architecture and the City*. Cambridge, MA: MIT Press.
- Matsuo, Hiroko. 1970. Photographs of weavers and roofs in Nishijin. Published in *The Silk Weavers of Kyoto: Family and Work in a Changing Traditional Industry*.
- Miyake, Issey. 2022. Photographs of hikizome workshop and artisan. *Champ Magazine*. <https://champ-magazine.com/style/hikizome>.
- Mizuta, Miya. 2006. "Luminous environment: light, architecture and decoration in modern Japan." *Japan Forum* 18, no.3: 339-360. 10.1080/09555800600947223.
- Moriyama, Masatomo. 2021. Photograph of tokonoma. Shinsoken. <https://shinsoken.jp/works/odagaki-shoten>.
- Nakagawa, Takeshi. 2005. *The Japanese house: in space, memory, and language* (1st English ed.). Translated by Geraldine Harcourt. Tokyo, Japan: International House of Japan.
- Pallasmaa, Juhani. 2009. *The Thinking Hand: Existential and Embodied Wisdom in Architecture*. Chichester, UK: Wiley.
- Pallasmaa, Juhani. 2012a. *The Eyes of the Skin*. 3rd ed. New York, NY: John Wiley & Sons.
- Pallasmaa, Juhani. 2012b. "Newness, Tradition and Identity: Existential Content and Meaning in Architecture." *Architectural Design* 82, no. 6: 14–21.
- Pallasmaa, Juhani. 2016. "Matter, Hapticity and Time: Material Imagination and the Voice of Matter." *Building Material*, no. 20: 171–89. <http://www.jstor.org/stable/26445108>.
- Pye, David. 1968. *The Nature and Art of Workmanship*. Cambridge, UK: Cambridge University Press.
- Reiichi Ikeda Design. 2024. Photograph of wood column and foundation stone. <https://reiichiikeda.com/?p=1286>.
- Sennett, Richard. 2008. *The Craftsman*. New Haven: Yale University Press.
- Seto, Toshikazu, Ayako Matsumoto, Takafusa Iizuka and Keiji Yano. 2009. "Public Participation GIS of Historical Landscapes: A Case Study of 'Kyo-machiya Community-building Survey' in Kyoto City." http://cipa.icomos.org/wp-content/uploads/2018/12/Seto-e.a.-Public-Participation-GIS-of-Historical-Landscapes_A-Case-Study-of-Kyo-machiya-Community-building-Survey-in-Kyoto-City.pdf.

- Soma Ko Sha 杣耕社 n.d. Traditional Japanese Timber Framing. Accessed May 16, 2024. <https://soma-kosha.com/structure-en>.
- Stavros, Matthew Gerald. 2014. *Kyoto: An Urban History of Japan's Premodern Capital*. Honolulu: University of Hawai'i Press.
- Sugimoto, Hiroshi, and Tomoyuki Sakakida. 2021. *Old Is New: Architectural Works by New Material Research Laboratory*. Translated by Giles Murray. Zurich: Lars Müller.
- Tanizaki, Jun'ichiro. 1977. *In Praise of Shadows*. Translated by Thomas J. Harper and Edward G. Seidensticker. Sedgwick, Maine: Leete's Island Books. First published in Japanese in 1933.
- Yano, Keiji. 2016. "Historical GIS and Digital Humanities based on Virtual Kyoto." Lecture presented at the Harvard Center for Geographic Analysis Geography Colloquium, Cambridge, MA, September 1, 2016.
- Zumthor, Peter and Mari Lending. 2018. *A Feeling of History*. Zurich: Scheidegger & Spiess.