

# Toy Blocks and Shadows in Japanese Architecture: the work of Bolles+Wilson and Sir John Soane

Rachael McCall - June 2012

## Preface

This project is an investigation of interstitial space constructed through toy block articulation and shadow. Toy block articulation, was a phrase coined by van Schaik to explain one of Sir John Soane's devices in constructing architectural space. The aim of posing this question was to provide a framework for researching devices and methods of constructing interstitial space through design projects (the mask and Asakusa projects), as well as, framing further reading, experience and documentation (sketching and photography) in Japan. Questioning experience in Japan lead to further research regarding Japanese concepts of *en* and *ma*, analyzed in the following essay.

## Essay

*An exploration of toy blocks, shadow, scale and perception  
Investigating the shadow around an ideal volume as a device  
for constructing interstitial space*

This essay aims to investigate how shadow can be used as an interstitial device to play with our perception of scale around a *toy block* or *ideal* volume. Beginning with analysis of van Schaik's so called 'toy block articulation'<sup>1</sup>, as a device used in constructing architectural space in Sir John Soane's Museum and Bolles+Wilson's Casa Suzuki. This analysis will form an argument regarding shadow around ideal blocks as an interstitial device, illustrated through diagrams of Soane's Museum, Casa Suzuki and by reflecting on the mask task. Finally, the toy block and shadow (positive and negative) and how they can affect the viewer's perception at a number of different scales will be discussed in relation to a number of key readings and through reflection on a number of sites visited in Japan. Readings of van Schaik, Psarra, Bolles+Wilson, Nitschke, Tanizaki, Holl and Pallasmaa, will be discussed regarding interstitial space, *en*, *ma*, shadow, scale and perception. Analyzed sites visited focus mainly on the old temples in Kyoto, particularly Ryonji and Kiyomizu-dera, as well as, SANAA's 21<sup>st</sup> Century Museum of Contemporary Art in Kanazawa.

*Walls, Toys and the 'Ideal' Room* gives a summary of three devices underpinning Sir John Soane's work according to van Schaik. These three devices include the 'layered structural wall', 'inserting an ideal room' and 'toy block articulation'<sup>2</sup>. The *layered structural wall* relates to the entrances of buildings and developing a certain coherence in planning. Van Schaik explains how Soane was interested in neo-Palladianism, however the amount of renovation work he undertook soon forced Soane to put aside such absolutist principles and develop this series of devices that he could deploy as a method of including his desired ideals in much of his work<sup>3</sup>.

*Inserting an 'ideal' room* was one of Soane's design devices linked to his neo-Palladianist principles, resulting in a desire to place a perfectly proportioned room within any shape of space or 'ad hoc condition'<sup>4</sup>. Soane frequently used squares with handkerchief dome ceilings, such as the breakfast room in his home and museum (see figure one). According to van Schaik, Soane used these devices in his search for 'Palladian rationality' to reconcile axes, create whole number relationships and reflect the 'internal organization on the external façade'<sup>5</sup>.

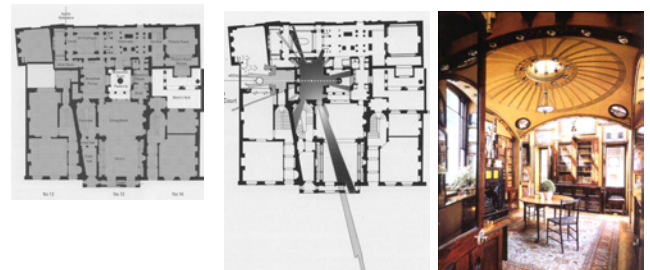


Figure One The Breakfast Room Sir John Soane's Museum



Figure Two Toy Block Articulation of the façade Sir John Soane's Museum

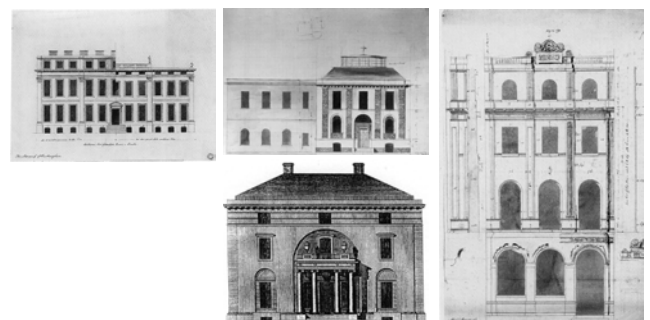


Figure Three Toy Block Articulation of Soane's facades; Wotton House, Pitschanger, Praed Bank, Letton Hall

