

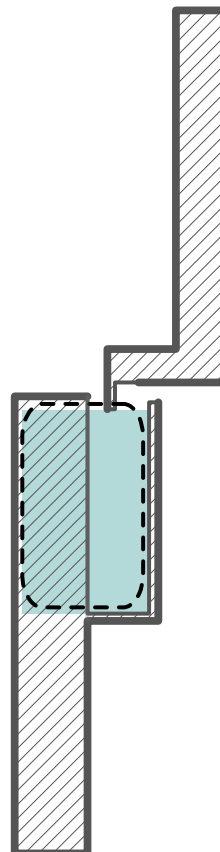
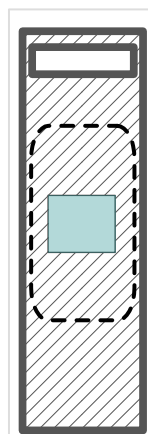
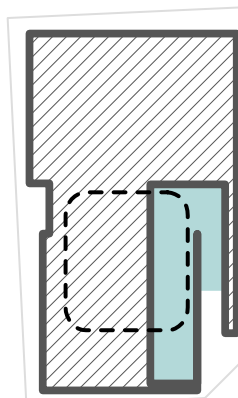
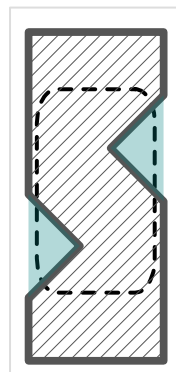
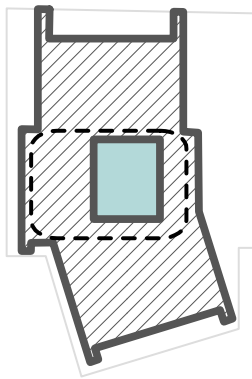
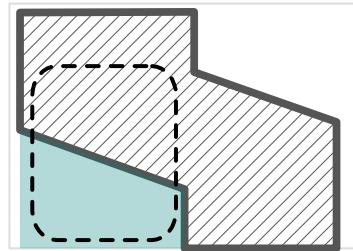
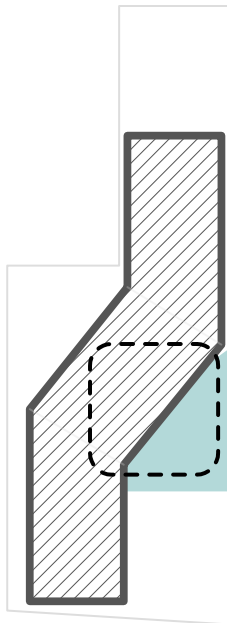


# The Introspective House

The Japanese influence  
on an alternate  
Housing typology

Alison Nobbs

Byera Hadley  
Travelling Scholarships  
Journal Series  
2015





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Alison Nobbs was awarded the Byera Hadley Travelling Scholarship in 2015  
**Cover image:** Representations of case study houses  
Drawings by Alison Nobbs

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“First we shape our cities and then  
our cities shape us.” Jan Gehl

Photograph: Permeating Internal Landscape of Shrimp House - UID Architects



## 1

## Introduction

**“First we shape our cities and then our cities shape us.”**  
Jan Gehl[1]

Housing our population comprises the largest single purpose for building within of our city’s fabric. Public space, such as streets, parks and places of work and learning usually accounts for 30-40% of the urban footprint, leaving the remainder, in some instances up to 80% dedicated to housing.[2] And yet, despite the dominance of this building purpose, the typology of housing remains largely unaffected by the evolving needs of contemporary Australian society. We are at a time more than ever where innovative housing solutions are required, and yet increasingly restrictions are imposed on new models of housing ‘types’ based on accepted historical definitions and planning requirements. The assumed house has become a succession of housing derived from the attributes of a free standing dwelling surrounded by open space, the island home.

One of the biggest growth areas continues to be green-field developments perpetuating the traditional suburban family house model. Suburbanisation as we know it continues to essentially provide consumers with an immutable type, this is low density housing. Many architects and planners warn that it is unwise to continue to knowingly build this model of suburbia, given the undeniable need to address the current and imminent housing shortage and housing affordability. The current alternatives to this typology are the equally established models of terrace style housing, side by side dual occupancy or stacked apartment dwellings.

I am interested in a slightly differing view, that in order to increase density and provide a broader range of affordability, there is an alternative to residential towers. An alternative that defends the notion of the individual house and evolves it to a new model. Studies often look to ‘left over spaces’ or ‘in between spaces’ or brownfield development, however a more fundamental questioning of the typology of the house is required.

From the sixteenth century Japan has a tradition of creating buildings with a tranquil atmosphere that focus inwards. The tea master Sen no Rikyu established the architectural form of the tea house in the mid sixteenth century. I have been intrigued with how Japanese architects have interpreted this form into houses, creating dwellings that are intimate and autonomous. I am interested in housing that looks away from the city and focuses within, and the seemingly incongruous result of an enlivened and activated street life. The idea of an inward looking house to a central open space is certainly not a new concept, nor one limited to Japanese architecture. For instance ancient Roman houses were typically arranged around two internal garden spaces known as the atrium and the hortus. These were generous and often impressive spaces, from which the rooms of the house were organised around. Other cultures such as ancient Persian, Spanish, Italian, and Mexican houses also exemplify ideas of a courtyard house. However, a Japanese model is of particular interest, because of the way this idea is distilled into quite small spaces but still with a pervasive impact. The Japanese example is one that both explores an inward looking house, but also addresses a high density solution.

Fundamental to achieving this is shifting the notion of 'backyard', and redefining the distribution of 'private open space' on a site. Something which current planning controls to a large extent restrict. I am interested in the architectural potential of an introspective house outside of planning limitations, a home that envelopes landscape, orientated to an 'inner yard' as opposed to a backyard. The potential to explore a new pattern of density within Australia that offers landscape as integral to the internal experience of a house, and shifts the built form to the boundaries. The idea of a private house and public suburbia where the street becomes the new backyard, an extroverted suburbia.

While architectural possibility is theoretically limitless, we daily practice in a system where building footprint and building envelope are essentially predetermined. We are constantly testing planning controls and guidelines to optimise the architectural outcome and the experience of living in the houses we design.

This study acknowledges the desirability and legitimacy of the single dwelling. The role of most greenfield areas is to produce affordable 'family type' houses, with the largest group attracted to greenfield developments in growth areas being younger families.

The study recognises the need for intimacy and retreat within a home, it defends the notion of the autonomous 'house', but questions whether greater flexibility of site coverage within planning controls, could produce the same desirable qualities on smaller lots and thereby increase affordability. The suggested result of creating a

tranquil inner focused house, is that the streets become the new 'backyard' as places of social interaction and diversity, enlivening, connecting and enriching neighbourhoods.

The report focuses on the work of 3 particular practices who I spent time with when in Japan:

Mount Fuji Architects Studio - Tokyo  
(Masahiro Harada and Mao Harada)[3]  
Alphaville Architects - Kyoto  
(Kentaro Takeguchi and Asako Yamamoto)[4]  
UID - Fukuyama  
(Keisuke Maeda)[5]

These architects generously showed me many of their projects and explained the motives and rationale of their architecture. In some instances I had the privilege of visiting the houses, and others we discussed referencing drawings, photos and models in their studios. The discussions I had with these architects has informed the structure and much of the content of this report.

Due to the private nature of these buildings it was not always possible to photograph them. The houses are therefore represented by diagrams of their key characteristics, and supplemented with already published images as appropriate.

