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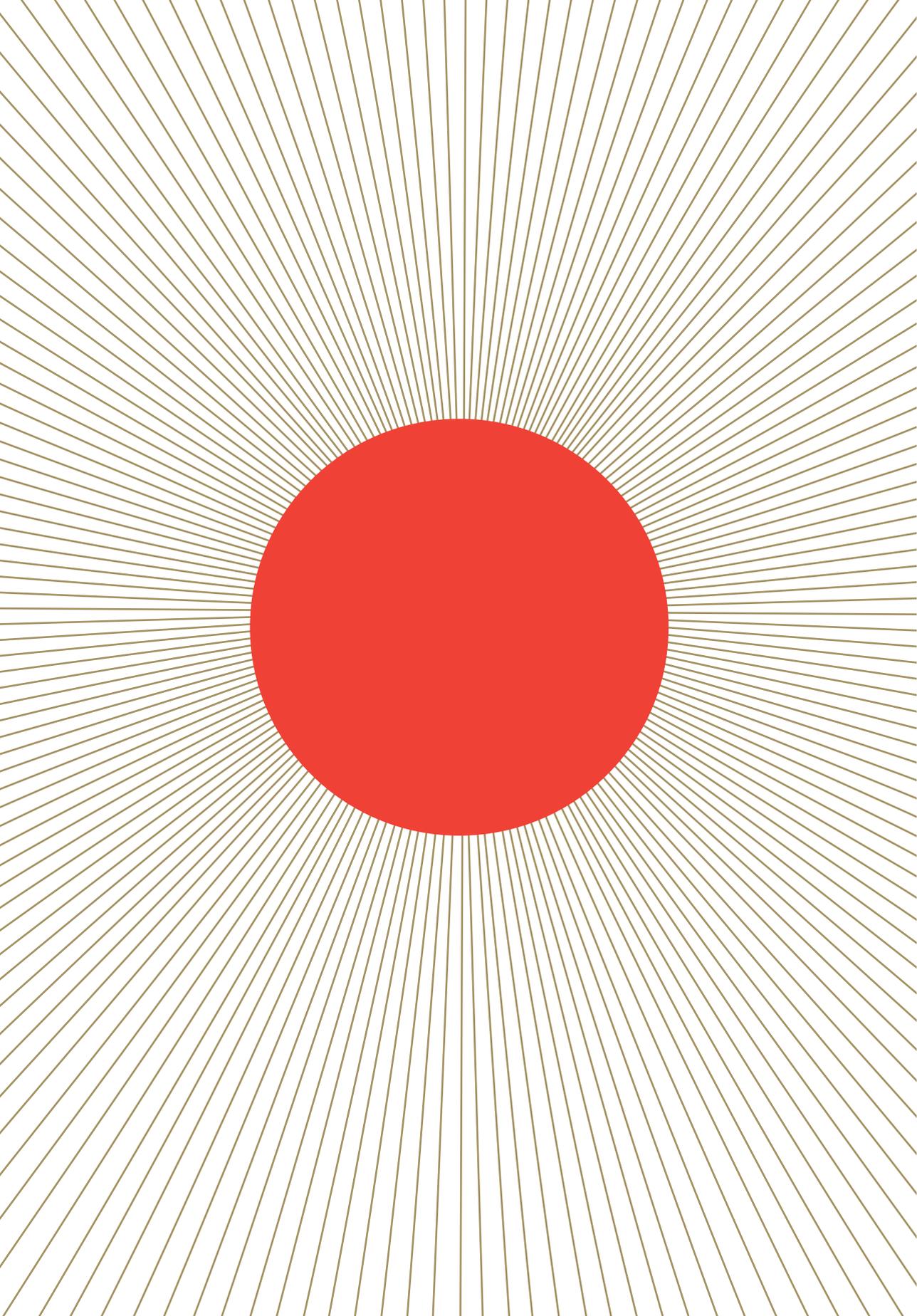
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Can traditional Japanese design solutions be successfully adapted to the modern minimum dwelling? *Laura Moran*