This connection between the external façade and internal organization is linked to Soane's use of *toy block articulation*<sup>6</sup>. This term of van Schaik's refers to both Soane's elevations and spatial planning where he refused to let forms touch or overlap. In elevation a shadow is left between each element (see figure two). Such articulation is not only evident in Soane's own house but in his other works (see figure three) and at multiple scales throughout the Museum from the façade right down to the shadows and spaces left between each artwork (see figure four). Soane also creates toy blocks in his spatial planning, through use of the 'tartan grid'<sup>7</sup>. This circulation zone or interstitial space can also be

<sup>1</sup> L van Schaik, "Walls, Toys and the 'Ideal' Room: An Analysis of the Architecture of Sir John Soane," *AA files* 9 (1985): 45.

<sup>2</sup> Ibid.

<sup>3</sup> Ibid.

<sup>4</sup> van Schaik, "Walls, Toys and the 'Ideal' Room": 53.

<sup>5</sup> van Schaik, "Walls, Toys and the 'Ideal' Room": 46.

<sup>6</sup> van Schaik, "Walls, Toys and the 'Ideal' Room": 45.

<sup>7</sup> van Schaik, "Walls, Toys and the 'Ideal' Room": 46.

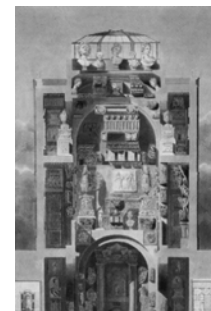
seen as negative space or a shadow, includes 'lighting vaults' which project light and further emphasize the shape of the 'ideal' room, for example around the breakfast room in Soane's house (see figure five). Hence, toy blocks and shadows are a recurring theme throughout Sir John Soane's work (see figure six).

Psarra analyzes the narrative and spatial construction of the Soane Museum in *Soane through the looking glass* a chapter in her book *Architecture and Narrative*<sup>8</sup>. Psarra carefully describes the complex spatial properties of Soane's Museum by describing the optical affects employed to highlight each room and separate them from the interstitial spaces in-between. The sequence of viewing is very important as one moves through the Museum. Psarra describes how a distant view of the breakfast room is given on entry, but it is saved until last in the sequence of experience<sup>9</sup>. Mirrors are used to highlight the 'geometric centre'<sup>10</sup> of each room, further emphasizing the toy block articulation. In terms of creating toy blocks and ideal rooms, Psarra suggests Soane 'searches for formal perfection' but with a 'romantic cloak'<sup>11</sup>.

Van Schaik who analyzed Soane's Museum in terms of toy block articulation, also studied Bolles+Wilson's Casa Suzuki in an article *Dark/Light*<sup>12</sup>. In this article van Schaik once again explores the *dark* or shadow, which constructs an interstitial space and circulation zone around toy block forms contained within the home's concrete shell. Similar to the Soane house, careful 'spatial choreography'<sup>13</sup> of the design means toy block forms neither meet nor overlap (see figure seven). Suspending volumes is an efficient use of space whilst maintaining a sense of the larger volume, which helps to create the home's 'miracle of spatial compression'<sup>14</sup>. The black shadows formed around these volumes draws the eye in highlighting the edges of the blocks, whilst creating a false perception of depth and space beyond, as the eye cannot read the boundaries of the space.

Bolles+Wilson write, shadow is 'the indefinite border of situations and perceptions'<sup>15</sup>. In the *visual perception and light* chapter of his book<sup>16</sup>, Michel describes how the eye perceives an object through its edges and outlines compared to a background behind. This further highlights the contrast between toy blocks and shadows. Michel states the 'drama' of a room is at its edges and corners and how these are used as devices to give a room clarity<sup>17</sup>. The mystery of the deep shadows in the Casa Suzuki give the perception that the space is larger than it actually is.