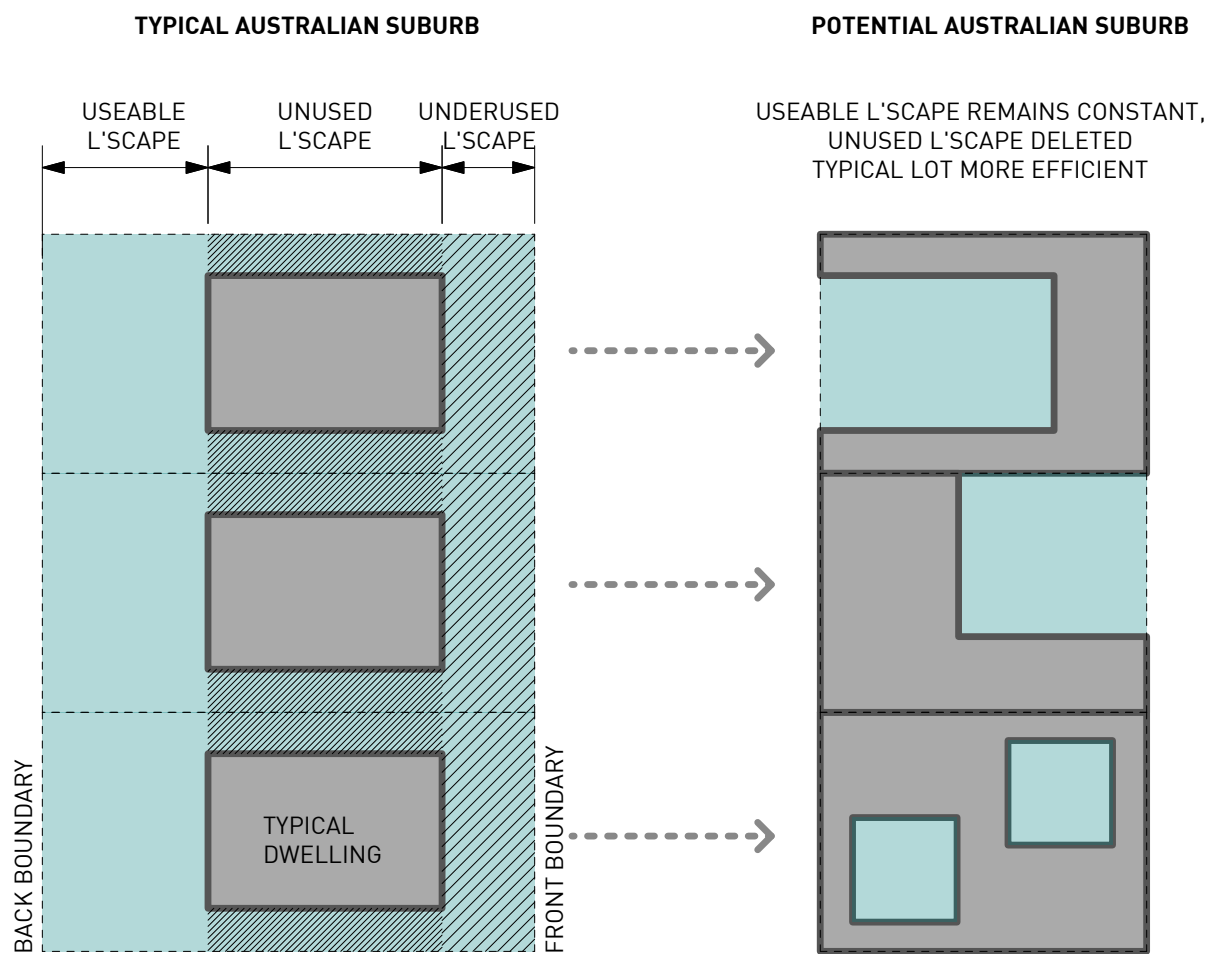


fig.1 (above) Potential Australian Suburbs



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## 2

# A Contrast Of Housing Traditions:

4 .....

**“Western architecture is created to conquer nature and the significance of the wall, dividing exterior from interior, is very great for this reason. Japanese space, by contrast, seeks to harmonise architecture and nature, to make them one, by enveloping nature in architecture and making architecture and nature equal partners.”[7]**

### 1. AUSTRALIAN HOUSING TRADITION - The house as an object on the site

The Australian housing tradition is inextricably linked with the development of our suburbs. Post world war II rise in manufacturing coupled with the mobility of the car, resulted in migration to the cities and the rapid establishment of suburban development. Freestanding houses replicated on standard grid subdivisions, the image of prosperity represented by the detached house on the typical quarter acre block, the “great Australian dream”. The house stands as an object in the centre of the site, its best ‘face’ orientated towards the street as an image of how the occupants would like to be perceived. The image of kerbside appeal sits equal if not above the experiential qualities of the house. This is demonstrated in the real estate value given to streetscape appeal and the disproportionate attention project homes give to the front facade over any other. The image a house presents to the public realm is very much linked with the style, taste and status of how the occupants would like to be perceived.

The defining characteristics of this housing are autonomous dwellings surrounding by land, the garden representing ownership of ones domain. The garden areas

take on different qualities, with the formal entrance fronting the street, and the life and informality of the house at the rear directed to the ‘backyard’. The front garden developed as a semi public zone to be viewed from the street and appreciated by passers by rather than being an actively used zone. The garden to the back being both recreational and utilitarian. This has resulted in a historical and cultural expectation within Australia that ‘primary open space’ and the majority of landscaped areas should be located to the rear of dwellings. This is so engrained that it’s prescribed within current planning controls.

The dwellings themselves are dependant on a singular wall to separate them from nature, a clear demarcation between the built and the surrounds. They are sited and designed to look beyond themselves, to be outwardly focused rather than self referential. Windows are defined as openings within the wall orientated to take advantage of the surroundings. Dwellings sit within the centre of the block with stipulated setbacks from all boundaries. The building footprint has no other option than to be a concentrated solid in the centre of the site. The active or “public” zones of the house are positioned at the rear, orientated to the ‘private open space’. The pattern of repetition resulting in open spaces being duplicated along adjoining lots and orientated towards each other. This is generated from the street grid layout rather than being derived from performance based qualities such as neighbourly privacy or solar orientation gains which are variable and site specific, and cannot be successfully addressed by mirroring and duplicating a simple geometry. This has led to a dependance on adjunct elements such

*This has resulted in a historical and cultural expectation within Australia that 'primary open space' and the majority of landscaped areas should be located to the rear of dwellings. This is so engrained that it's prescribed within current planning controls...*

as boundary fencing and screening to establish the so called 'private open spaces'. These planning principles and pattern of housing repetition are derived from the post war era where land was plentiful and affordable, critical analysis of site efficiency was not on the agenda as suburbs lazily sprawled.

Fast forward and our increasing need to increase our housing stock and subsequent densities within our cities, requires a much more rigorous interrogation into the planning approach and development of individual housing lots. Current planning codes are at odds with the need for higher density housing, more specifically, that imposing uniformity in setbacks and building envelope encourages repetition, and places significant obstacles on alternate patterns of site coverage. We are left with underused zones to the front of dwellings and generally unused land to sides. An indicative calculation of a typical suburban block indicates that almost 10% of the site is unused and nearly a quarter of the site is underused. This report aims to consider alternate patterns of suburban development that both increase density and social connectivity outside of the current restrictions of NSW Housing Code and relevant local government DCP's and LEP's.

Much has been written about the demise of the Australian backyard as resultant from decreasing lot sizes and increasing house sizes, however, this report seeks to suggest that the architecture of single dwellings needs to be reassessed. The fundamental error is the perpetuating of a suburban housing typology that doesn't fit. By consolidating open space rather than distributing it around

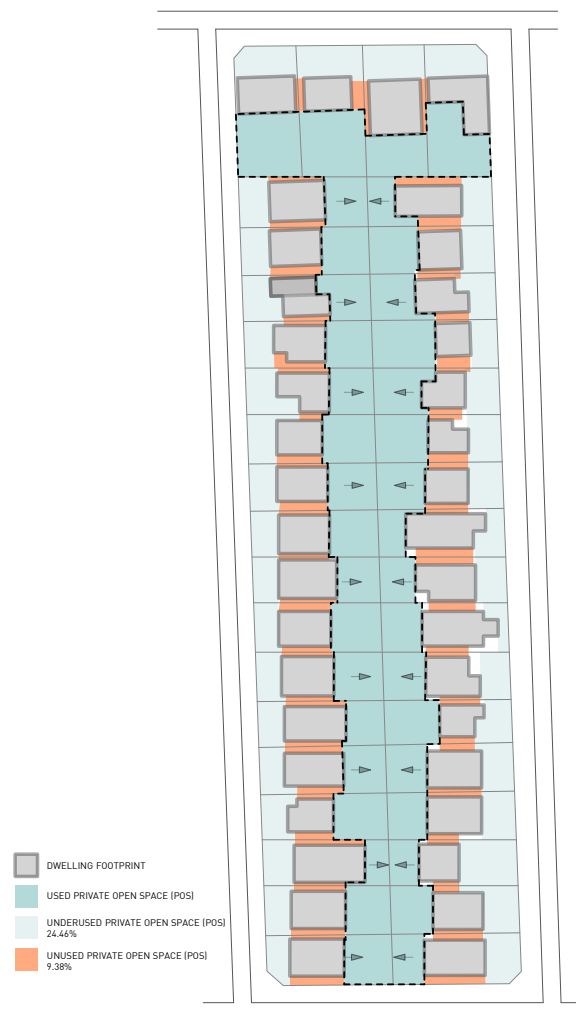


fig.2 (above) Typical Suburban Block

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the perimeter of a building the productivity of a site can be significantly increased. This report will challenge planning codes that reinforce repetitive development with uniform setbacks and restrict alternate patterns of site coverage.

## 2. JAPANESE HOUSING TRADITION - The house as facilitator for life

From the sixteenth century Japan has had a tradition of creating buildings with a tranquil atmosphere that focus inwards. The tea master Sen no Rikyu established the architectural form of the tea house in the mid sixteenth century. Since then Japanese architects have interpreted this form into houses that look away from the city and focus within, a more introspective house. This developed into a tradition of inwards looking housing forms such as the 'machiya' found typically in Kyoto and Osaka. These houses present very simply to the street but unfold with rich experiences internally. They are designed with their focus around a small inner courtyard the 'tsubo-niwa'. Other transitional spaces such as the 'engawa' provide an adaptable multi purpose zone that form the relationship between the internal and the site. In contrast to Australia the Japanese housing tradition is based on an expectation that the house will be a facilitator for a person's inner life as well as for daily domestic activities. The tradition of the house is not an object to be viewed, but more a system to be inhabited. The house is built around patterns of life, ritual and most importantly, the individual's experience.

