Abstract
In Space, Time, and Architecture, Sigfried Giedion identified Jørn Utzon as one of the proponents and leaders of what Giedion regarded as the Third Generation of modern architecture in the 20th century. This article considers how Utzon subsequently further exemplified in later works the principles Giedion had identified as essential to that Third Generation and discusses, as Giedion did not explicitly, the significance of light in Utzon's architecture, which plays a key role in underpinning and articulating these defining principles. This article addresses how the principles Giedion attributed to Utzon and his defining consideration of light, derived from his interpretations of his many transcultural sources of inspiration, notably including from, China, Iran, Japan, Hawaii, Mexico, and Morocco, as well as from his own Nordic realm and Europe, as can be seen in the Sydney Opera House, Can Lis in Mallorca, Melli Bank in Tehran, Kuwait National Assembly, and Bagsværd Church in Denmark, among others.

Keywords
Utzon, Giedion, Bagsværd, Can Lis, Kuwait National Assembly, Melli Bank, Sydney Opera House.

Resumen
En Espacio, Tiempo y Arquitectura, Sigfried Giedion identificó a Jørn Utzon como uno de los impulsores y exponentes de lo que Giedion consideraba la Tercera Generación de la arquitectura moderna en el siglo XX. Con referencia precisa a Utzon, Giedion definió la esencia de esa Tercera Generación. Este artículo analiza cómo Utzon ejemplificó en sus obras los principios que Giedion había identificado como esenciales de esa Tercera Generación y trata, como Giedion no lo hizo de manera explícita, la importancia de la luz en la arquitectura de Utzon, que desempeña un papel fundamental para apuntalar y articular estos principios definitorios. Se estudian así las particularidades que Giedion atribuyó a Utzon y su consideración definitora de la luz, derivadas de la interpretación de sus numerosas fuentes transculturales de inspiración, en particular, de China, Irán, Japón, Hawai, México y Marruecos, así como de Europa y su propio ámbito nórdico, como se puede ver en la Ópera de Sydney, Can Lis en Mallorca, Melli Bank en Teherán, la Asamblea Nacional de Kuwait, y la Iglesia Bagsværd en Dinamarca, entre otros.

Palabras clave
Utzon, Giedion, Bagsværd, Can Lis, Kuwait National Assembly, Melli Bank, Sydney Opera House.

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Adrian Carter is a registered architect in Denmark, who has studied at the Portsmouth School of Architecture with Professor Geoffrey Broadbent, at The Royal Danish Academy of Fine Arts, School of Architecture in Copenhagen with Professor Jan Gehl and at the University of Cambridge with Professor Dalibor Vesely. As a practising architect, he has worked together with Reima Pietilä in Helsinki, Finland; Niels Torp in Oslo, Norway; Ancher, Mortlock and Woolley in Sydney, Australia; Henning Larsen and Dissing+Weitling in Copenhagen, Denmark. Currently, Head and Professor of Architecture, at the Abedian School of Architecture, at Bond University, Queensland, Australia. He has previously taught at the Aarhus School of Architecture and at Aalborg University in Denmark, where he initiated and became the Director of the Utzon Research Center, and was responsible for the realisation of the Utzon Center building on the Aalborg harbourfront, designed in collaboration with Jørn Utzon. As an expert on the work of Jørn Utzon, he has advised and contributed to the Australian Government’s Department of the Environment and Heritage’s nomination of the Sydney Opera House for World Heritage listing in 2006. In 2016, he was awarded his PhD for his thesis ‘The Utzon Paradigm’ at Aalborg University. acarter@bond.edu.au