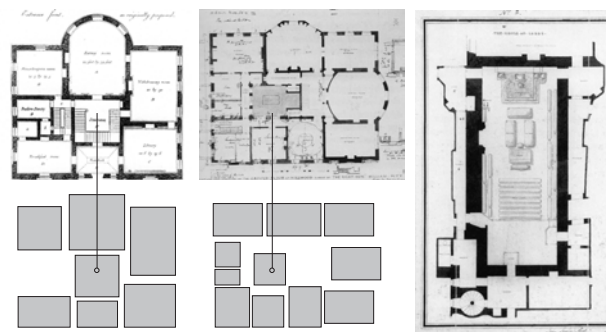
Richters also emphasizes mass and shadow in Bolles+Wilson's work at all scales. He describes the 'clarity'<sup>18</sup> given to mass in their work, the key to toy block articulation, and describes how shadow is usually the backdrop to their projects. Bolles+Wilson's work not only makes use of shadows at the building scale, but as Richters explains, their work usually takes place in the 'peripheral shadow'<sup>19</sup> of the city (the area around a European city where there is build up of industrial buildings).



**Figure Four** Shadows formed between each artwork - toy blocks work at all scales in Soane's Museum



**Figure Five** Toy blocks, proportions and tartan grid interstitial space in Soane's Museum



**Figure Six** Toy block spatial planning in Soane's other work; Letton Hall, Hollywood & The House of Lords

Bolles+Wilson themselves describe their work in the paradigms of 'mass, shadow and tectonic'<sup>20</sup>. They believe in the importance of using mass and clear forms (toy blocks) to 'anchor' their architecture in the 'world of flux'<sup>21</sup>. Their book also shows that 'shadows pervade the works of Bolles+Wilson'<sup>22</sup>, see further projects in figure eight.

<sup>8</sup> S Psarra, "Architecture and Narrative : The Formation of Space and Cultural Meaning," (Milton Park, Abingdon, Oxon ; New York, NY: Routledge, 2009): 111-135.

<sup>9</sup> Psarra, "Architecture and Narrative": 124.

<sup>10</sup> Psarra, "Architecture and Narrative": 126.

<sup>11</sup> Psarra, "Architecture and Narrative": 112.

<sup>12</sup> L van Schaik, "Dark/Light," *Architecture Australia* 84, no. 1 (1995): 26-32.

<sup>13</sup> J Bolles-Wilson and P L Wilson, *Bolles + Wilson : A Handful of Productive Paradigms : Recent Work* (Munster, Germany: Bolles-Wilson, 2009): 44.

<sup>14</sup> van Schaik, "Dark/Light": 28.

<sup>15</sup> Bolles-Wilson and Wilson, *Bolles + Wilson : A Handful of Productive Paradigms : Recent Work*: 8.

<sup>16</sup> L Michel, *Light: The Shape of Space, Designing with Space and Light* (New York: Van Nostrand Reinhold, 1996): 8-30.

<sup>17</sup> Michel, *Light: The Shape of Space, Designing with Space and Light*: 102.

<sup>18</sup> C Richters, "Bolles + Wilson : Neue Bauten Und Projekte," (Basel ; Boston: Birkhauser, 1997): 15.

<sup>19</sup> Richters, "Bolles + Wilson : Neue Bauten Und Projekte": 7.

<sup>20</sup> Bolles-Wilson and Wilson, *Bolles + Wilson : A Handful of Productive Paradigms : Recent Work*: 8.

<sup>21</sup> Ibid.

<sup>22</sup> Ibid.



Figure Seven Toy block forms Bolles+Wilson's Casa Suzuki TOKYO

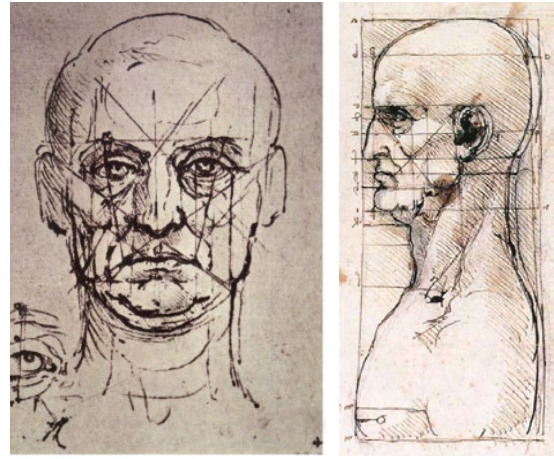


Figure Nine da Vinci's Anatomy of the Face

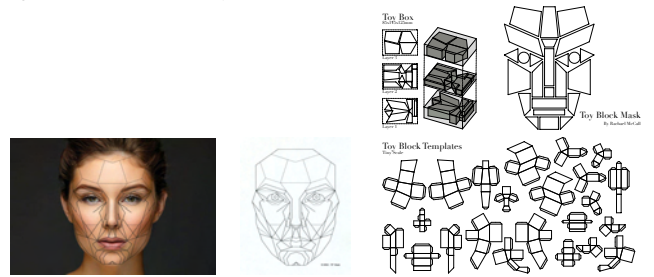


Figure Ten Cosmetic Surgery - proportions of the Face



Figure Eight Bolles+Wilson's work as toy blocks and shadow; Bridgewater's House, Hafenweg 16, Toy block experiments for Hamburg City Park Pavilion, Model of Wohn+Stadtbau, Toy block investigation of Vedute K project