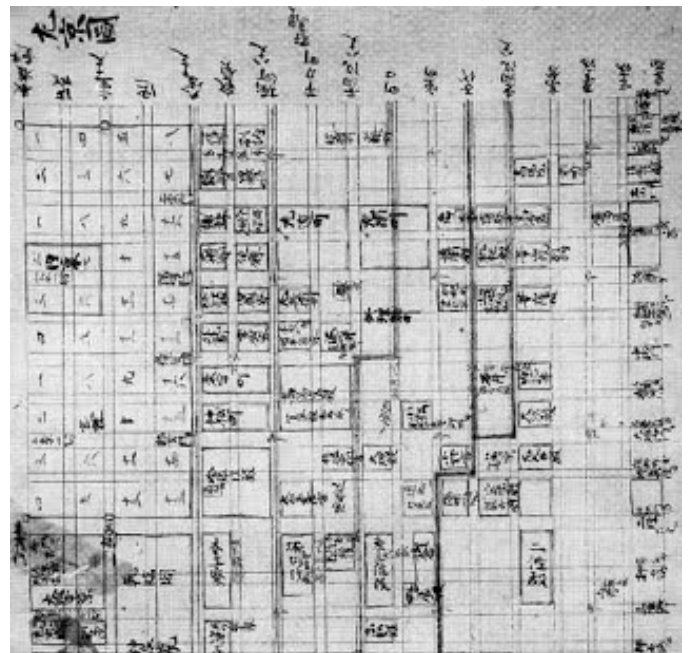


fig.3 (above) Kyoto grid pattern - Opposite lots embrace the street rather than be surrounded by it.

There is also a long tradition of not separating house and landscape, but providing a complete environment. It is a whole site approach where there is an intrinsic integration of architecture with nature. The architectural elements such as porch, screen and steps are given as much consideration as the placement of a tree, rock or pond.

While some contemporary Japanese architects say they are not influenced by the past, and have no cultural reference, the majority seem proud to reinterpret Japanese





Photograph: Traditional 'Tsubo-niwa', the inner garden - Alison Nobbs

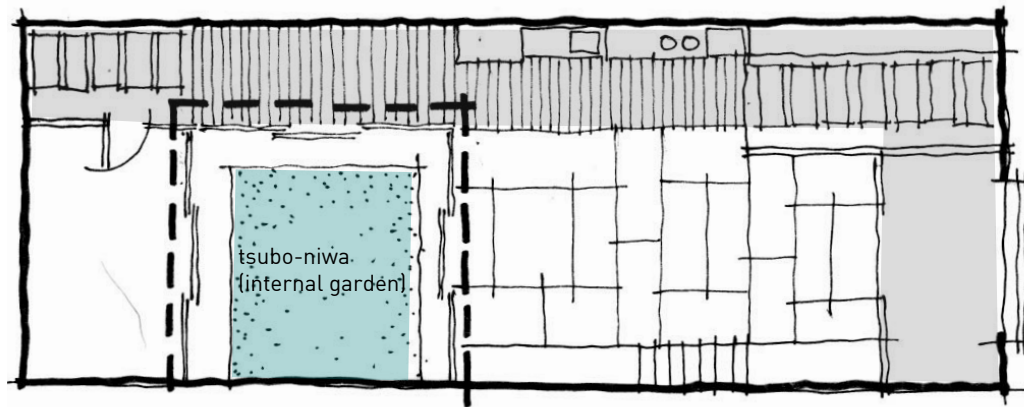


fig.4 (above) Traditional Machiya

tradition. One of these practices actively engaging with traditional concepts is Mt Fuji Architects. As one of its principals Masahiro Harada noted, “we can’t escape the traditional influence we have lived in”, their work translates many traditional architectural concepts into contemporary expressions.

Another significant contributory factor is that contrary to the stringent minimum lot sizes imposed on Australian housing, Japan has no minimum lot size that a single dwelling can be built on. This, coupled with a short life expectancy of housing (around 30 years), high land taxes and resultant subdivision into smaller lots has led to an architectural culture of invention, “...it is these quirky lots that often stimulate creativity. Since the tried and true just won’t fit, designers have no option but to come up with something entirely new.”[7] It’s not unusual to have sites of less than 50sq.m, colloquially known as ‘flag pole sites.’ On small lots the site is enveloped and external connections with nature are embedded within the dwelling. The house becomes self referential.

The defining tradition in Japanese housing is the focus of design on the internal experience, a concentration on the internal qualities of a dwelling rather than the external appearance. Kentaro Takeguchi noted that “in all of our projects the exterior is not the object of the design”, instead they focus on the internal qualities. “to produce rich spatial experience for residents and enigmatic visual impact for people passing by, as it is never really clear what happens inside the volume.”[8] The house is not a building to be viewed, but fundamentally about experiential architecture.

Japanese dwellings are derived as places of retreat from city life. The architecture involves a complex sequencing of negotiating boundaries between public and private. Although many of the houses discussed do in some way give back to the experience of the passerby, they don’t actively engage with the public realm, they are designed to be fundamentally separate and private from the public realm.

# 3

## Five elements of an introspective house

As a means of analysing the essential components of what constitutes an “introspective house”, this report nominates five essential characteristics that are observed in residential Japanese architecture that differ to the typical Australian experience.

These are:

1. **SITE COVERAGE - A less prescribed approach**
2. **THE WINDOW - Dissolving walls**
3. **GARDEN and NATURE - An Integral experience**
4. **ARCHITECTURAL TOPOGRAPHY - Vertically overlapping spaces**
5. **RELATIONSHIP WITH THE STREET - Active neighbourhoods and private dwellings**

### 1. SITE COVERAGE - A less prescribed approach

*“A void space or empty lot should be read as a positive territory. Once you start putting architecture on a plot like a solid mass, the space around the site will become nothing but negative. Architects should look for a building that expands positively across the boundaries and can actually enliven the space between the house and the neighbouring houses. Making the house as an extension.” Akira Yoneda[9]*

Continuing from the Japanese tradition of harmonising architecture with nature, the quote from Akira Yoneda summarises an enabling approach of an unrestricted building footprint. While it stems from a philosophical view, it allows an architectural response that can be truly site and contextually specific, ensuring that usable area is maximised, and redundant or unused spaces are minimised. In Japan it is typical to assume the house will ‘expand’ across the whole site, houses are not defined from the street view. It is often not possible to get a sense of the scale or complexity of a house from the street. The house unfolds once within. In discussion with Mt Fuji Architects there was a consistent approach to *“design the whole site and first of all to create a place for living”*[10]. The emphasis is on the house encompassing the site to create a whole environment for living rather than creating a demarcation between dwelling and site. There is an inherent spatial interdependence between the ‘positive’ and ‘negative’, the building footprint and the site, a typically Gestalt approach where it becomes very difficult for one to exist without the other. The built and unbuilt components of the site are intrinsically dependent on each other.

This apparent freedom in how the siting of a dwelling is approached is not without restrictions. Japanese architects work within equally demanding planning regulations, there are however a few key differences with Australian regulations that enable a very different approach to the site. As Masahiro Harada noted when discussing the Sakura House, the building footprint could not exceed 60% of site, but there was no stipulation on where that 60% could be distributed. This allows a different cri-



*By focusing inwards, the built area of the house is inevitably pushed to the extremities of the site, leaving open spaces at the centre of a lot enveloped by the house...*

teria for how a building can be distributed across a site. The rationale is more performance based as a response to site specifics rather than abstract prescriptive dimensions. The house is positioned depending on immediate context, solar gain and maintaining privacy. By utilising the ‘boundary wall’ as a full height wall or facade , they successfully shifted the perception of the interior space so that all of the site became included.

Another key contributing factor in why Japanese examples of site coverage differ to Australian patterns is the size of the lot itself. Planning legislation stipulates minimum Sydney lot sizes at 230-250 sq.m, with some specific exemptions to reduce. In contrast in not unusual for houses to be built on sites less than 50sq.m. Particularly in Kyoto where the traditional site was divided into elongated rectangular lots. Historically ownership of these lots was taxed based on the width of the sites, and therefore very narrow sites developed. These resultant smaller lot sizes require a different approach. The W-window house discussed with Alphaville Architects sits of a site of 47.6 sq.m. In response to this the house covers the site, with triangular notches cut from the footprint. The windows of the house are orientated back to itself.

By focusing inwards, the built area of the house is inevitably pushed to the extremities of the site, leaving open spaces at the centre of a lot enveloped by the house. It’s not just that Japanese suburban housing is of a much higher density but also there is a very different approach to to how a dwelling could be arranged on the site. These alternate patterns of site coverage create an exploration of internalised outdoor experiences, where the house it-

self becomes the buffer to the public realm and open spaces are fundamentally private. It’s a particularly efficient use of the site that minimises superfluous space as the whole site is usable or meaningful.

**2. THE WINDOW - Dissolving walls**

In Australian or western traditions, the window serves two primary functions; a source of outlook or view framer to the surroundings; and, a means of natural airflow. It normally exists as an element within a wall, a building component with set measurements and specifications. Our approval process requires a window to be defined, it’s performance qualities to be able to measured through BASIX and NatHERS. It is expected that windows are definable in terms of their area, sill heights, heads heights etc. They are understood as a building component set within a wall.