Introduction The idea of minimum dwelling is not a new trend, but it is one which has renewed importance in today's society. Lifestyle changes as well as population growth have had a huge impact on living spaces and environments. Gary Hustwit's documentary *Urbanized* illustrates how over half of the world's population are now living in urban areas and it is expected that this will rise to seventy-five percent by the year 2050.¹ Thus, with more and more people living in cities and urban centres the need for compact homes increases. Rural dwellings are scarcer than ever before, with limited space and awkward building sites a common occurrence. This thesis was inspired by the issues arising from compact and minimum

1. Gary Hustwit, 'Urbanized,' <http://urbanizedfilm.com/about/>. Accessed 4th January 2012.

living spaces and the resultant flexible design solutions. It looked to Japan as a case study, focusing on traditional Japanese design solutions and how they are interpreted for modern living in an urban context as well as on the influence of Japanese design worldwide. The initial focus was on the idea of a compact city and proposed Tokyo as an example of an urban centre with high-density living. It investigated the historical and economic reasons that have permitted overcrowding to occur and assessed the impact a transforming Japanese demographic and domestic structure has had on a more traditional approach to habitual design.

The features of the traditional Japanese dwelling and its related customs were a key element to this study. It discussed the traditional use of human scale and proportion and how this has influenced the spatial layout. Simultaneously the significant relationship between nature and the home was established as well as an evaluation of the materials and construction methods which were particular to the native Japanese.

The focus of the study then shifted, to concentrate on the influence these traditional variations have on contemporary designs. Modern interpretations of these traditional characteristics are often found in high density urban regions.

This thesis focused in particular on two case studies in Tokyo. By establishing the significance of these designs it then moved on to examine the influence that Japanese design has had on the urban Western world. Through briefly looking at the influence of key designers such as Frank Lloyd Wright and Tadao Ando, the research explored how these traditional Japanese principles have spread worldwide.

The following text is the concluding chapter of the thesis which concentrates on the analysis of a modern Irish dwelling which exhibits Western adaptations of Japanese influences.

Ireland's Own—The Ballagh House

The influence of Japanese design can be seen throughout the Western world and Ireland is no exception. Considering the work of international architects such as Ando and Lloyd Wright, it certainly has made a lasting impression on Irish architecture and design. One sees references to Japanese



Clockwise from top left:

Figure 1: Photo taken from the terrace shows the glazed master bedroom as well as the acid etched glass panel to the right of the image.

Figure 2: The existing façade of the terraced houses, which was maintained.

Figure 3: View of the interior courtyard garden.

Figure 4: View from the studio into the courtyard and kitchen showing the use of concrete in the three spaces.

principles in many contemporary dwellings throughout the country. An excellent example of one such building is the home of the Irish artist Robert Ballagh, which, according to many including architectural writer Shane O'Toole, was influenced by Tadao Ando's Row House in Sumiyoshi.² Located in Dublin's Broadstone, the award winning project was completed by Boyd Cody architects in 2002 and is a perfect example of the adaptation of Japanese principles in a contemporary Irish setting.

2. Shane O'Toole, 'Tadao Ando: Creating Dreams,' Dublin <http://archiseek.com/2007/tadao-ando-creating-dreams-dublin/>.

Three is a magic number

Over the years, Robert Ballagh and his wife Betty came into the ownership of Nos 3, 4 and 5 Temple Cottages along a row of period terrace houses in Dublin 7. Their vision was to knock the adjoining three houses into one, creating the perfect home for their retirement. According to architect Dermot Boyd, this set a very exciting challenge, one which was not restrictive but open to design and interpretation.³ The architects identified the distinct nature of the three houses and wished to keep the memory of each within the overall plan.