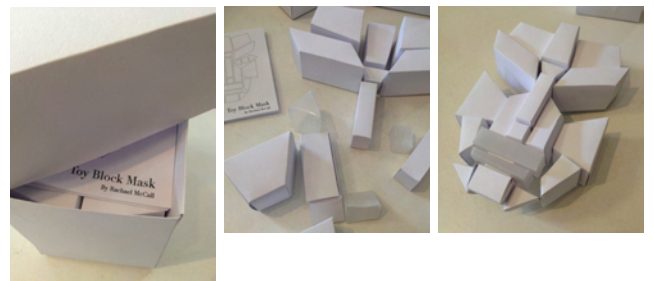


Figure Eleven Toy Block Mask



Figure Twelve Constructing en around an ideal room Tenryuji Temple KYOTO



Figure Thirteen Deep en-gawa shadow Tenryuji Temple & Shugakuin Imperial Villa, KYOTO

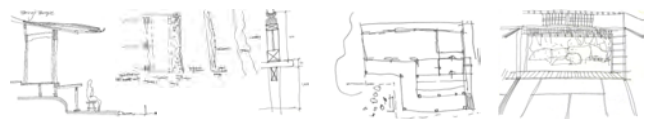


Figure Fourteen Sketching en Tenryuji Temple & Shisendo Temple, KYOTO

The mask task was used to investigate toy block articulation and shadows in relation to the face, influenced by da Vinci's geometric Anatomy of the Face (see figure nine) and cosmetic surgeon's abstraction of the face into toy block like pieces (see figure ten). The mask (see figure eleven) investigates the interstitial space between toy blocks in an abstract form of wrinkle. The mask attempts to break the façade of the face into toy blocks and show how perception, construction and play with these blocks can alter the perceived scale and expression of the face. By moving toy blocks apart, one can test the shadows between and investigate how changes to the interstitial space can construct different perceptions of a façade.

Toy blocks and shadows can be read spatially in many of the temples visited throughout Japan trip, particularly in Kyoto. The shadow, *en-gawa* (verandah), wraps around a carefully proportioned 'ideal' room, developed through strict spatial rationalization of the tatami mat. These 'ideal' rooms are often separated by *en*, interstitial space, which in spatial terms creates the shadow around an 'ideal' room (see figure twelve), similar to Soane's tartan grid and the interstitial circulation zone in the Casa Suzuki. At the same time as a shadow is formed in spatial terms, the *en-gawa* also creates a deep physical shadow, protecting the primary room from direct sunlight and harsh wind or rain (see figure thirteen).

Nitschke writes about *en* as transactional space, both separating and connecting internal and external space, an interstitial in-between zone<sup>23</sup>. In his book *From Shinto to Ando*<sup>24</sup>, Nitschke describes the elements and devices used in Japanese architecture to construct *en*, such as *shoji* (paper) screens, lattice, level and material changes including various methods of mediating transparency and permeability between inside and outside realms. The construction of *en*, in Japanese temples was an area of particular interest in sketching and photography during time spent in Kyoto (see figure fourteen).

Both Nitschke and Tanizaki, lament the loss of *en*, in contemporary glass and concrete construction. Tanizaki's book, *In Praise of Shadows*<sup>25</sup> commends shadows and darkness in traditional Japanese architecture. He writes 'the west has never been disposed to delight in shadows'<sup>26</sup>. Tanizaki poetically describes the cleanness, softness, and murky lustre of Japanese food, paper and architecture that soaks up light instead of turning it away<sup>27</sup>.

Tanizaki describes his dismay with Japanese culture 'surrendering'<sup>28</sup> to Western civilization, in particular the loss of the 'deep shadowy envelope'<sup>29</sup>, *en*, and mystery of Japanese buildings. He develops the following list of design principles in attempt to save some of Japan's lost shadows. Eaves are to be kept deep, walls are to be dark and of natural hues, useless decoration is to be striped away and

electric lights switched off<sup>30</sup>. For Tanizaki, the 'magic of shadows is gazing into alcoves which sunlight as never penetrated'<sup>31</sup>.

