Transcultural Tectonic Connections: The Utzon Paradigm

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ABSTRACT:

“Comparable in subtle ways to the protean achievements of Le Corbusier, Utzon’s architecture emerges today as paradigmatic at many levels not least of which is the manner in which from the beginning of his career; he would totally repudiate the assumed superiority of Eurocentric culture”

Kenneth Frampton

This paper presents an understanding of Jørn Utzon, as one of the most profound exponents of a transcultural and tectonic approach to modern architecture in the late twentieth century. The paper will examine the sources of inspiration, intersections and connections in Utzon’s architecture; which have been informed by his understanding of boat-building, reference to nature, extensive travels and broad transcultural influences; as an exemplary paradigm for humane, poetic and innovative contemporary architecture.

Jørn Utzon’s architecture ranges from the modest to the monumental; from the Kingo courtyard houses, the finest Scandinavian example of humane housing, to the sculptural abstraction and technical innovation of the Sydney Opera House; an iconic work of modern architecture that has come to symbolize not only a city, but also a multi-cultural nation, due to its highly original and innovative synthesis of many diverse and non-Western cultural influences, in specific relation to its context.

Utzon’s work embodies a visionary approach to architecture that is site specific and poetic, tectonic and humane; informed by a profound appreciation of nature and diversity of human cultures, as sources of inspiration and analogy, combined with an intuitive sense of architecture as art and a pragmatic, yet innovative approach to the use of technology pushed, according to Utzon to the “edge of the possible,” that is ever more relevant today.

KEYWORDS: Jørn Utzon, Sydney Opera House, Tectonic architecture, Transcultural influence

INTRODUCTION

According to the architectural historian Kenneth Frampton, Utzon’s work is, “Comparable in subtle ways to the protean achievements of Le Corbusier, Utzon’s architecture emerges today as paradigmatic at many levels not least of which is the manner in which from the beginning of his career, he would totally repudiate the assumed superiority of Eurocentric culture” (Frampton, K. in Mullins, M. and Carter, A. (ed.) 2003: p.6)

Frampton’s reference to Utzon and particularly his Bagsværdd Church, was previously in relation to a focus on Critical Regionalism in modern architecture, as described in Frampton’s seminal essay Towards a Critical Regionalism: Six Points for an Architecture of Resistance. Frampton limits his interpretation of Utzon’s Bagsværdd Church to purely Occidental reading of allusions to traditional Chinese and Japanese temple architecture in timber in combination with the Nordic vernacular of stave churches. However, as I hope to suggest, Utzon’s range of transcultural influences are even more diverse, than suggested by Frampton’s interpretation of Bagsværdd Church It is Utzon’s fascination with ancient vernacular building cultures throughout the world and architecture that is appropriate to context, local climate, building materials and honest expression of its making, which inspires Utzon’s own architecture. In the process making Utzon both an exemplar of a critical regional approach, but also more significantly a
major exponent of tectonic architecture; as emphasized by Frampton’s chapter on Utzon in Studies in Tectonic Culture, which Frampton very appropriately entitled Jørn Utzon: Transcultural Form and the Tectonic Metaphor.

Certainly Utzon’s architecture demonstrates a profound poetic understanding of world culture, which he combined with an appreciation and use of modern building technology. His is an architecture that eschews kitsch historicism and the superficiality of ubiquitous universal civilization, but rather emphasizes the authentic use of materials and tectonic clarity of construction; which explains why the Sydney Opera House is such an enduring and ever increasingly appreciated work of world architecture; that has thus come to define both a city and nation.

The canonical importance of the Sydney Opera House and the brilliance of Utzon is becoming increasingly appreciated, particularly within the last ten years, furthered by the establishment of the Utzon Research Center in his hometown of Aalborg in Denmark and access to the Utzon Archives, together with increasing stream of publications and also symposiums, that consider themes within his work and design methods. In 2003 Jørn Utzon was at last awarded the Pritzker Architecture Prize, in recognition not only of his design of the most daring and iconic monument of the twentieth century, the Sydney Opera House, but also in a wide range of equally seminal works. That ranges from the most modest, yet handsome and humane Kingo houses, to the supreme sculptural abstraction and technical innovation of the Sydney Opera House and the understated monumentality of the Bagsværd Church with its poetic undulating ceiling, through to such visionary unrealised projects as the submerged Silkeborg Art Museum that still fire the imagination.