Marja Sarvimäki is an Associate Professor at the Bond University’s Abedian School of Architecture in Gold Coast, Australia. Previously she taught architectural history-theory and design studios at the University of Hawaii School of Architecture. She is born in Helsinki, Finland, and earned her MArch and PhD at the Helsinki University of Technology (currently part of the Aalto University). She also has pursued studies on Japanese architecture at the Tokyo National University of Arts, and conducted her post-doctoral research on Korean architecture at the Korea University. In addition to the doctoral dissertation Structures, Symbols and Meanings: Chinese and Korean Influence on Japanese Architecture, which comprised extensive fieldwork in East Asia from 1987 till 1997; her work includes numerous publications on East Asian cultures as well as architectural research methodology; her most recent book Case Study Strategies for Architects and Designers: Integrative Data Research Methods was published by Routledge in June 2017.
Today, a hundred years after his birth in 1918, Jørn Utzon is more fully recognised as one of the most original and uniquely outstanding architects of the 20th century, despite what was a relatively limited architectural production of built works. Prior to being catapulted to international recognition, with his wining of the Sydney Opera House competition, Utzon was already gaining a reputation in his native Denmark on the basis of his many notable, but unrealised competition entries and the realisation of the Kingo Houses (1956-59) and the Fredensborg Houses (1959-63) courtyard housing north of Copenhagen.

With built works, restrained by unfortunate circumstances and the unjust damage to his reputation in the immediate aftermath of the Sydney Opera House debacle, Utzon's oeuvre nevertheless comprises a wide range of notable works. From his modest, yet noble and humane courtyard housing, through unrealized visionary projects, that still today in an age of computer aided design, capture the imagination, such as the subterranean Silkeborg Art Museum proposal (1963). To powerfully poetic public buildings, such as the Bagsværd Church (1968-76), with its lyrical billowing concrete ceilings evoking clouds, the Kuwait National Assembly building (1972-82), a particularly successful evocation by a Western architect, of the architecture of the region and quite possibly, the most iconic and internationally recognized building of the 20th Century, the Sydney Opera House (1956-73). However, the fullest acknowledgement of Utzon's contribution to modern architecture, came only in the last years of Utzon's life, with the awarding of the prestigious Pritzker Architecture Prize in 2003 and in his own homeland, with the long overdue awarding in 2006 of the Danish Architects Association's Medal of Honour, just two years prior to his death in 2008, at the age of 90.

Jørn Utzon was given early recognition by the noted Swiss architectural historian, Sigfried Giedion, as the leading figure within what he determined to be a new Third Generation of modern architects, in the 20th Century. Somewhat daringly, given the controversial nature of the Sydney Opera House, but with some visionary foresight, Giedion dedicated an entirely new chapter to Utzon; in his amended fifth edition of Space, Time and Architecture. The Growth of a New Tradition, as republished in 1967.

In identifying Utzon as the defining proponent and leader of what he saw as the new Third Generation of modern architecture in the 20th century, he defined the attributes that he ascribed to that Third Generation, largely in accordance with the themes he identifies within Utzon's work. These notably include a more profound social concern, in that "The social orientation is pushed further: a more conscious regard for the anonymous client". Certainly Utzon, had a well-developed sense of social concern and respect for the individual within society. Having grown up in an enlightened and progressive social environment in Denmark, informed by such influential figures as N.F.S. Grundtvig, that celebrated the rights of every ordinary individual, but within a well-functioning collective community.

Utzon's work does indeed reflect an exemplary continuation of the wider Nordic tradition, both within architecture and society more broadly, that emphasises social well-being, collective community and an essentially egalitarian society. This social concern, can be seen early in Utzon's career, as with Aalto and other Nordic architects, in a concerned interest in providing immediate housing solutions to the considerable numbers of refugees, displaced as a consequence of the Second World War and later in providing, affordable collective housing, that resulted in the highly successful Kingo and Fredensborg courtyard housing developments, that in turn were to inspire a younger generation of Danish architects and initiate, subsequent developments in Danish collective and co-housing [fig. 1].

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Even in Utzon’s larger, more monumental public works, the concern for the experience of the individual and the wider community, is always paramount and underpins the design. Though the Sydney Opera House has become the ultimate exemplar of an iconic building as visual landmark, that has inspired countless attempts since to emulate its singular visual success, its design evolved initially on the basis of the human experience of using the building, rather than its visual appearance. It was Utzon’s underlying intention that the great stairs of the podium would provide an almost sacred sense of rising above the everyday humdrum and provide a grand panorama of the magnificent Sydney harbour, before entering the dramatic cavernous interiors, suitably distanced from one’s daily life and sublimely prepared for the cultural experience to come.