Although Nitschke and Tanizaki believe there is a lack of interstitial space in contemporary Japanese architecture, SANAA are employing very literal toy blocks and shadows in their current work to redevelop a sense of *ma* and in-between space. SANAA's 21<sup>st</sup> Century Museum of Contemporary Art, visited in Kanazawa, appears like a glass cylinder (see figure fifteen) but is filled up with toy blocks. The plan (see figure sixteen) shows how exhibition spaces, libraries, administration, galleries and shops are separated and contained in blocks of primary shapes (circles and squares), forming a large shadow around them of circulation and break-out spaces. Kwok links SANAA's work to the Japanese term *ma*<sup>32</sup>.

*Ma* has many different definitions and interpretations but can be reduced simply to the 'space in-between'<sup>33</sup>. The shadow, in-between the toy blocks in SANAA's museum is an example of interstitial space, the intermediate zone between internal and external space (see figure seventeen), as explained using the term *ma*. According to Kwok, *ma* is a 'space for impromptu gatherings' a 'symbiosis of interior and exterior worlds'<sup>34</sup>.

Kwok also uses the *en-gawa* of the old temples in Kyoto as examples of *ma* – a place of deep eaves around the perimeter of a building, with a gradation of shade which 'beckons the public'<sup>35</sup> into its in-between shadow. Kwok writes '*Ma* is not to be enslaved by programme but is to provide opportunities to be found'<sup>36</sup> for extensions and additions. This almost programme-free interstitial shadow around the toy blocks in both the contemporary SANAA Museum and old temples of Kyoto was subject the subject of investigation throughout the Japan trip both in terms of its architectural construction (see figure eighteen) and also human occupation (see figure nineteen).

*Ma* and *en* are investigated further in the design research project completed at the Geidai School, see section 6.0. Through programme, planning and tectonics this small project aims to embed itself deeply in its place, through the history of Asakusa, in particular its district that is linked to an Edo period flower park and particular its site by connecting in scale, community and programme to the adjacent wisteria lane. The project employs Tanizaki's principles mentioned earlier (a raised platform, screens mediating light and permeability) and essentially acts as a deep shadowy verandah. This project primarily forms a large interstitial space where tourists can gather information, meet and rest in-between the various sites of the area.

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<sup>23</sup> G Nitschke, "En - Transactional Space," *Daedalus* 33 (1989): 64.

<sup>24</sup> — — —, *From Shinto to Ando: Studies in Architectural Anthropology in Japan* (London: Academy Editions, 1993): 84-93.

<sup>25</sup> J Tanizaki, *In Praise of Shadows* (London: Vintage, 2001).

<sup>26</sup> Tanizaki, *In Praise of Shadows*: 47.

<sup>27</sup> Tanizaki, *In Praise of Shadows*: 17.

<sup>28</sup> Tanizaki, *In Praise of Shadows*: 13.

<sup>29</sup> Tanizaki, *In Praise of Shadows*: 29.

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<sup>30</sup> Tanizaki, *In Praise of Shadows*: 64.

<sup>31</sup> Tanizaki, *In Praise of Shadows*: 33.

<sup>32</sup> R Kwok, "Architecture of the Interval" (University of Brighton, 2010): 4.

<sup>33</sup> Ibid.

<sup>34</sup> Kwok, "Architecture of the Interval": 13.

<sup>35</sup> Kwok, "Architecture of the Interval": 6.

<sup>36</sup> Kwok, "Architecture of the Interval": 15.



Figure Fifteen Glass Cylinder filled with toy blocks SANAA Museum, KANAZAWA

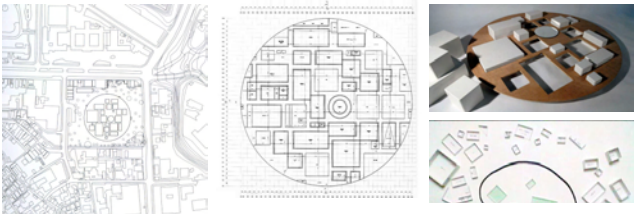


Figure Sixteen Toy blocks plan SANAA Museum, KANAZAWA

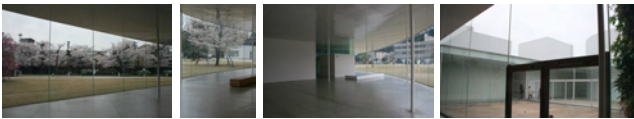


Figure Seventeen Interstitial space SANAA Museum, KANAZAWA



Figure Eighteen Studying architectural construction of interstitial space Shugakuin Imperial Villa, KYOTO