1.0 The making of an architect in youth

As Utzon himself has said it is, “around the age of 18, plus or minus 5 years, are the years one becomes an architect” (in an interview with Henrik Sten Møller) certainly in Utzon’s case one should go back even earlier to find the roots of his architecture. As the son of a Naval architect and engineer, he moved from Copenhagen with his family when only a few months old from to the provincial Danish harbour city of Aalborg, where his father Aage Utzon became the chief engineer of the local shipyards. As Utzon explained to me it was his childhood experience of seeing the huge hulls of ships under construction in dry-dock in the Aalborg Shipyards, that his father was responsible for, that was later to not only give him the formal language, but also the self-confidence to realise the huge boat-like roof-shells of the Sydney Opera House that so profoundly and fittingly defines its magnificent harbour setting and in so doing has created Sydney’s emblematic image.

Utzon’s father had also gained an international reputation for designing yachts renowned for their speed and distinctive curvature of their stern forms, known as Spidsgatter, that are curved at both the bow and stern. A design of boat which had its origins back in the original Viking Longboats, that sailed from the area. It was through working with his father on the design and actual building of boats, that Utzon first came to experience the joy of seeing something physically take shape, gaining an understanding of the forces and stresses in construction and an appreciation of the inherent qualities of different materials. It is this understanding of boat building that gave Utzon his initial and lasting belief in the need for tectonic integrity of construction and form, together with the appropriate use of materials, which is honestly expressed. He learned also to think of complex three-dimensional forms by means of two-dimensional plans and sections. This is evident in the material submitted for the Sydney Opera House competition (1957), which included a beautifully rendered plan, simple sections and elevations, but no perspective illustrations of the exterior. For Utzon, “the plan” as Le Corbusier states in Towards a New Architecture “is the generator'. (Weston in Holm, M, Kjeldsen and Marcus, M (ed.) 2004: p.28)

His father Aage encouraged in the young Utzon a deep appreciation of nature as a source of insight and inspiration, most particularly as a designer. Aage Utzon studied wave forms and the movement of fish, as a means to making modifications and improvements to the design of his boats, to make them go faster. For Utzon, nature was not only a source of inspiration; it was also where he found joy and refuge from school. Suffering as he did from dyslexia, of
which there was little comprehension or consideration of at the time, Utzon did not do well academically and did not enjoy being confined within a classroom, preferring being out in nature and most particularly on the water, sailing. As Malcolm Gladwell has written about in his book *David and Goliath* (Gladwell, 2013), it is often those that have to overcome disadvantage in their youth that over compensate in other areas and achieve most, later in life. Utzon and other notable architects, including Antoni Gaudi and Richard Rogers, have had to cope with dyslexia and have compensated by more greatly developing their visual and spatial faculties. In Utzon’s case it was his abilities to draw that enabled him to enter the Royal Danish Academy of Fine Arts to study architecture, despite having very poor final grades from school that had denied him the possibility of following in his father’s footsteps in becoming a naval architect.

Utzon was fortunate though that his artistic abilities had been informed by leading artists of the time, including the Danish artist Poul Schröder and most notably the Swedish painter Carl Kylberg, with whom his family had close connections. These artists inspired Utzon greatly and while he was already an accomplished draughtsman through assisting his father; Utzon learnt from Schröder how to draw freehand with soft expressive lines and from Kylberg, Utzon gained a painter’s eye for nature, in terms of the relationship between colour, form and light. Utzon was also particularly fortunate that his uncle Einar Utzon-Frank was a distinguished sculptor and Professor at the Royal Danish Academy of Arts, who encouraged and supported his application to study architecture there.