The window as an adaptable system:  
In contrast, traditional Japanese architecture doesn’t approach ‘windows’ as a definable element, that is, as an opening within a wall, they often exist instead as an adaptable system. In place of a framed area of glass there is an adaptable and interactive layering of screens (traditionally shoji). This becomes a system of dissolving walls towards in inner garden or courtyard. It is common in both traditional (eg machiya) and contemporary Japanese architecture to have no visual connections to the street front, but once within, the walls dissolve to connect with an internal landscape and experience with nature. This has evolved in contemporary use to an ambiguity



**Photograph:** (right) Detail from UID 'Peanuts Project' blurring the wall as a delineator - Alison Nobbs

between the internal and external. UID architects almost deliberately confuse this boundary with glass plates sitting in the midst of gardens that span the external to the internal. Visiting the Peanuts project the architecture works hard to disguise the transition, the dividing wall between the internal and external is frameless glass, but the pebbled and landscaped ground surface is consistent, concealing the transition. In much of UID Architects work it is difficult to discern the point of crossover from the external to the internal.

#### The window as self referential:

They are openings that reference the site itself rather than overlooking the street or other adjoining properties. The connection is fundamentally self referential and introspective. This is seen in the traditional machiya, but also in contemporary work such as the Shrimp House by UID architects where the house is arranged over three levels around a glazed core. Similarly in W-window house by Alphaville Architects the dwelling is located on a very narrow site, openings are made by carving triangular notches into the side of the rectangular form. In both examples, the windows retreat and extend into the house, the openings become self referential rather than being orientated towards the adjoining buildings or context.

In conversation with Japanese architects about the use of windows, there was a recurring idea that the window is less about a framed outlook, and more about a blurring of the definable internalised space with nature. UID architects describe how they are constantly shifting the boundary between inside and outside. In most of their work, it's the inverse lack of wall that creates the windows.

Internally many of their houses have an internal transparency and continuity, the external skin is positioned at critical heights and locations to maintain privacy and often left open elsewhere. The window is not an element in itself but more just an area where there is a lack of wall. These appear as elongated horizontal elements above or below eye height. At ground level they provide a continuity of landscape, at an upper level a source of light and an expanse of sky. In contrast to Australian housing where windows are almost always located at eye level to view directly out of, many contemporary Japanese architects place windows anywhere but at eye level. Outlooks are framed to the ground plane or above and beyond to the sky. The dense immediate context is filtered. In House Twisted by Alphaville, with the exception of the glass courtyard and kitchen doors, the only openings are high windows at the creases of the building where the form shifts, these form the main sources of natural light into the building. "The interior space is filled with ephemeral folds of light and shadow" Kentaro Takeguchi.

This broader Japanese concept of what a window could be, allows for a greater appreciation and interaction with the open or external parts of site. It promotes use of the whole site, and provides often vast openings without impinging on the privacy of the occupants.

### 3. THE GARDEN and NATURE - An integral experience

For centuries Japanese culture has explored peoples relationship with nature. Architecture across many typologies embodies biophilic principles, demonstrating a belief in innate connections between humanity and nature.



**Photograph:** (left) 'Tsubo-Niwa' at the Kahitsu-Kan Museum Kyoto

A fundamental difference in the Japanese approach is that nature is something to be felt and connected with, not just something to look on to, nature forms an integral part of the architecture where a house and its landscape are dependant and interconnected.

The traditional *machiya* is an example of a well known Japanese housing typology which is orientated around an internalised landscape, the “*tsubo-niwa*”. This courtyard garden is embedded within the middle of the house, it's separation from the street and neighbours provides a private and tranquil outdoor experience. The inner *tsubo-niwa* is often quite a small space, but is the focal point of the house and provides a source of natural light and ventilation. It is often interpreted in contemporary Japanese architecture. The Machi House and the Shrimp House by UID architects are both organised around a central landscape element. I visited both of these houses and although the courtyards themselves were small, the permeating sense of nature was powerful.

The traditional *tsubo-niwa* is usually flanked by an *engawa* which translates literally as a passage or connection. It is a covered external passageway which connects various parts of the house. However it is also an adaptable and useable intermediary space between the inside and outside. It functions as a contemplative porch area that transitions between the internal and external. It shows the potential to revisit the Australian verandah and explore this as an internalised space rather than being located around the periphery of a house. The Australian verandah or porch has become more of a buffer between the house and the street. It is generally not oc-

cupied or used. In inner city areas where external space is at its most constrained, it is still rare for verandahs or porches of terrace houses or semi detached to be actively used. By contrast, in Japanese architecture these intermediary spaces are often absorbed within the house as transitioning elements to an internalised garden. They are fundamentally useable and occupied spaces.

Even in dense neighbourhoods seemingly devoid of a garden experience, the inclusion of nature is prioritised. In conversation with Masahiro Harada, he noted that most of their projects are in dense urban settings where there's little landscape, they therefore set out to create a new landscape and “maximise natural environment within the site”. This is often an architectural element or an artificial element, rather than a garden. For example the simulated forest in sakura house or in the valley house they introduced a pond as central to the planning. Masahiro Harada explained, “water brings reflected sunlight into the house and you see the wind on the surface, in that way you can feel nature and be aware of the natural environment.”

The concept of nature is inherently linked to experience rather than the object, it's as much about feeling as seeing. Keisuke Maeda of UID architects expressed it saying “it's important to feel the day, it's very important to integrate architecture with the environment.” The work of UID architects has intrinsic connections with nature, which has ongoing appreciation benefits for the owners. He jokes about using landscape as a means to keep his clients happy “landscape changes daily, but architecture when it's finished remains the same. Clients are very hap-





*Even in dense neighbourhoods  
seemingly devoid of a garden  
experience, the inclusion of nature is  
prioritised...*



py at first with the architecture, but after a few years they don't see it, but landscape keeps growing and changing throughout the season." By integrating nature so fundamentally, he almost creates an architecture that is seasonal. "The relationship is as if the site's natural environment and the architecture coexist at the same time." [11]

In all the houses I visited the area of the garden was small, but it was integral to the design of the house. There was a direct connection with nature. Perhaps because of the proximity, and integral characteristics, there is less need for an expansive garden, the appreciative benefits are immediate, the experience of nature penetrates all areas of the house, this reducing the need for quantity.

#### **4. ARCHITECTURAL TOPOGRAPHY - Vertically overlapping spaces**

*"To live in a house is akin to living in a tree. There are many branches and each is a pleasant place to be. They are not hermitically isolated rooms, but connected and continually redefining each other. From one's respective positions as one climbs this proverbial tree, another branch may appear or may fade away from view. The variegated three dimensional network of localities foreshadows a new conception of domestic place."* [12]

In much of UID architects work, the houses are comprised of a series of sculpted spaces that are difficult to define in organised horizontal layers or levels. The various programmatic components of the houses are arranged in sectional relationships more than plan. *"delicate and multiple branch-like columns that support the slightly float-*

*ing boxes produce various one-room spaces"* [13] In both the Shrimp and Pit house, the lower rooms are carved into the ground plane with other spaces hovering above. Moving through the Shrimp house is like going on a journey through undulating platforms, the changing quality of the rooms reflects their function and purpose, there is no designated circulation space such as hallways and corridors, instead a series of spaces with differing relationship to the central courtyard depending on their use.

In another project I visited with Keisuke Maeda, the floor plane is inclined on a slope. The Peanuts project is an early childcare centre, and in reference to how children play, a section of the floor shifts from horizontal to create an internal hill for toys to roll down and children to climb. There is a recurring theme in the work of UID architects of examining the benefits of naturally formed topography and recreating these architecturally.

When describing the Pit House, Keisuke Maeda refers to how they approach architecture in the same way you would the land, with a kind of splitting of levels and terracing, "This time, we came up with a living form that accepts the outside environment such as surface of the terraced land". This project sculpts the ground plane into the site in a series of "terraces". The created topography defines the different programs of the house rather than delineating into separate rooms. A defining approach of these houses is that they rely on architectural topography for the subtle definition and manipulation of spaces. Rooms are not delineated but are separated by vertical shifts. It's a lot more complex than a simple open plan approach, it's difficult to represent in traditional plan form because often there is no single level, but rather a

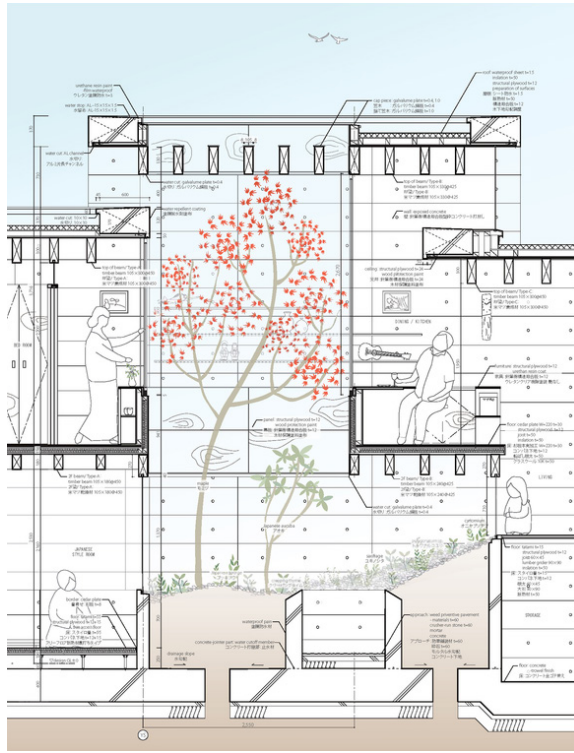


fig.5 (left) Section of Shrimp House  
Courtesy of UID Architects

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multitude of shifting planes or terraces that are generally orientated around a central landscape experience. There is a sense of meandering through a landscape, albeit an architectural one.