3. Dermot Boyd, Interview by author, Dublin, November 23, 2001

They kept as much of the original structure as possible and followed the natural proportion of the three houses by dividing the new house into six parts. The only room to break from this structural grid was the living room, which occupies the ground floor of two of the houses. As requested by the owner Robert, the existing façade and the rear wall were retained, while the central part was reinvented in a “very modern language.”⁴ It was the desire of both the architects and the client that the contemporary addition complemented and followed the natural proportion of the existing structure (Fig. 2).

4. Ibid.

Spatial Layout

The design of the Ballagh house was divided into six pieces which relate differently to each other both in plan and in section. This “spatial matrix,” which divided the house like a puzzle was what drove it as a concept according to architect Dermot Boyd.⁵ Allowing the interconnection of space and the discovery of different architectural volumes is a known characteristic of Japanese houses. A desire to see through to one space while inhabiting another was an important element for the architects who wanted the small house to work like a ‘magic box’ with a sense of spatial exploration.⁶

5. Boyd, Interview by author, Dublin.

6. Ibid.

Nature’s View

A more obvious reference to Japanese architecture and the inter-relationship between interior and exterior spaces was the courtyard. The courtyard was a key element in the traditional Japanese house, providing a connection with

the outdoors as well as light and fresh air. The original idea of a courtyard came from Robert’s initial sketches for the house and was inspired by Japanese architecture as well as old Roman houses and Spanish architecture. Robert himself “hates ostentation” and wanted to include a concealed garden where the front doors open onto a hidden oasis. The courtyard was placed at the centre of the back wall and the living spaces grew into a U shape around it.⁷ Inspired by traditional Japanese design principles, the courtyard and terrace were “a means of opening up the house to the natural environment.”⁸ The glazed sliding screens blurred the dividing lines between outside and inside and allowed interconnections from both a visual and spatial point of view. The courtyard also allowed the living spaces to be ventilated naturally. Although not seen as an area to be heavily used it did provide circulation space and grew into a rich interior garden once the Ballaghs made it their own (Fig. 3).

7. Robert Ballagh, Interview by author, Dublin, December 15, 2001

8. Ibid.

Natural light is another central element to the Boyd Cody design philosophy and is a critical component in every one of their designs. In the Ballagh house, the addition of expansive glazing allowed in as much light as possible. The courtyard opened up the central space and drew the light into the house where the rooms were positioned to make the best use of natural light. The main bedroom was designed to welcome the morning sun, whereas the evening sun filtered through to the study downstairs. Meanwhile the west-facing terrace above was a sun trap ideal for a morning coffee (Fig. 1). The use of a large acid-etched glass panel at the rear also catches the sun rising over the top of the house and acts as a great mirror reflecting light back into the courtyard. This surprising effect was not predicted but was a pleasant outcome for both the architects and the client.⁹ The original front doors of Number 4 and Number 5 act as shutters with glazed doors placed behind them. These acid etched screens resemble traditional shoji and allow the light to filter through when the wooden doors are opened.¹⁰

9. Boyd, Interview by author, Dublin.

10. Ballagh, Interview by author, Dublin.

Material Simplicity

A great love of simple materials is a common link between Boyd Cody architects and the traditional Japanese design philosophy. For the Ballagh house the architects chose materials which were readily available and

complimented the existing house yet reinvented it in a modern way. Selecting from a limited palette of materials, the idea was to play down the use of materials and in a sense bring it “back to minimalism.”¹¹ The entrance hall was lined in plywood and is essentially a wooden box, similar to a Japanese box puzzle, which then leads into the fluid living spaces with connecting views and openings.

11. Boyd, Interview by author, Dublin.

Concrete, glass and iroko wood are found throughout the house and illustrate the multi-functional uses of the architects’ choice of materials. A concrete bench, for example, runs along the back wall to form the kitchen worktop before becoming a series of steps in the courtyard and finally a desk in the studio. According to Boyd, this came from an idea that something could grow out of the floor and has been compared to the Loch Ness Monster on occasion. Here the concrete provides a strong visual link between the different areas. By allowing surfaces to run through glazing, it reads as one continuous space throughout, creating a powerful spatial dialogue (Fig. 4).