As a student, Utzon persuaded the then semi-retired Professor Steen Eiler Rasmussen, the renowned author of *Experiencing Architecture*, and the leading Danish architect Kay Fisker to be his tutors. These mentors were instrumental in forming Utzon’s subsequent thinking in architecture. It was Fisker, who extolled the ideal of ‘constructive logic’ as exemplified by the entirely brick built Grundtvig Church, in Copenhagen by P.V. Jensen-Klint, that established Utzon’s total commitment to authentic tectonic approach that was to become a lasting principle in his own work and encouraged his fascination with the tectonic integrity of anonymous vernacular architecture that he found around the world, such as the mud brick buildings he experienced in Morocco in 1947 on his first travels outside Europe, that provided him with inspiration.

While it was Rasmussen, who passed on his considerable fascination with China, and introduced Utzon to the essential reference works on Chinese architecture, most significantly the *Ying Tsao fa Shi* the Chinese building manual of the enlightened Sung Dynasty (960-1279); which Utzon was to use later as an inspiration for the construction of the Sydney Opera House. As well as these insights to ancient architecture, Utzon also became familiar with the contemporary developments in architecture at the time; with the early volumes of Le Corbusier’s *Oeuvre Complète* playing an important role in Utzon’s education. Inspired by such sources of inspiration both ancient and the most modern, Utzon reacted against the austere formal international modernism as practiced by Arne Jacobsen, whose buildings it was jokingly said could all be modelled with a box of matches, “flat, it was a housing scheme; standing on its long edge, an apartment block; on end, an office tower” (Weston, 2002: p.18). Already as a student Utzon, who had little interest in either the Classical tradition or similarly formalist modernist architecture, was through the study of vernacular buildings and forms in nature seeking other sources of architectural form.

### 2.0 The Inspirations of Travel and Personal Connections

On graduating in 1940, Utzon left German occupied Denmark and moved to Stockholm in neutral Sweden, like so many Danish and other Nordic architects at the time. Stockholm, particularly following the famous Stockholm Exhibition in 1930 had been the place of intersection and dissemination of new ideas within architecture in the Nordic countries, where connections were made between the International Style and the transformation of Nordic Classicism to Functionalism, and between architects from the different Nordic countries. It was in Stockholm that Utzon had his first direct experience of Japanese architecture, the Zui Ki Tei teahouse built within the grounds of the Ethnographic Museum. The refined post and beam construction made a profound impression on Utzon and upon other Nordic architects at the
time; as did the surgical like precision of the Japanese carpenters and the understanding that they crafted their own tools.

Though Asplund had died two years prior to Utzon’s arrival in Stockholm, his work still provided the inspiration and catalyst for a developing Nordic Modernism. The renowned Finnish architect Alvar Aalto saw Asplund as a father figure within modern Nordic architecture and Utzon, who worked briefly with Aalto, was greatly influenced by these two leading Nordic architects in his own further development of a contemporary architecture that was humane, socially responsive, related to landscape and inspired by nature. As significant an influence, as Aspund and Aalto, during Utzon’s early career, was his connection to the Norwegian architect Arne Korsmo. As Korsmo’s father was a professor of botany, they found they shared an interest in the logical structures and forms found in nature, as a source of inspiration. They also understood that everything in nature was constantly undergoing change and evolution; that there was no form in nature that was final. This principle they believed should be extended to architecture and rather than create buildings as completed works that neither could be added to or subtracted from without disturbing their perfection of form, they felt architecture should express growth and change.

An organic conception of form was, for Utzon and others, confirmed by D’Arcy Thompson’s On Growth and Form (1917), in which D’Arcy Thompson argued that the shape of all plant and animal life has a physical and mathematical basis and thus “form is a diagram of forces” whereby nature takes the most economical course of action according to physical laws. It was on the basis of this understanding that Utzon stated in 1948 in what was a personal architectural manifesto, that

“The true innermost being of architecture can be compared with that of nature’s seed, and something of the inevitability of nature’s principle of growth ought to be a fundamental concept in architecture”

Utzon’s idea of organic growth can be clearly seen in his highly original competition design in 1953 for the Langelinie Pavilion in Copenhagen, which also combined transcultural influences of Chinese and Japanese pagodas, including notably the East Pagoda of the Yakushi-ji shrine in Nara, as well as the then contemporary inspiration of Frank Lloyd Wright’s Johnson Wax Laboratory Tower (1947).