In 'Valley' house by Mount Fuji Architects Studio, the site is surrounded by high rise buildings, so the architectural solution was to respond to these built surrounding 'mountains' and design the house as a 'valley' that you descend into. The house itself becomes a topographical response fitting in with the surrounding context. Kentaro Takeguchi explains how they often use differing split levels on very small sites because "even if the plan is the same to the north and south then the view differs very dynamically between the floors." It's this emphasis on sectional possibility, an internal topography to differentiate and articulate space.

The advantage of vertically overlapping spaces focuses the circulation of the house around a central experience. The house is activated around a central core which often correlates with an external or garden element. The social activities are brought to the centre and the more private components are pushed to the periphery. It is an efficient use of space which relies on vertical separations rather than walls and reduces space given over purely for circulation. It also provides an architectural approach that can inventively respond to the immediate context by introducing a focal point within the house itself, creating a scenery that might otherwise not exist.

The emphasis of vertical manipulation of space rather than horizontal has obvious advantages in reducing site

size. Rather than rooms meandering across a site, they meander upwards. The experience of walking through the "Shrimp House" is a continuous spiraling up and around the central garden. The house has very few "isolated rooms", instead it relies on the topography of the house to articulate different spaces, the terracing and overlapping helps delineate the different domestic activities.

## 5. RELATIONSHIP TO THE STREET - Active neighbourhoods and private dwellings

The typical residential experience in Japan is the inverse to the typical Australian experience. As Kentaro Takeguchi explained, "Japanese houses are traditionally considered as rather private realms for close members of the family". They don't have the same public profile that Australian dwellings do in terms of entertaining and hospitality or in terms of the openness and transparency with the public realm. The typical Japanese dwelling has little direct relationship with the street.

Conversely, the Japanese streets themselves are alive with activity and lively public spaces. Much of Japan's urban development encourages strong neighbourhood associations. An example being the development of Kyoto where the streets were laid out in a grid, but contrary to western development, the block consisted of both sides facing the street, forming the block, the 'Ryogawa-cho' or two sided block. In the sixteenth century, Toyotomi Hideyoshi made the street of each 'cho' communal property and exempted it from tax. This created the street as the core of the community and encouraged communal





Photograph: Street context





**Photograph:** House in Kyoto offering few clues of what lies beyond



*“Japanese houses are traditionally considered as rather private realms for close members of the family...”*

activity. The street became “neither public nor private, but an intermediary zone between house and city”[14].

Even with very inward looking houses, there remains a sense of this intermediary space or transitional zone between the public and private realms. Masahiro Harada and Mao Harada described how important it is in their work to give something back to the life of the street. When discussing Sakura House the architects noted that they employed a traditional method of providing shelter and filtering the house in the same way a forest would (yashiki-mori). A more generous gesture than a concrete wall which creates a block between the street, “we should not do this because it is not good for the resident or the surrounding people”. Instead they have created an interface, a compressed layering of the building where shadows and light can still pass through, indicating movement beyond, in much the same way a filtering of foliage would do. They explain this by saying, “Many live in a narrow, small environment, but when we divide the boundary with semi transparency, then everyone benefits for a perceived sense of space.”[?]

UID architects explore similar approaches to blurring the site boundary. Maeda agrees that “to make a wall divides a site”, instead in the Atelier-Bisque Doll house the wall hovers above the ground plane at eye level it provides privacy and enclosure but the ground plane is continuous, making, “it’s a generous idea of giving back to the public, you can see the garden continue through from the street, a blurring of public and private”. This creates a intermediary, less defined zone, a kind of threshold to the house itself, although the interior of the house and

the street activity remain visually separated.

Looking at these houses leads to a questioning of whether a house should interact with the public realm or, is this a building typology that is most successful by turning away from the street, providing a place of retreat. Instead, the streets which are so immediate become social corridors. Perhaps as a result of a healthy public transport system, the streets have a pedestrian flow along vibrant string of shops, restaurants, cafes and bars. All the typical “activators” are found locally around transport hubs in most residential districts. Streets are alive with pedestrians, there is a clear distinction between the public and private life of the city. It offers a solution that embraces outdoor experience of an individual house in a very contained and private way. Does our housing tradition force an awkward relationship with the public domain, that has resulted in the great retreat to the backyard? Why should housing, the most private of building types have large windows that address the street as is so often required in planning codes and regulations? Are we perhaps better off accepting that with increasing density comes an increasing need for housing to retreat and turn away from the street? In turn streets should be developed with their own resultant qualities as social corridors, places of movement and habitation, public spaces that are used and engaged with.





4

Diary Notes As  
Case Studies -  
Selected Houses  
Visited Or  
Discussed In Detail  
With The Architect

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I was fortunate to have the experience to talk through many projects with the architects who designed them, and in some instances also visit the houses. The following is a summary of seven particular houses that explore the ideas of an "Introspective House". Each of them have been summarised into a drawing to demonstrate their key elements. I have also included my diary notes of the discussions I had.

# 4.1

## Sakura House Mount Fuji Architects

Location - Meguro, Tokyo

Site area - 131.41 sqm

Building area - 75.43 sqm

Floor Area - 279.58 sqm

POS as % of site - 11%

20

- Use of the wall to enclose the whole site.

• The 'wall' is a system rather a harsh delineation, "when we only control the internal we can just use a concrete wall, but this creates a block between the street. We should not do this because it is not good for the resident or the surrounding people." They wanted to create a kind of voice between the residents and the neighbours.

• Based on a traditional concept of 'yashikimori' where a forest is designed around a house as a traditional way to control climate. However because it's quite a small site, there wasn't enough space to create a real yashikimori', the architects therefore decided to reinterpret this traditional method and compress the whole forest into a 270mm wide wall.

• It draws on principles of simulated biophilia where evidence suggests that the human response can also be psychologically beneficial from fractal patterns that simulate geometric shapes found in nature, "the beneficial psychological effects of fractals have the same evolutionary basis as other aspects of biophilia but that these benefits can be achieved by fractals alone, obviating the need for actual images of nature."

• 'yashikimori' was utilised not only as a good method for controlling the internal but also as a way for the house to give back to the city. As Masahiro Harada explains "they are living in a narrow and small environment, but when we divide the boundary with semi transparency, then everyone benefits from perceived sense of space."

• Building regulations restrict the footprint to 60% of the site, with Sakura they couldn't build on more than 60%, but they could build a wall, therefore all of the site

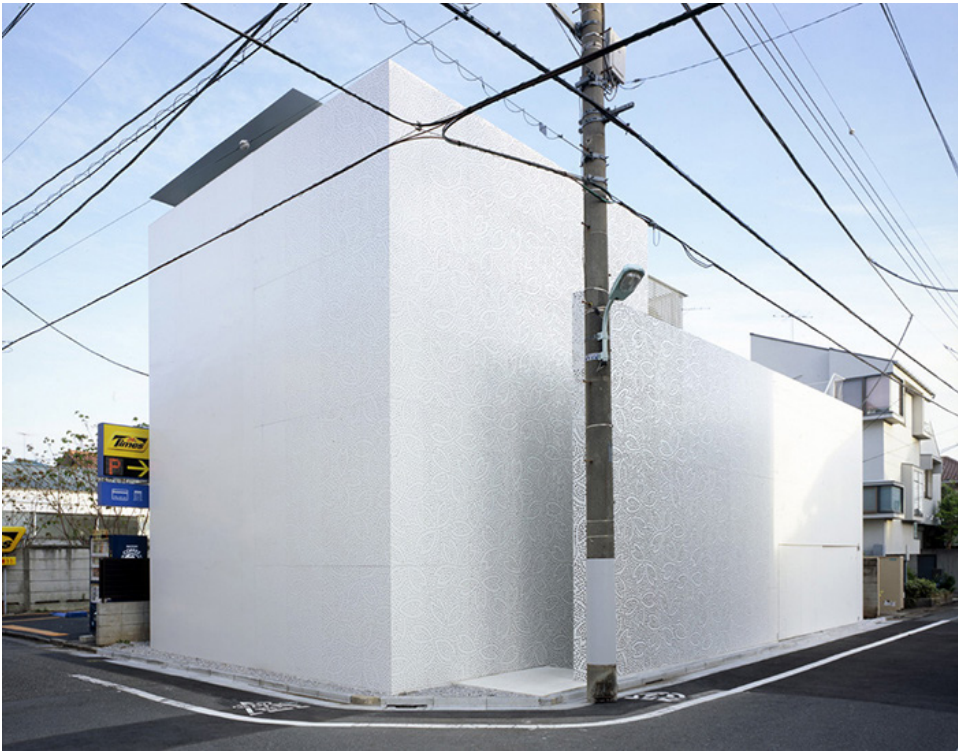
feels included and part of the houses.

- They can therefore shift the perception of the interior which is something they try very hard to do.