Figure Nineteen Programme-less habitation of Interstitial Space KYOTO & KANAZAWA



Figure Twenty Inhabiting the interstitial zone at Ryoanji KYOTO

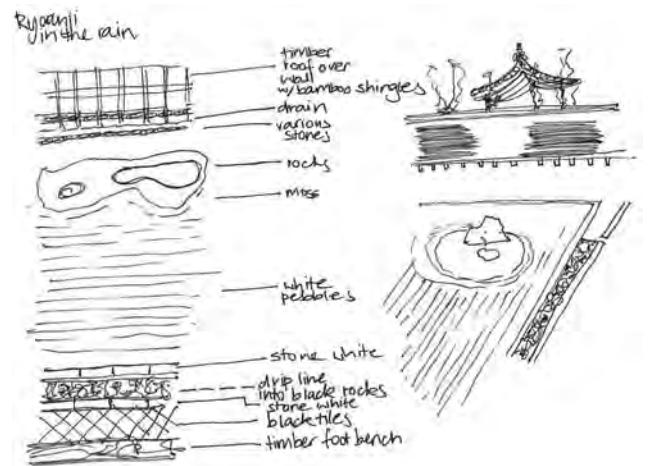
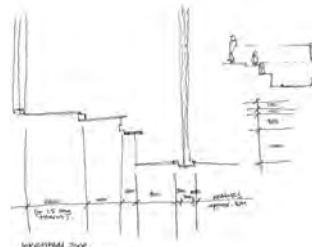


Figure Twenty-one Interstitial details at Ryoanji KYOTO

Nitschke explains the difference between the Western concept of space and the Japanese concept of *ma*. In Japanese space literally means 'empty place', which has a totally different meaning in comparison to the western definition of space measured in terms of volume<sup>37</sup>. Nitschke sees *ma* as an extra sense, 'the sense of place'<sup>38</sup>, where a sense of space is combined with 'a consciousness of place'<sup>39</sup>. In relation to toy blocks and shadows, according to Nitschke *ma* 'combines the dualities of object and space'<sup>40</sup>, where space is 'nothing on its own... where as *perception* of space includes a perception of a variety of objects'<sup>41</sup>. Nitschke uses Ryoanji's rock garden, a site also visited whilst in Kyoto (see figure twenty), as an example of a collection of objects placed in space, but describes the experience at Ryoanji where the objects (rocks) and 'the emptiness or void'<sup>42</sup> around them begin to merge. This experience of a particular sense of place, describes Nitschke's understanding of *ma*.

In analyzing perception of architecture using all of the senses, Steven Holl also references a visit to Ryoanji in his essay *Questions of Perception: The Phenomenology of Architecture*<sup>43</sup>. He sees Ryoanji as 'an abstraction of place' that 'transcends, culture, history and limits of time'<sup>44</sup>. The feeling of 'the wrinkles in the timber grain underfoot' (see figure twenty-one) and other such experiences at Ryoanji 'illuminated'<sup>45</sup> the phenomenological points of architecture for Holl – 'the shifting perspective views, details of joinery, textures, smells and sounds were all combined in this architecture of gravel, paper and wood'<sup>46</sup>. Similar to Nitschke's reading of *ma* at Ryoanji, Holl describes the moment, regarding the carefully placed large rocks amongst the millions of raked white pebbles, when 'objects lose their clarity and merge within the field'<sup>47</sup> as a sense of 'in-between reality'<sup>48</sup> linked to the combined perception of objects, void and experience.

An exploration of shadow and perception was particularly evident in visiting the Kiyomizu-dera temple in south-east Kyoto (see figure twenty-two). This temple offers tours into the dark depths underneath the main temple, where one loses all sense of vision among the black shadow. One feels almost consumed by the blackness and discovers the unusual sensation of having to rely on senses other than vision, such as touch and hearing. Similar to Holl, Pallasmaa calls for greater recognition of all the senses in architecture in

his book *The Eyes of the Skin*<sup>49</sup> and early essay *Architecture of the Seven Senses*<sup>50</sup>.