From the influence of Steen Eiler Rasmussen and other colleagues, Utzon was well aware of the benefits of travel and no doubt as a consequence of his dyslexia, had a great desire to experience the world and its architecture first hand. Once the limitations of mobility that the Second World War had imposed were removed, Utzon wasted no time in travelling as extensively as possible. Fired by images of Islamic architecture, Utzon set off for Morocco in 1947 for a few months, where he was to work on a project for a paper factory and a housing scheme. Stopping in Paris en route, he met with the Cubist painter Fernand Léger and Le Corbusier, as well as significantly the sculptor Henri Laurens, from whom “Utzon learned how one builds forms in the air, and how to express suspension and ascension” according to Sigfried Giedion (Giedion, 1982: p. 672). In Morocco, Utzon was greatly impressed by the cohesion and architectural integrity of the desert villages of courtyard houses built entirely with local clay, which unified them with the surrounding landscape. This unity of material and landscape was what Utzon had in mind when he later designed the Kingo houses and housing at Fredensborg. For Utzon as with many of his contemporaries, who shared his fascination with organic natural form, there was also a fascination with vernacular architecture, long before the subject was widely popularised by Bernard Rudofsky’s pioneering classic Architecture without Architects (1964). Vernacular architecture, like structures in nature, having invariably been developed and refined through a continual process of evolution. Also what appealed to Utzon about vernacular architecture was its anonymous organic character in harmony with nature. As Philip Drew has commented

“It was precisely this quality that Utzon wanted for his architecture; buildings without a signature that were distinguished by their quality of rightness and by how well they fitted in. and that possessed the same qualities of fitness,
Utzon made another significant trip in 1949, having been awarded a travel scholarship, which enabled him and his wife Lis to visit the United States and Mexico. On this first trip to the United States, Utzon met Frank Lloyd Wright, while staying at Taliesin East. Jørn and Lis Utzon travelled across the United States, together with Arne and Grete Korso. On the same trip Utzon met with Eero Saarinen, who some years later was to play such a pivotal role in the judging of the Sydney Opera House competition and also had a more formal meeting with Mies van der Rohe, gaining the opportunity to see the then newly completed Farnsworth House. They then travelled west to visit Taliesin West, to see the Case Study Houses in California and most importantly for Utzon to meet Charles Eames, whose house assembled from mass-produced materials and components, with its somewhat Japanese-like aesthetic, he greatly admired. The influence of these individuals and their work upon Utzon was to be profound. The organic nature of Wright's work, its focus on landscape and dramatic horizontality, Mies's very different minimalist reinterpretation of a classical temple as a more extreme development of the work of Asplund and the generous open plan and industrialisation of the Case Study Houses and the Eames House, combined with his appreciation of Japanese vernacular architecture and influenced his own subsequent open-plan housing design, initially with the design of his own house (1952) and later development of the similarly open-plan and also open-ended Espansiva housing system (1969).

From the United States the Utzon's travelled to Mexico, visiting the pre-Columbian ruins at Chichen Itzá, Monte Albán and perhaps most significantly Uxmal, which bears the most similarities to the Sydney Opera House. The Mayan and Aztec architecture that he experienced there made a lasting impression upon him. With its great stone platforms and monumental stairways rising above the dense jungle to reveal the distant surrounding view, it convinced him of the potential of the platform in architecture; which was to firmly establish a defining element in his later major civic projects, most significantly as the podium of the Sydney Opera House.