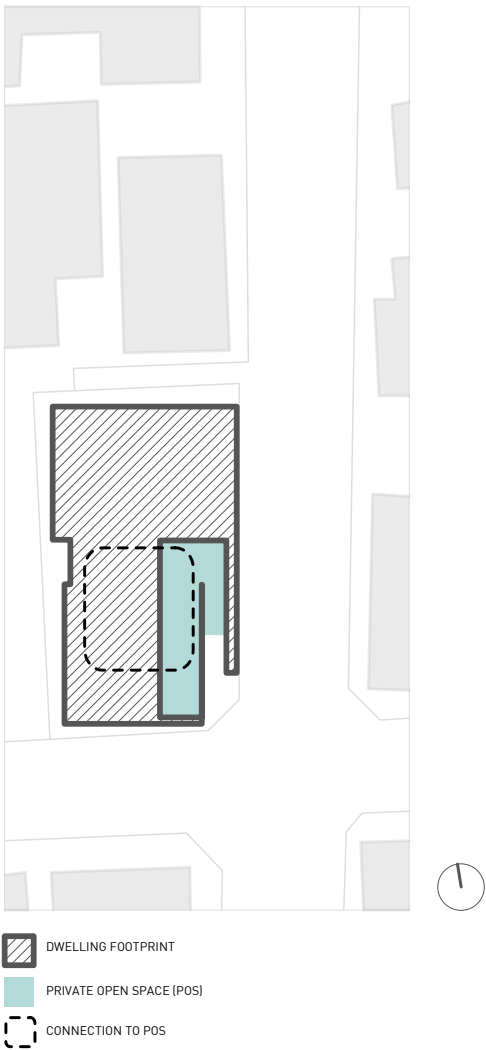
What can be learned?

In this project the boundary wall implies the outer skin of the house, but this is in fact recessed further within the site. The wall or interpretation of 'yashikimori' enlivens the street experience and offers shadows of the occupants movements to passers by, and visa versa. The whole of the site is actively used with the open space completely encompassed by the outer walls of the house.





Photograph: (above) Street New - Ryota Atarashi  
fig.6 (left) Plan Study - Alison Nobbs





## 4.2

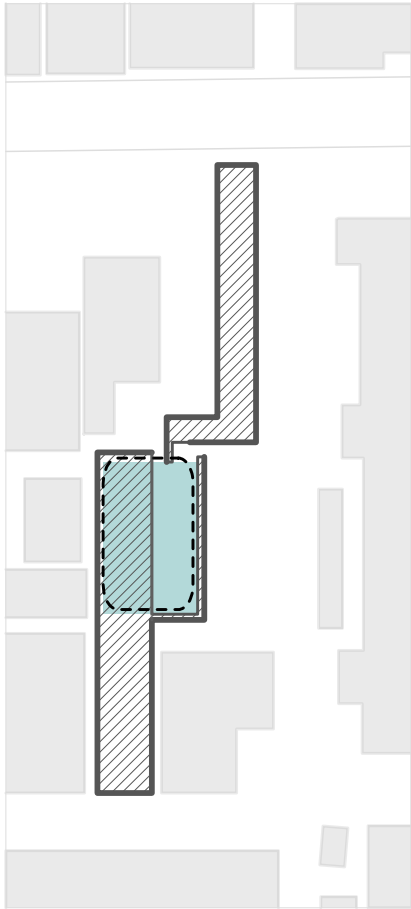
# Valley House Mount Fuji Architects

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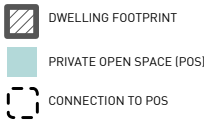
- The house itself becomes an artificial landscape or topography, a valley that is descended into.
- The site is immersed within 'mountains of high rise buildings'.
- It's walled and sunken, hidden from the surrounding context .
- "The site presented itself as a valley amidst the mountainous residential structures surrounding it. What we were attempting was to regard the existing urban features as a landscape in which, by way of architecture that enhances the topological characteristics of the area, a qualitatively more optimal environment could be realized." Masahiro Harada
- "substantiating its valley-like attributes, and creating a terrain suited to a permanent residence; a transitory structure that enforces a new topology on the permanent environment, protecting the living domain from external noise and gaze, while maximizing the limited sunlight available from above"Masahiro Harada
- The pond element, is a reflector of the environment, of nature, it indicates wind and rain by patterns on it's surface. It reflects sunlight into the house, it acts as a translator bring the experience of nature into the house.

What can be learned?

A highly cloistered house that creates an ultimately serene environment by emphatically and topographically disconnecting itself from the surrounding context. The pond is a key element of connection with nature that amplifies the day by casting reflections, ripples and patterns dependant on the weather.



Photograph: (above) Internal valley photo  
- Ryota Atarashi  
fig.7 (left) Plan Study - Alison Nobbs



## 4.3

# Rainy Sunny House Mount Fuji Architects

Location - Tokyo

Site area - 108.3 sqm

Building footprint - 53 sqm

Floor Area - 79.5 sqm

POS as % of site - 16%

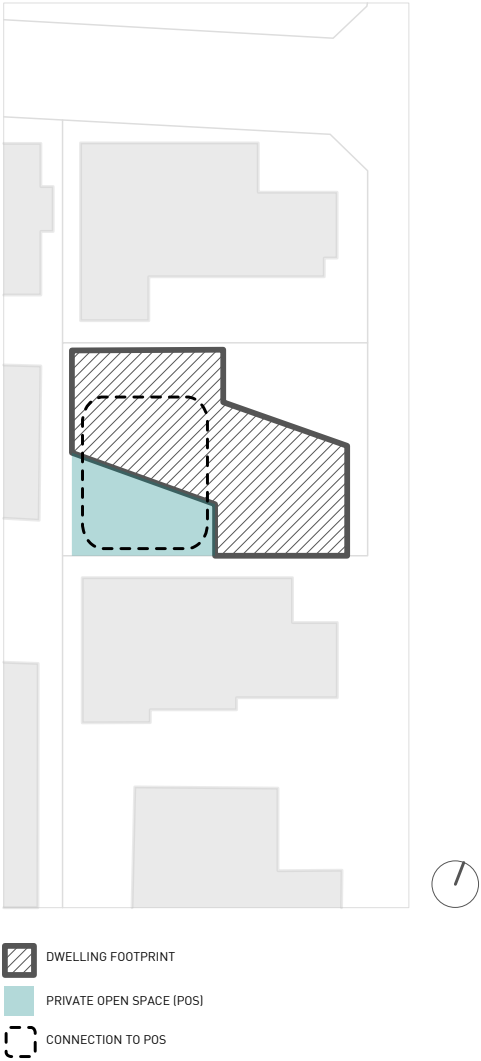
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- The house is derived from two basic principles:
- Firstly by developing a cladding system, the skin of the house that will reflect weather and be fundamentally linked with nature;
- Secondly to blinker the surrounding context and create a common space between houses.
- “The private garden offers privacy and security and makes it possible for the architecture to have large window that views the sunny garden” Masahiro Harada.
- The house is intended to be the “terrain” of the site that could “last forever” that would enclose and protect the private garden. Similar to the way a rocky terrain will show age, appear differently depending on the weather and also provide protected spaces between.
- Although this is a single house on a single block, it has potential to be replicated on adjoining blocks and because of the geometry the gardens will remain very private.

be replicated on adjoining sites without compromising on privacy and also presenting as individual articulated dwellings rather than terrace style side by side. The outlook from the house to the internalised garden is from two directions as the dwelling twists around, rather than a single linear orientation.

### What can be learned?

The site is small, (although average by Japanese standards), and there is no redundant or superfluous space. The twisting of the plan to sit obliquely on the lot, results in the house itself becoming the buffer to the public realm and encompassing the private garden. This house is of particular interest because of its potential to



Photograph: (above) Street New - Ryota Atarashi  
fig.8 (left) Plan Study - Alison Nobbs



## 4.4

# Shrimp House UID Architects

**Location** - Fukuyama, Hiroshima

**Site area** - 156.36 sqm

**Building area** - 84.79 sqm

**Floor Area** - 129.39 sqm

**POS as % of site** - 7%

26

- The form of the house is inspired by a crustacean, heavily influenced by the clients love of shrimp. The outer “shell” is faceted into 3 different roof forms in reference to the outer proactive layer of a shrimp.

- The entry point is through a large pivot panel door to the side of the house. From the exterior there are no clues to the internal progression.

- Once beyond the door it’s a subterranean entry where the path cuts into the the central garden, it feels damp and similar to walking though the lower levels of a forest. This central garden is open to the sky and extends as a core through the levels of the house above with a central tree extending upwards.

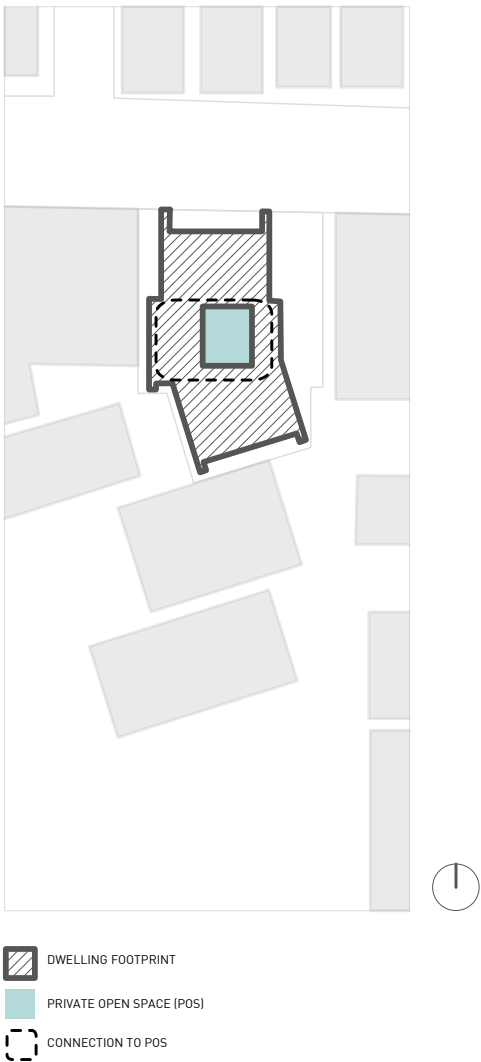
- Inside, the circulation then meanders like a spiral up and around this central garden space. All rooms are oriented towards the glazed central garden.