Utzon’s organic approach to architecture, with its source in Utzon’s fascination with nature as an inspiration and influences from Aalto, Gaudi and Wright, was in keeping with Giedion’s incorporation of changing conditions as a positive element of the site, as well as strong relation to the site and context, “so that an interplay can arise between architecture and environment, each intensifying the other”. It was Utzon’s vision, that so profoundly among the competitors for the Sydney Opera House, recognised just how this unique site needed to be considered in relation to it surrounding landscape. Despite having not visited Australia, prior to making his competition submission, but on the basis of photographs and his reading of topographic maps of the harbour, Utzon could appreciate the particular morphology of the Sydney harbour basin, with its distinctive headlands, and in a
manner akin to Aalto’s notions of architecture as built landscape, sought to emulate that characteristic landform, as the podium of the Sydney Opera House [fig. 2].

In particular reference to Utzon, Giedion talks of “an emphasis upon the architectural use of the horizontal planes and different levels. More forceful use of artificial platforms as urbanistic elements”\(^5\) The use of platforms and plateaus, was a distinctive and recurring theme in much of Utzon’s architecture. During his travels in Mexico in 1949, his experience of the Pre-Columbian, temple ruins he visited in Monte Albán, Uxmal and Chichen Itza, with their great stone platforms, that one ascended to by means of monumental stairs, made a lasting impression upon Utzon; inspiring, as emphasised by Giedion\(^6\), what was to become a defining element subsequently, particularly in Utzon’s civic projects.

Giedion attributed other particular characteristic approaches of Utzon, to all of the new Third Generation, suggesting they had “A stronger relation to the past; not expressed in forms, but in the sense of an inner relationship and a desire for continuity”\(^7\). Utzon and other Nordic architects, that followed Aalto, stood apart from the mainstream of modern architecture and the conformity to the rigid functionalism of the International Style, that Giedion in promoting Utzon, was actively railing against. As Colin St John Wilson has later proposed, Aalto was the pioneer of what he defines as “the other tradition of modern architecture”\(^8\). A more humane, poetic modern architecture that is informed and moderated by a continuing appreciation of vernacular tradition, materiality and nature, that Utzon continued and developed further.

Furthermore, Giedion also credited Utzon with “further strengthening of sculptural tendencies in architecture. A freer relationship between the inner and outer space and between volumes in space”\(^9\). While, in the fraught course of actually being able to construct the roof shells of the Sydney Opera House, Utzon moved away from the more expressively sculptural parabolic forms of the competition submission and resolved the construction by means of more simple, spherical geometry [fig. 3]. In the process, through this abstraction of the forms, further strengthening and ensuring the tectonic integrity and enduring iconic status of the building\(^10\).

Unfortunately, Utzon was not permitted to bring the same degree of resolution to the interiors, where he had proposed a complete break with the prevailing dogma of the time, that the inner form should conform to the outer form of the building. Utzon’s intentions, as Giedion appreciated, broke with this principle and proposed that the halls, should be articulated as independent structures within the interior and faceted according to acoustic principles, in sharp contrast to the smooth surfaces of the roof shells. Utzon, as so often, explaining his solution by means of an analogy in nature; comparing his design proposals to the exterior and interior character of a walnut\(^11\).
While Giedion did not address Utzon's underlying consideration of light, as an intrinsic quality of his architecture, as will be discussed in more depth later, Giedion did identify many of the most salient themes in Utzon's work and his insights have underpinned subsequent critical discussion of Utzon since, by others. Christian Norberg-Schulz, a student of Giedion and a personal friend of Utzon, expanded further upon Giedion's understanding of place in relation to Utzon, in his seminal publication *Genius Loci: Towards a Phenomenology of Architecture* (1979), and continued to expand upon a phenomenological understanding of architecture, with reference to Utzon, in subsequent writings.