![Figure 1: The Sydney Opera House. Photo: Adrian Carter](image-url)

### 3.0 The Sydney Opera House

In his response to the remarkable location and the competition brief, it was Utzon’s vision, alone among all the competitors that recognised that this unique site needed to be understood.
in terms of its surrounding landscape and being visible from many surrounding vantage points required a sculptural solution with regards what Utzon described as the “fifth façade”. Without having actually visited the site, but with a mariners ability to read the topographic charts he had obtained of the Sydney Harbour, he was able to appreciate the particular morphology of the Sydney harbour basin, with its characteristic headlands that rise up just prior to falling into the sea; which he so eloquently emulated in the forming of the podium. Thus the podium, with its origins in the ancient architectural idea of the raised platform, becomes in Sydney a continuation and evocation of the local natural terrain, developing further upon Aalto’s notions of building as artificial landscape. This can be seen in the original section drawings of the Opera House, which show the podium shaded as a continuous landform running back through the Botanic Gardens

Seemingly floating above the podium, the Sydney Opera House’s signature sail-like roof shells were expressed by Utzon in his conceptual sketches as being like clouds hovering above the sea, both as experienced in nature and as evoked in ancient Chinese and Japanese temple roofs floating above a stone base. The choice of a combination of matt and glossy ceramic tiles to accentuate the sculptural character of the shells was both practical and also poetically intended to evoke the experience of freshly fallen snow; and owes its inspiration to one of Utzon’s favourite buildings, the Great Mosque in Isafahan. While initially the interior of Major Hall of the Sydney Opera House was to have had a multi-faceted ceiling, akin to Islamic musqarnas (Weston, 2002: p. 164) the crystalline-like “stalactite vaults”, that Utzon had admired at the ‘Friday Mosque’ in Isafahan. While the subsequent more acoustically appropriate convex curved interiors that Utzon eventually intended to be realised, were to be vibrantly articulated in red and gold, and blue and silver inspired by the traditional Chinese use of colour.

Part of the sacred experience of the building is the timeless, almost archaic experience of the podium incorporating the amphitheatres, enclosed within the cathedral-like arches of the roof shells. As the Australian architect Richard Leplastrier, who worked with Utzon, said during its construction “you could not really tell if it was coming up or coming down,” it had such a powerful presence like an ancient ruin. The Sydney Opera House is now perhaps the world’s most iconic building and has inspired so many, often desperate, visually orientated attempts to copy its success since. However Utzon’s own approach to the design was developed on the basis of the intended human experience of using the building, rather than mere image. The area in front of the podium steps provides a huge plaza for public gatherings and events, as Richard Weston has suggested it is possibly the greatest public space created in the 20th century. According to Utzon’s mentor Professor Steen Eiler Rasmussen “The architect is a sort of theatrical producer, who plans the setting for our lives.” For Utzon the grand stairs of the podium are intended to provide an almost sacral sense of rising above the humdrum everyday world, in the process providing a grand panorama of the harbour prior to entering the dramatic cavernous interior for the actual performance, having been sublimely prepared for a profound experience.

The realisation of the Sydney Opera House proved to be much more costly than anticipated and became the basis for a political campaign that eventually resulted in Jørn Utzon being forced to leave the project in 1966, long before its completion. Despite vociferous protests in support of Utzon from leading international architects and academics, as well as Australian architects, it was to no avail and Utzon left the country and moved with his family to Hawai’i, to teach at the University of Hawai’i at Manoa and be able continue to enjoy a climate to which he had become accustomed. Also to be closer to Sydney, should the political decision be taken to ask him to return as he expected; but which unfortunately did not happen until towards the end of Utzon’s life. Despite the later detrimental political machinations, enough of Utzon’s architectural genius and integrity was actually realised in a sufficiently unadulterated form, for the Sydney Opera House to achieve its iconic status. However the political smear campaign and false accusations against Utzon did great damage to his possibilities for commissions and subsequent architectural career.
4.0 Bagsværd Church and other works