‘Detail defines Space’

The attention to detail is critical in the Ballagh House, from the point of view both of Robert as an artist and of the architects, who are self-confessed fanatics when it comes to detail. As Dermot Boyd emphasised, detail is “never an additional thing, always a reduction thing.”¹² This reference to the minimalistic style of the house as well as a true use of materials and simplicity of constructional finishes reminds us of the honest and unaltered natural beauty of traditional and contemporary Japanese dwellings. For Robert, this attention to detail was “incredibly important yet so hard to achieve.”¹³ The finishing of elements such as the shadow gap beneath the walls was crucial for both the client and the architects. This detail eliminated the need for skirting boards and created the appearance of a hovering wall. Just as in the minimalist dwellings of traditional Japan, minor details such as these were of the utmost importance.

12. Boyd, Interview by author, Dublin.

13. Ballagh, Interview by author, Dublin.

The research above focused on the Irish architectural scene and identified a contemporary Dublin dwelling which exhibits many characteristics consistent with Japanese design principles. A clear

relationship between interior and exterior spaces and simplicity of materials are just some of the elements which link Temple Cottages to the Japanese style. Whether these were mindfully or subconsciously chosen, the Ballagh House is a clear example of Western adaptations of Japanese influences, right here on our own doorstep.

Conclusion

As global population swells, the number of people living in urban areas is set to increase dramatically. With the world’s largest urban areas already experiencing staggering growth, this poses an exciting challenge for designers and architects to achieve more with less space.¹⁴ Clever solutions are increasingly necessary to maintain human health and environmental quality, as well as social and economic stability.

14. Gary Hustwit, ‘Urbanized’ op. cit.

This research investigated the idea of a compact city as a suitable model for sustainable living in an increasingly populated world. The Japanese city of Tokyo is one of the world’s largest urban areas and is a prime example of a compact urban metropolis. Having examined the historical and economic reasons for the development of Tokyo, it is clear that many cities around the world are in similar states of growth. Fresh adaptations of traditional elements were focused on, with specific reference to two dwellings in contemporary Tokyo. These compelling case studies are clear evidence that traditional Japanese design solutions can be successfully applied to the modern minimum dwelling and past and present can coexist in a complementary way.

The influence of Japanese design on Western society was an important element of this research as it attempted to determine if Japanese principles have worldwide application. It focused on two key figures responsible for this development, the internationally-renowned architects Frank Lloyd Wright and Tadao Ando. The works of these architects, and those they have influenced, illustrate the widespread success of these Japanese principles.

Finally, a focus on the Irish design world presents a compelling conclusion to the research with a case study of a modern minimum dwelling in Dublin’s Broadstone. This award winning contemporary home is a perfect example of the adaptation of Japanese principles in an Irish setting

with features such as a central courtyard, inter-connection of interior and exterior spaces and a simplicity of materials.

A study of traditional Japanese design principles and evaluation of their use in a modern context was the key focus of this thesis. The analysis of all facets clearly illustrates that through re-interpretation and adaptation, traditional solutions can have great significance in a contemporary setting. By using case studies both in Japan and in Ireland, this study proposes that Japanese design solutions can be successfully adapted to the modern minimum dwelling.

So, the question now is whether we can identify further examples of Japanese influence in Ireland, and not only that but whether we can continue to effectively integrate these into contemporary urban design. More importantly, is this a sustainable model for the modern Irish dwelling? In the words of architect Dermot Boyd “we have to reinvent the Irish city and take it very seriously.”¹⁵ The research presented in this thesis confirms that native Japanese principles can be successfully applied to contemporary city dwellings and may hold lessons for the future of urban living both in Ireland and worldwide.

15. Boyd, Interview by author, Dublin.