While, Kenneth Frampton has promoted an understanding of the significance of Utzon’s work as being exemplary within the context of critical regionalism and more recently in terms of a tectonic approach to architecture. However, little has been written about how the poetic narratives of Utzon's architecture, his focus on tectonic integrity and authentic materiality is complemented by his profound appreciation of how these aspects of his architecture, are so effectively brought to life by the careful interplay of light.

Perhaps in part due to his own sensitivity to strong direct sunlight, but also most significantly through the influence of Alvar Aalto, there is within Utzon's architecture, a strongly recurring motif of bringing light indirectly into his buildings through deep apertures and most distinctly from above, by means of well-articulated skylights and reflective structural elements. In Utzon's own home on Mallorca, Can Lis, the actual thickness of the sandstone walls, is further accentuated in the window bays by means of angled deep reveals, that serve to dramatically frame the Rothko-like views of the Mediterranean and sky, beyond the cliff edge on which the house is perched [fig. 4]. The abstract quality of the views being enhanced by the absence of window frames, that are applied externally, in a manner inspired by the work of the Swedish architect Sigurd Lewerentz, who like Utzon had also such a poetic sense of materiality and light 12.

The interplay of light and sculptural form

Similarly, to Aalto, Utzon examined skylights in many projects as a method of allowing diffused, natural light to enter the interior. This can be regarded as a reference to the aforementioned continuity in relation to the past, although not specifically addressed by Giedion, when interpreted in the light – literally – of

12 Carter, “The Utzon Paradigm”, 121.
Utzon's respect for the first generation modernists in general, and his interest in North African and Middle Eastern architecture in particular. And naturally light is what brings life to the sculptural tendencies, which Giedion lists as one of the trends among the Third Generation architects. Of Utzon's built projects, The Melli Bank Tehran University Branch building (1958-60) exemplifies this approach, among many, while also intensifying the sculptural features of the bank hall ceiling, in terms of both tectonic and poetic expression.
On the dense urban site of the Melli Bank, a logical solution was to provide illumination from above, but it also is reminiscent of the bazaars and mosques Utzon visited in Iran and was particularly inspired by in Isfahan [fig. 5]. One approaches it from an entry plaza and a platform on a monumental staircase, which Utzon created by a setback from the façade line of the neighbouring buildings and separated from the busy street by a row of trees [fig. 6]. (The monumentality of the staircase has now been compromised by a ramp, but the trees are still there, though grown so big that it is hard to see the building.) The first spatial sequence inside is compressed under the two administrative floors above the entry, after which the three-story high banking hall on a four steps lower level opens as a dramatic contrast. The skylights between several parallel, post-tensioned concrete beams create an almost rhythmical pulse of musical notations in the high ceiling – or the Bank’s name in the flow of its Arabic script, as Weston among others has suggested – crossing the 20 metres free span of the bank hall between the flank walls on both sides, clad with lines of travertine [fig. 7]. These walls protrude to the sidewalk and include the “servant spaces”, to use Kahn’s terminology, such as offices and other utilitarian rooms.

According to Weston, “Utzon designed the hall as a ‘landscape’ of desks and small cubicles, inspired by the interview spaces of Aalto’s Pensions Institute”14. He continues pointing out that the play of shade and light was, of course, not new, referring to Frank Lloyd Wright’s Johnson Wax Building besides Aalto’s art gallery project in Baghdad, but also states that “the top-lighting was inspired by the Isfahan bazaar”, while the light enters “through narrow slits of glazing between the beams and then […] reflected off the deep V-shaped throughs […] like ‘light through clouds’”, as the project architect Munk Hansen recalled Utzon’s concept15 [fig. 8].

The influence of Islamic architecture with repetitive units illuminated from above is even more clearly apparent in Utzon’s competition entry for the Farum Town Centre in 1966 with his trademark additive architecture and skylights in the vault-covered mall. Weston, who states that “The Islamic inspiration in Farum is almost too obvious to need comment”, nevertheless emphasises that Utzon used the word bazaar in his descriptions of the design16. Likewise, in Utzon’s Kuwait National Assembly (1971-84), the skylights are in a significant role, in addition to the tectonics of the thin, almost fabric-like, post-tensioned concrete shells, which are reminiscent of the Arab Bedouin tents [fig. 9].