Pallasmaa argues for haptic contact, peripheral vision and perception in interacting with space. He promotes architecture that tries to balance perception through all the senses by strengthening 'materiality and hapticity, texture and weight, density and space and materialized light'<sup>51</sup>. For a multi-sensory experience, Pallasmaa writes 'architecture is an extension of nature into the man made realm'<sup>52</sup>. Such values are very akin with *ma* and Japanese architecture visited in Kyoto. Figure twenty-three, shows places visited where nature gracefully and simply extends into architecture.

In relation to toy blocks and shadows, Pallasmaa references Tanizaki's *In Praise of Shadows*<sup>53</sup> and notes 'shadows give shape to objects in the dark'<sup>54</sup>. According to Pallasmaa, 'deep shadows are essential because they dim the sharpness of vision, making depth and distance ambiguous, inviting unconscious peripheral vision and tactile fantasy'<sup>55</sup>. This quote relates directly to the tactile experience mentioned at Kiyomizu-dera temple in Kyoto.

The examples of experiences in Japan given show the importance of shadow as a device in constructing interstitial space. The various examples also show how van Schaik's reading of *toy block articulation* at multiple scales of Soane's Museum transcends culture. Design research tasks, the mask (see section 5.0) and the Garden Depository, Asakusa project (see section 6.0) were used to investigate *en*, *ma*, toy blocks, shadows, scale and perception.

Toy block like mass and shadow have been shown to pervade the works of contemporary architects Bolles+Wilson through the case study Casa Suzuki house and SANAA in their 21<sup>st</sup> Century Museum of Contemporary Art, visited in Kanazawa. Zinguer promotes the use of toy blocks in architecture and highlights the 'breakdown and collapse'<sup>56</sup> of toy blocks as a mode of constant re-evaluation of the design process in architecture – similar to the processes of the mask task and Asakusa project. In conclusion, this analysis and design research shows how constructing architectural space through the analogy of toy block articulation and shadows, can be used to mediate and pose questions in relation to interstitial space, scale and perception. This research links to the Japanese principles *en* and *ma*, Tanizaki and Nitschke fear are being lost in contemporary Japanese architecture.

<sup>37</sup> G Nitschke, "'Ma', the Japanese Sense of 'Place'," *Architectural Design* 36 (1966): 154.

<sup>38</sup> Nitschke, "'Ma', the Japanese Sense of 'Place'": 117.

<sup>39</sup> Ibid.

<sup>40</sup> Nitschke, "'Ma', the Japanese Sense of 'Place'": 152.

<sup>41</sup> Nitschke, "'Ma', the Japanese Sense of 'Place'": 154.

<sup>42</sup> Nitschke, *From Shinto to Ando: Studies in Architectural Anthropology in Japan*: 59.

<sup>43</sup> S Holl, J Pallasmaa, and A Perez Gomez, *Questions of Perception : Phenomenology of Architecture*, [New ] ed. (San Francisco, CA: William Stout, 2006): 39-42.

<sup>44</sup> Holl, Pallasmaa, and Perez Gomez, *Questions of Perception : Phenomenology of Architecture*: 124.

<sup>45</sup> Holl, Pallasmaa, and Perez Gomez, *Questions of Perception : Phenomenology of Architecture*: 127.

<sup>46</sup> Holl, Pallasmaa, and Perez Gomez, *Questions of Perception : Phenomenology of Architecture*: 124.

<sup>47</sup> Holl, Pallasmaa, and Perez Gomez, *Questions of Perception : Phenomenology of Architecture*: 45.

<sup>48</sup> Ibid.

<sup>49</sup> J Pallasmaa, *The Eyes of the Skin : Architecture and the Senses* (London: Academy, 1996).

<sup>50</sup> Holl, Pallasmaa, and Perez Gomez, *Questions of Perception : Phenomenology of Architecture*: 27-38.

<sup>51</sup> Pallasmaa, *The Eyes of the Skin : Architecture and the Senses*: 37.

<sup>52</sup> Pallasmaa, *The Eyes of the Skin : Architecture and the Senses*: 41.

<sup>53</sup> Tanizaki, *In Praise of Shadows*.

<sup>54</sup> Pallasmaa, *The Eyes of the Skin : Architecture and the Senses*: 47.

<sup>55</sup> Pallasmaa, *The Eyes of the Skin : Architecture and the Senses*: 46.

<sup>56</sup> T Zinguer, "Architecture in Play: Intimations of Modernism in Architectural Toys 1836-1952" (Princeton University, 2006): 3.