- Keisuke Maeda emphasised that “architecture is environment”, and in this house although the house itself is static, it’s atmosphere is dependent on the garden which changes with seasons, and reflects the weather of the day, “ it’s important to feel the day”.

ed providing a central oasis and connection with nature on all levels of the house. The built form is pushed to the boundaries on 3 sides which maximises a very efficient use of the site. With the exception of private spaces like the bathroom and bedroom, the activities of the house are not organised as separate rooms, but instead, a progressive terracing where the levels differentiate purpose an eliminate the need for designated circulation hallways.

### What can be learned?

The internalised garden is a very small percentage of the site at 7%, and yet the impact and influence of this central courtyard is very powerful. It allows natural light to seep into all rooms of the house, and it is heavily plant-



Photograph: (above) Internal Garden - Alison Nobbs  
fig.9 (left) Plan Study - Alison Nobbs

## 4.5

# Machi House UID Architects

**Location** - Fukuyama, Hiroshima

**Site area** - 95.41 sqm

**Building footprint** - 75.46 sqm

**Floor Area** - 138.23 sqm

**POS as % of site** - 6.2%

28

- The house is derived from the traditional machiya townhouses, typically found in Kyoto and Osaka which are planned around a centralised garden space. It is designed to reflect a connection between the past and the present.

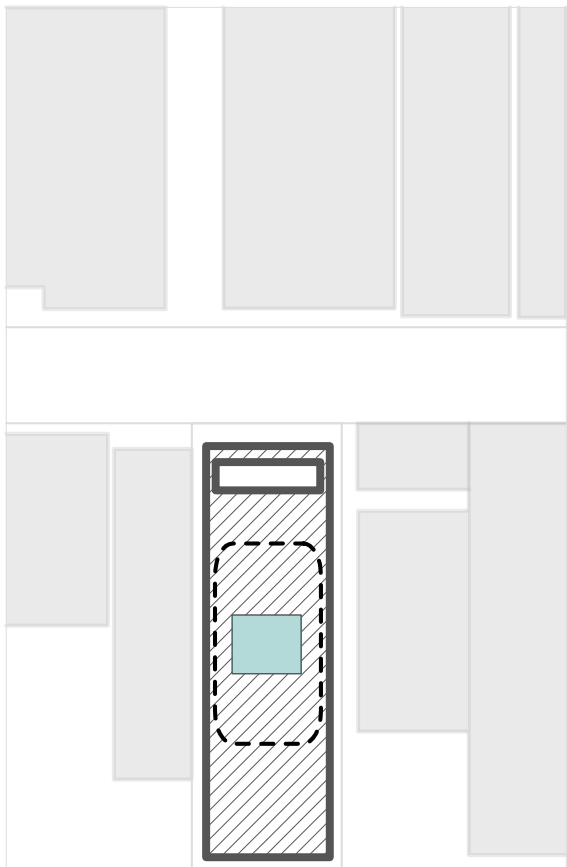
- The house is located on a busy street and adjoined by commercial and office buildings. It was important to provide a sense of privacy and seclusion from the immediate context.




- For this reason the street facade is a blank wall that protects the family who live within.

- Internally the house is a complex series of openings to the central garden space, and split roofs that open to the sky. Although it is closed off the street and built to the site boundaries, it is flooded with natural light and feels open and generous to walk through.

What can be learned?

In situations like this it can be highly desirable to block out the immediate surrounds and context, and for the house to turn its back to the city and focus inwards. This house demonstrates that even in highly commercial areas, a private dwelling and place of sanctuary can be achieved by shifting the open space to the centre of the site and pushing the building footprint to the boundaries.



-  DWELLING FOOTPRINT
-  PRIVATE OPEN SPACE (POS)
-  CONNECTION TO POS



Photograph: (top left) Internal Garden - Hiroshi Veda  
Photograph: (above) Street Context - Alison Nobbs  
fig.10 (left) Plan Study - Alison Nobbs



## 4.6

# W-Window House Alphaville Architects

Location - Kyoto

Site area - 47.6 sqm

Building footprint - 28.13 sqm

Floor Area - 72.42 sqm

POS as % of site - 8.5%

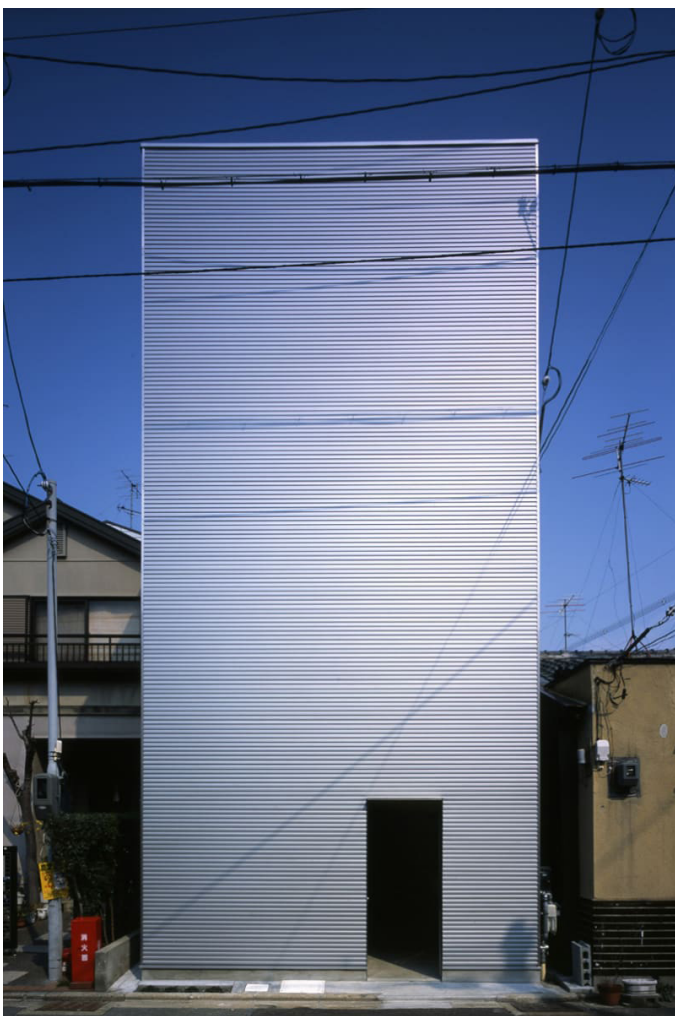
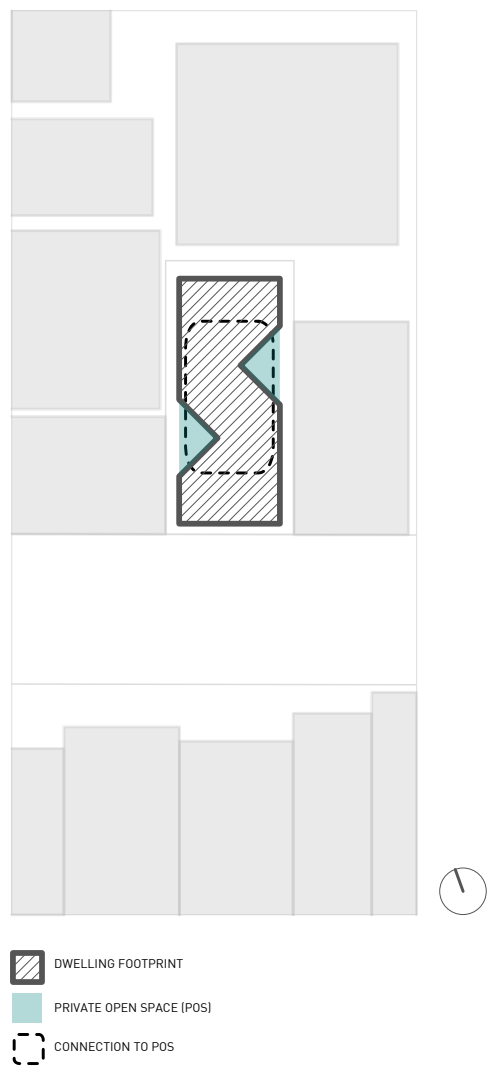
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- This house is on a very small and narrow site, surrounded with buildings to 3 boundaries.
- The solution was to position the house as a block on the site and then cut a triangular notch from each side facade to allow light and ventilation into each room.
- The windows are at 45 degrees to the dominant subdivision pattern, which allow for oblique views to the sky, and a blinkered self referential outlook.
- The rooms are organised as alternating split floors so that even if the plan is mirrored as the same between the north and south, the view still differs dynamically between the levels and depends on which notch direction it is focused towards.
- In Kyoto it is very difficult to have wide openings (because of density and small lots), therefore they have to design very carefully to “choose what you want to see and what you want to be seen by”.
- They have tried to disconnect the house from the outside noise and context and provide a simple architecture.