14 Weston, Utzon – Inspiration Vision Architecture, 225.
16 Weston, Utzon – Inspiration Vision Architecture, 255.
In the Utzon Logbook IV, Utzon is quoted as saying that “All departments of the building (offices, meeting rooms, library, Assembly hall, etc.) are arranged along a central street, similar to a central street in an Arab bazaar”17 with which he was now familiar after his first trip to Morocco in 1948, when Utzon lived in the desert nomads’ tents18, and then to Iran in connection to the Melli Bank project, among his many trips in the Middle East. As for the skylights of the Kuwait National Assembly, Utzon refers to shade rather to light, by stating that “The dangerously strong sunshine in Kuwait makes it necessary to protect oneself be seeking refuge in the shade” and also points out that the covered square “connects the building complex with the site completely and creates a feeling that the building is an inseparable part of the landscape”19, which corresponds to Giedion’s description of the interplay of architecture and environment [fig. 10].

At the time Utzon was designing the Kuwait National Assembly and his own house Can Lis in Mallorca, Spain, he also worked as a visiting professor at the University of Hawaii at Manoa, School of Architecture, from 1971 till 1975 in a few separate shifts. This less-known period of Utzon’s life and his somewhat surprising choice of setting has several accounts. When we interviewed Utzon’s former colleagues and students in Honolulu, Professor Leighton Liu stated that “he came to Hawaii partly to ‘hide out’ and heal the wounds he suffered in Australia, as he was a kindly gentleman who had no stomach for politics (or fame for that matter)”20. Philip Drew expresses similar stance by the sub-heading ‘Laying Low’ in his biography The Masterpiece: Jørn Utzon – A secret Life (1999), with regard to having time to relax, contemplate his career, and overcome the oil crisis that followed the Arab-Israeli war in October 197321, which resulted in the lack of architectural commissions in Europe, but not in places like Kuwait. Architect John Hara, in his part, pointed out that Utzon “was optimistic about being invited back to Sydney”22, which reflects a common view among those who knew Utzon in Hawaii. Besides the relative proximity between Sydney and Honolulu, Utzon was familiar with Hawaii, since he and the family often had stop-overs there when commuting between Denmark and Australia23. In addition, a former classmate at the Royal Danish Academy of Arts, Peer Abben, had moved to Honolulu to open his architectural practice there; he and Utzon even designed a few projects together in the early 1970s, such as the Kama’aina Apartments.

Of all the interviewed Utzon’s former students in Hawaii, Kelvin Otaguro, who worked for Abben after graduation, turned out to be a real treasury of information.

18 Hans Munk Hansen, “The Place is the Partner”, in Jørn Utzon Logbook IV/ Kuwait National Assembly, Torsten Bløndal, Børge Nissen and Jørn Utzon, eds. (Hellerup, Denmark: Bløndal, 2008), 18.
20 Interview of and email from Leighton Liu on 15th October 2013. When working on their Utzon biographies, Drew and Weston also interviewed Professor Liu who shared an office with Utzon at the UHM School of Architecture, though Weston incorrectly calls him Laurence Liu. Weston, Utzon – Inspiration Vision Architecture, 421. In addition, it is worth noting that Drew calls the Dean who hired Utzon as Bruce Heatherington. Philip Drew, The Masterpiece. Jørn Utzon. A Secret Life (South Yarra, Victoria, Australia: Hardie Grant Books, 1999), 420. The Dean of the UHM School of Architecture at that time was Bruce Etherington.
22 Interview of John Hara on 15th February 2014.
23 Email from Jan Utzon on 21st January 2014.
Not only did he have many anecdotes of his famous teacher, but he had also saved magazines, photographs and drawings from those days. “Utzon didn’t talk much about his own projects”, said Otaguro and continued that “I do remember, though, that one day he was explaining skylights and made a sketch of a building he had designed”\textsuperscript{24}. Sure enough, Otaguro found the sketch, which clearly is a section drawing of the Melli Bank in Tehran.