**Figure Twenty-two** Dark shadowy undercroft at Kiyomizu-dera Temple KYOTO



**Figure Twenty-three** Nature extending into Architecture at Katsura Imperial Villa KYOTO



Ginkakuji Temple, KYOTO  
Monday 9th April 2012



Shugakuin Imperial Villa, KYOTO  
Monday 9th April 2012



Interstitial Space  
Ryoanji Temple, KYOTO  
Wednesday 11th April 2012





Interstitial Space, en  
Shisendo Temple, KYOTO  
Monday 9th April 2012



Suiya-Cho Machiya KYOTO  
Monday 9th April 2012



Aoyama Church TOKYO  
Wednesday 4th April 2012



Nishioshikoji Machiya KYOTO  
Wednesday 11th April 2012



Thresholds & Screens  
Suiya-Cho Machiya KYOTO  
Monday 9th April 2012



Asakusa Walk TOKYO

## List of Illustrations

Where more than one image is used, sources are listed from left to right as the images appear down the page. All other photographs and sketches used throughout submission – author's own.

Figure One -  
<http://http://intranet.arc.miami.edu/rjohn/Spring2000/New%20slides/Soane/Soane%20House2.jpg> S Psarra, "Architecture and Narrative".

Figure Two – G Darley. "John Soane : An Accidental Romantic.": <http://www.britishhistory.ac.uk/image.aspx?compid=74175&filename=figure0752-012.gif&pubid=752>

Figure Three – G Darley. "John Soane : An Accidental Romantic."

Figure Four – G Darley. "John Soane : An Accidental Romantic."

Figure Five – S Psarra, "Architecture and Narrative"

Figure Six – G Darley. "John Soane : An Accidental Romantic."

Figure Seven – <http://http://2.bp.blogspot.com/4xAtVQgrIV4Tj73oVw1Mkl/AAAAAAAAAwc/7E6gEzghr6E/s1600/4.jpg>;  
<http://http://www.hicarquitectura.com/2011/08/architektururburo-bolles-wilson-casa.html>

Figure Eight – [http://http://1.bp.blogspot.com/\\_tdMt0QyJck/S6nbJk8LyNI/AAAAAAAAAD8/y8zaZ2ScB8/s1600/Picture+6.png](http://http://1.bp.blogspot.com/_tdMt0QyJck/S6nbJk8LyNI/AAAAAAAAAD8/y8zaZ2ScB8/s1600/Picture+6.png);  
[http://2.bp.blogspot.com/\\_tdMt0Q-yJck/S6kTWLy-61l/AAAAAAAAABs/RafMCwn9l-U/s1600-h/exemplarperspective.jpg](http://2.bp.blogspot.com/_tdMt0Q-yJck/S6kTWLy-61l/AAAAAAAAABs/RafMCwn9l-U/s1600-h/exemplarperspective.jpg);  
[http://www.earchitecture.co.uk/images/jpgs/books/bolles\\_wilson\\_book\\_b211010\\_1.jpg](http://www.earchitecture.co.uk/images/jpgs/books/bolles_wilson_book_b211010_1.jpg);  
Bolles-Wilson and Wilson, *Bolles + Wilson : A Handful of Productive Paradigms : Recent Work*. 8.

Figure Nine – <http://http://imagecache6.allposters.com/LRG/14/1452/OPOR000Z.jpg>;  
<http://http://www.leonardo-da-vinci-biography.com/images/leonardo-da-vincianatomy.3.jpg>

Figure Ten – <http://http://nyccosmeticsurg.blogspot.com.au/2011/05/does-phi-make-beautifulface.html>

Figure Fifteen – <http://www.archigraphie.eu/wp-content/uploads/2010/02/Sanaa-Kanazawa.jpg>;  
[http://www.arcspace.com/architects/sejima\\_nishizawa/century\\_museum/1sanaa\\_21st\\_century.jpg](http://www.arcspace.com/architects/sejima_nishizawa/century_museum/1sanaa_21st_century.jpg)

Figure Sixteen – <http://s3files.core77.com/blog/images/2010/01/cityinasuitcase2-thumb-468x247-1473.jpg>;  
<http://architettura.it/image/festival/2002/pics/064.jpg>;  
<http://lh6.ggpht.com/1tu7lFXqXlE/SYbxgm1dQ4l/AAAAAAAAAHU/xNSD9RaMvnl/site%252520plan.jpeg>;  
[http://farm5.static.flickr.com/4004/4474196982\\_3e7524151d.jpg](http://farm5.static.flickr.com/4004/4474196982_3e7524151d.jpg)

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