What can be learned?

This is a particularly small site (even for Japanese standards), and yet Alphaville architects have managed to achieve a very usable home distributed over 4 split levels. The success of this is intrinsically linked to being able to distribute the house effectively over the whole

site with minimal setbacks, and also to extrude upwards over 4 levels. It demonstrates that very small sites can sustain a single dwelling.



Photograph: (above) Street Facade - Kei Sugino  
fig.11 (left) Plan Study - Alison Nobbs

## 4.7

# House Twisted Alphaville Architects

Location - Osaka

Site area - 101 sqm

POS as % of site - 8.9%

32

- The house is located on the outskirts of Osaka, it's surrounded by traditional houses.

- The client didn't want to be seen by the neighbours or from the outside, as they already knew each other very well, and wanted to achieve privacy even though in close proximity.

- The architects therefore shifted the roof planes to let light in above from the south, and twisted the house to define the garden courtyard as a private space enclosed by the building form.

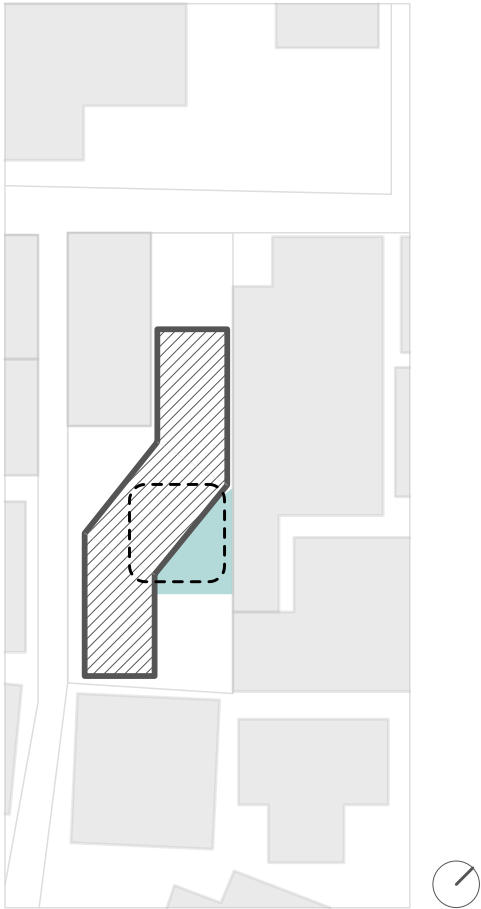
- This project allowed them to explore different relationships with the site by interpreting the traditional "doma", earthen floor, which was traditionally a point of transition from the external to in the internal. In this instance they have used contrasting materials of concrete and timber on the floor to differentiate the different zones of the house.

- This is exaggerated by the twisting of the floor plan from one side boundary to the other as the house weaves its way through the adjoining dwellings.

pose to force a relationship with the public realm. In this instance the clients sought a completely introspective house, and required that all openings and the courtyard garden would not be visible by their neighbours.

What can be learned?

Much of the design of this house was derived by the clients brief that they wanted absolute privacy from their neighbours as a place of retreat. It's a stark reminder that individual houses are fundamentally private by nature and perhaps sometimes it's contrary to their pur-



Photograph: (above) House twists between existing context - Kei Sugino  
fig.12 (left) Plan Study - Alison Nobbs

- DWELLING FOOTPRINT
- PRIVATE OPEN SPACE (POS)
- CONNECTION TO POS

## Recommendations - The Japanese Influence On A New Typology

**This report seeks to interrogate the accepted default approach to Australian residential architecture and to propose how key components and design parameters could be shifted in order to demonstrate that a new model of introspective houses can:**

- Contribute to urban consolidation;
- Increase suburban land efficiency;
- Maintain many of the appealing and desirable factors of freestanding homes;
- Produce a new streetscape where houses are arranged around a private experience and streets become public and social corridors creating an extroverted community quality.

Specific recommendations learned from analysing a Japanese approach include:

### 1. Reduce minimum lot sizes.

- Japanese architects have proven that excellence in architectural design can produce high functioning and delightful homes on very small lots, some less than 50sq.m. In most cases this leads to ingenious and more affordable results.

### 2. Encourage alternate patterns of site coverage

- Consider alternate ways of distributing a house on a site beyond the restrictions currently imposed by setback requirements;
- Re-think these setback requirements - rather than being derived from historical subdivision patterns

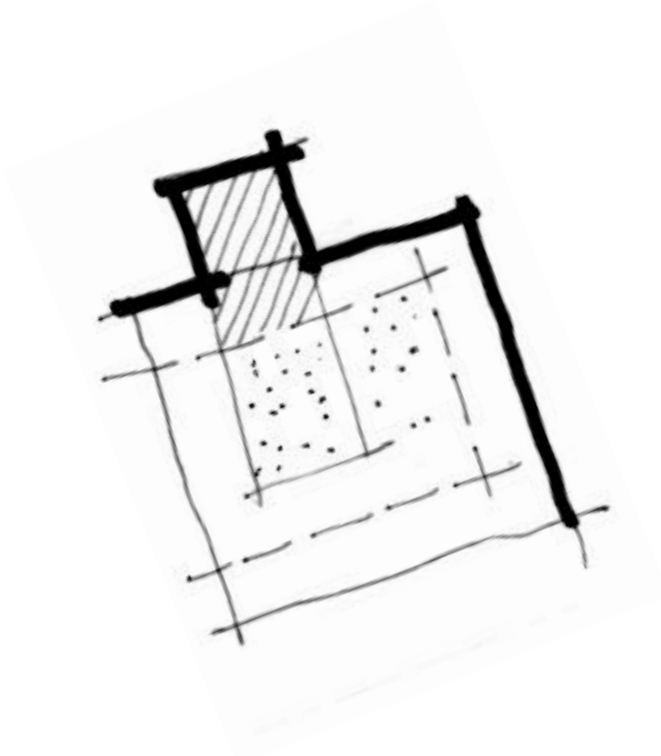
and patterns of building, site coverage should be governed by performance criteria such as context, solar gain and privacy in order to encourage exploration of alternate and more appropriate patterns of site coverage;

- Position the house so that it responds to specific orientation and context to achieve maximum performance and response to site rather than complying with generic non site specific 'rules';
- Utilise all of the site as integral to the experience of the house, thereby eliminating redundant space e.g. abolish unused spaces such as front yards and side setbacks to ensure all of the site is useable and to increase site efficiency.

### 3. Promote quality of Private Open Space (POS) over quantity.

- Reconsider the notion of "backyard" to become an "inner yard" and absorb the culture of outdoor living within the house;
- Absorb the verandah - consider similarities in use between the Japanese engawa and the Australian verandah to become a centralised multi use space that relates to the internal activity of the house rather than the street;
- Consider that the quality of POS can be more meaningful than the quantity of POS. The houses visited and studied are on small blocks ranging from 47.6 sq.m to 156.36 sq.m, the percentage of POS to site does not exceed 16% (ranging from 6.2%-16%). However in all cases the open space permeates the dwelling, and has been designed to





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have maximum impact on the experience of inhabiting the house.

- Consider a minimum percentage of site that should be POS and permit flexibility on where it is located based on performance criteria.

#### 4. Acknowledge the importance of connecting with nature

- Japanese architects have a long history of thinking about humanity's innate connections with nature and how this should be incorporated into buildings, specifically houses.
- Studies on biophilia support this idea that there are psychological and even physical benefits to be gained by incorporating nature into houses, either real or simulated.
- A centralised garden space can have enormous beneficial impact for the occupants of a dwelling.
- The garden should be an integral component of the architectural response.

#### 5. Acknowledge the inherent private nature of the house

- Rethink the importance of an inner, more contemplative space within a dwelling, ie. the benefits to be gained by disconnecting from context, which is not always something that is positive or desirable;
- Reinterpret the role of street and the spaces between buildings to become active, social and public spaces;
- Orientate windows and openings to be self refer-

ential to reduce overlooking and maintain privacy at high density.

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# 6

## Acknowledgements

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I am most grateful to the NSW Architects Registration Board for supporting the study required to formulate this report, and also for their patience in its delivery.

I am very appreciative of the discussions with my practice partner and husband Sean Radford which allowed a testing of ideas that was pivotal to formulating a final response.

This report would not be possible without the inspiring and questioning work of many exceptional contemporary Japanese Architects. I am immensely thankful to Masahiro Haraka and Mao Harada of Mount Fuji Architects Studio, Kentaro Takeguchi and Asako Yamamoto of Alphaville Architects, Keisuke Maeda of UID Architects and also Akihiko Omari and Noriko Tsukui of Archimedia System Inc. All of the these architects generously gave their time to share their work, motivations, and ponderings with me. Thank you.

# 7

## About the author Alison Nobbs

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Alison has worked as a design architect for over twenty years and has considerable experience in residential and, increasingly, public and commercial works. She is a founding partner with Sean Radford of Nobbs Radford Architects which has received award recognition locally and internationally for its residential work.

Along with practicing architecture, Alison has taught as a tutor at UNSW and Sydney Universities, she has contributed to journals and has been a panelist or speaker at architectural forums. She has an ongoing interest in the need to evolve housing topologies within Australian cities. Alison currently leads the MArch Housing Studio “Interpreting Housing” at UNSW which explores how housing can intrinsically respond to the evolving needs of our society.

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# 8

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