Fortunately the suggestion of a church in the published drawings for a competition entry for Farum Town Centre in Denmark that Utzon had submitted caught the eye of Pastor Svend Simonsen, who was seeking an architect for the proposed new parish church of Bagsværd, north of Copenhagen. As a result, Utzon was commissioned in 1967 to design what would become his single most significant built work in Denmark. The initial inspiration for the building was Utzon’s constant fascination with clouds hovering above the horizon. In this case the actual cloud formations that triggered Utzon’s design were those he experienced far from Denmark on a beach in Hawai’i. The interior of Bagsværd Church is conceived as a spiritual space for the congregation to gather in an evocation of the Danish open horizontal landscape beneath billowing concrete ceiling vaults, as if under rolling clouds, through which diffused light enters. Remarkably for the design of a Protestant Church it is possible to see in his initial sketches for the section of Bagsværd Church, Utzon’s interpretation of Arabic calligraphy and an Islamic prayer to heavenly light, in which Utzon saw great aesthetic beauty. The multivalent transcultural layering of many diverse influences from world culture in combination with modern building methods, results in an authentic and yet contemporary sacred space, that avoids resorting to kitsch symbolism. While in tectonic terms the curvature of the ceilings provides structural strength relative to the minimal thickness of the in-situ concrete, as well providing a beautiful quality of diffuse light and excellent acoustics. The modest, pre-fabricated industrial character of the exterior, was both a pragmatic necessity to be able to finance the interior within the limited overall budget, but also serves to heighten through contrast the experience of the sacred space.

Figure 2: Bagsværd Church. Photo: Adrian Carter

Figure 3: Model of Silkeborg Art Museum. Photo: Adrian Carter

Amongst Utzon’s unrealised works, is one of the outstanding un-built projects of the 20th century, the Silkeborg Museum (1963), designed to house the work of Asger Jorn. Inspired by the Yungang caves near Datong in China, which contain numerous often giant Buddha figures carved out of the stone; the Silkeborg Museum with its cavernous submerged galleries, shaped like emerging crocus bulbs, was intended to liberate the art within sensually curved spaces, which because of their curvature would seem to disappear. The cave-like character of Silkeborg Museum is the natural complement to the platform Utzon was simultaneously working on in Sydney and reveals his equal fascination with the idea of the cave and the notion of prospect and refuge, as also in his own remarkable reinterpretation of a Mediterranean
CONCLUSION
That Utzon’s work was influenced by such a wide range of transcultural influences, most from
direct personal experience, cannot be doubted. However his travels were so extensive and his
sense of observation so constantly acute, that it is difficult to say with complete precision
where exactly the specific transcultural references for each particular project came from and
this was also the case for Utzon himself. When I asked him directly about the associations
between his works and possible influences, he would usually agree that there was a likely
connection, but then add many other possible contributors, that left he himself unsure as to the
original source of inspiration. Thus the podium and steps of the Sydney Opera House, most
associated with the Mayan temples of Mexico, could also have been influenced subconsciously by memories of Engels great white cathedral in Helsinki, approached by a
grand broad staircase from the Senate Square, which Utzon experienced as a young
impressionable architect working in Helsinki with Alvar Aalto. Similarly the proposed golden
interiors suggested in the competition perspective for the Sydney Opera House, could owe as
much to the famous Golden Hall of the Stockholm City Hall, that Utzon knew from even earlier
in his career, as much as his fascination with Chinese architecture.

While it may not be possible to say with complete certainty where all Utzon’s particular
influences came from, only make educated and reasonable assumptions based upon his own
statements, together with the evidence of his travel sketches, photographs and films. It is clear
that without his enthusiasm for travelling and openness to transcultural experiences, his
architecture would not have been as rich or as significant.

Utzon personally always distanced himself from theoretical interpretations of architecture. He
had no need of theories to validate his approach to design; rather he had a thirst for universal
knowledge and sought out inspiration in the intersections and connections that he experienced
in the wider world around him, in a dynamic on-going process that constantly re-informed his
work. Utzon’s dedicated explorations and refining of significant universal themes in
architecture will continue to provide an enormous resource and inspiration for architects. His
timeless organic approach to design, design methods and process, rather than historic style
also ensures his continued relevance. While the humanity of his artistic vision, its tectonic
integrity and sensitivity to place combined with a contemporary use of technology to achieve
these aims, provides a source of inspiration for innovative, humane and meaningful
architecture in the future.

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