Another connection between Hawaii and Utzon’s architecture is the Bagsværd Church in Denmark (1974-76), which also is a superb example of his role as a representative of Third Modernism in terms of regionalist, yet transcultural and tectonic, applications [fig. 11]. Over the years, there have been various interpretations of the sources of inspiration for the undulating ceiling of the church and its sculptural treatment enhanced by a skylight. In an early article on critical regionalism, Frampton, referring to Utzon’s seminal essay ‘Platforms and Plateaus’ (1960), states that “the only precedent for such form, in a sacred context, is Eastern rather than Western – namely the Chinese pagoda roof”\textsuperscript{25} (although Utzon does not use the word ‘pagoda’ in this essay and the sketch features a one-storey hall with double eaves), or Norbert-Schultz’s reference to “the curved vault which recalls the clouds of the Danish sky”\textsuperscript{26}, followed by Frampton’s assessment that the ceiling is “Reminiscent of a pagoda but tectonically removed from traditional Chinese roof construction”\textsuperscript{27}, among many.

\begin{figure}[h]
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\caption[Jørn Utzon’s Bagsværd Church]{Jørn Utzon. Bagsværd Church, 1974-76. Source: Adrian Carter.}
\end{figure}
other interpretations. In addition to acoustic studies on the ceiling, it also has been interpreted from the perspective of Islamic inscriptions. However, at the University of Hawaii it had been an ‘oral lore’ that the source of inspiration for Utzon was a beach on the windward side of the island of Oahu, which was, indeed at first referred to by Drew in 1999 and by Weston in 2001, who refers to the recurring concept of light reflecting through clouds, mentioned previously in the context of the Melli Bank. This was confirmed by Utzon himself in an interview with Torsten Bløndal in 2004 by explaining that the beach’s “natural space that gives a profound spiritual peace […] has been turned into the body of the church, though there are also a number of other rooms, and together they form a complex that can be compared to a monastery”\(^\text{28}\). The shore in question is the Lanikai Beach next to the house the Utzon family rented (and later lived in another address nearby)\(^\text{29}\) in the north-eastern Oahu [fig. 12]. The now well-known two sketches by Utzon represent the same: one illustrating the clouds brought to the Hawaiian Islands by the regular trade winds, and the other of the ceiling vaults above the congregational hall of the Bagsværd Church.


\(^{29}\) Email from Jan Utzon on 21st January 2014.
While Giedion does not explicitly discuss the significance of light in Utzon’s architecture, one can certainly see that it plays an essential role in underpinning and articulating a number of defining principles, that he had identified as being key to the Third Generation, as exemplified by Utzon. That is with regard: “Greater carefulness in handling the existing situation, so that, an interplay can arise between architecture and environment, each intensifying the other” though perhaps more notably in terms of “further strengthening of sculptural tendencies in architecture” as Louis Kahn remarked about the Sydney Opera House “The sun did not know how beautiful its light was until it was reflected of this building”\textsuperscript{30}. That sentiment could be equally expressed about the qualities of light within Utzon’s architecture, whether it is the fleeting, almost sacred ray of light that enters from a small opening high up in the living room of Can Lis, on Mallorca; marking the passage of time and briefly illuminating the rough-hewn surfaces of the sandstone interior; the soft ever changing chiaroscuro of the cloud-like concrete ceiling fold of Bagsværd Church or the distinctive bands of light and shadow of the Melli Bank, and finally with the distinctive skylights, that are the defining features of his last built work, the Utzon Center on the harbourfront of Aalborg [fig. 13]. Then there are the projects that never saw the actual light of day, such as the visionary proposal for a semi-subterranean art museum in Silkeborg, Denmark [fig. 14].

Intended to display Asger Jorn’s own art and collection of COBRA works, in cavernous, crocus bulb-like interiors, that would have been dramatically lit from above, like the Buddha figures of the Yungang caves near Datong in China, that had so inspired Utzon on his visit there [fig. 15]. Had Utzon been able to realise this and other works, he would certainly have confirmed Giedion’s recognition of him earlier and been more widely appreciated, as a defining light in 20th Century architecture and beyond.

Bibliography


