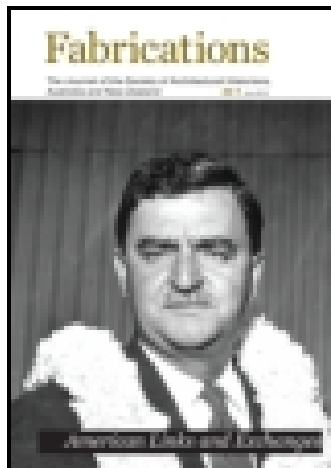


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# Embedded Emancipation: the field of Utzon's platforms

Michael Asgaard Andersen

One of the most significant aspects of Jørn Utzon's architecture was his work with platforms. Throughout his career, they were explored and employed in his projects, creating new architectural expressions and meanings. They played a key role in the design and construction process, from the initial sketch to the finalised building. The platforms were also critical in his establishment of places, as they related to site, construction, program, and social interaction. While previous scholarship has focused on the earthbound characteristics of Utzon's platforms, it is argued here that they are equally liberated from that. Paradoxically, it is the intimate set of relations to the surroundings, which allow the platforms to free themselves.

Central to this argument are Utzon's essay 'Platforms and Plateaus: Ideas of A Danish Architect' (1962) and the Sydney Opera House platform (1959-63). Alongside other projects and writings, they revealed the tensions and diversity in his work with platforms. The complexity of Utzon's platforms is also considered in relation to ancient building cultures, most importantly the pre-Hispanics in Mexico, as well as twentieth century architects and theorists, such as Hans Sedlmayr.

The connection between platform and site in the unrealised projects for Elviria Development (1960) and Zurich Theatre (1963) unfold two distinct notions of continuity. The sites of the two projects were very different. The Elviria Development was on Costa del Sol in Spain, situated on a south facing slope dominated by promontories and steep ravines towards the Mediterranean Sea. In sharp contrast was the urban site of the Zurich Theatre in Switzerland, which was surrounded by dense traffic and buildings from various historic periods. The programs for these were equally dissimilar, but they demonstrated how Utzon related the platforms to the surrounding sites.

In the Elviria Development, multiple platforms were situated with close attention to the natural formations of the landscape. As in ancient Greek precedents, outcrops were levelled or built up to large plateaus for the buildings, and a narrow valley was made into an amphitheatre. On the project drawings, the bases of the buildings were visually inseparable from the plateau and the landscape. Thus, the two kinds of platform in the project, levelled plateau and building bases, both read as earth forms, which with the landscape created a seemingly unbroken continuity between building and surrounding site.

The Zurich Theatre had one platform with levels at different heights. The lowest level was delineated from the surroundings by a few steps and additional levels further provided for entrances to the interior and the auditorium. The platform thus established a terrain of altering heights that connected the programmatic parts with each other. Visually the interior spaces were partially separated from the exterior by bands of double walls with secondary functions in between. Not unlike the urban fabric outside, the walls set up sequences of spaces with varying degrees of enclosure and openness. Together, the stepped platform and the walls made a gradual spatial transition from the urban environment to the inner auditorium.

Comparing the sites of Elviria Development and Zurich Theatre is not to suggest a distinct division between landscape and city, or even nature and man-made,<sup>1</sup> as both sites were shaped by both human and natural forces. In the two projects, an articulation of continuity between platform and site presupposed a differentiation of them. The platforms were separated from the site by means of sectional change, hence demarcating a border. The connection of platform and site was re-established in the Elviria Development by formal similarity and in the Zurich Theatre by spatial sequencing. Utzon worked constantly with some kind of terrestrial continuity and, if not by formal or spatial means, it was often by using the site material in the platforms.

### Essay on platforms

In 1962 Utzon published his most comprehensive and well-known essay in *Zodiac*, entitled 'Platforms and Plateaus: Ideas of A Danish Architect'. An often overlooked precursor for the essay was Utzon's brief article 'About the Stockholm University', where he wrote:

On the occasion of the competition for the Stockholm University, I am hereby publishing my proposal from 1959 for a World Exhibition in Copenhagen. I do this to avoid misunderstandings and because I need peace to work on the continuous development of my 'plateau'-projects, which has been achieved through hard and difficult work as well as through the experiences on my journeys, some of which were to Mexico, India, and China.<sup>2</sup>

The competition for the university was won by Danish architect Henning Larsen, who had worked briefly in Utzon's office some years earlier. In the article, Utzon suggested to Larsen that he "acknowledge his university project's dependence on my projects... [as] he and his staff has received a detailed account of my plateaus on their visit to my studio".<sup>3</sup> Utzon evidently felt that he had been plagiarised and republished the Copenhagen World Exhibition alongside the article to prove it.<sup>4</sup> On the facing page of Utzon's article, Larsen made a brief response where he acknowledged the inspiration from Utzon, but pointed out that there were many other contemporaneous architects working with the same ideas. He also made references to earlier monumental projects by Frank Lloyd Wright, Le Corbusier, Oscar Niemeyer, and Alvar Aalto, which Utzon would have felt equally indebted to.<sup>5</sup>

The essay published by Utzon in *Zodiac* could be considered as an equal attempt to manifest his thoughts on platforms and plateaus, this time in an international forum. The essay is central in understanding Utzon's notions of platforms, as his

interpretations of ancient buildings point directly to his own projects. In the essay, ancient precedents from all around the world were included, with the Acropolis mentioned in passing as the only European example. Most attention was given to the pre-Hispanic platforms of Mexico, but Indian, Chinese, and Japanese examples were also discussed. Utzon had visited the Asian countries, in part with Norwegian architect Geir Grung, on his way to and from Australia after winning the Sydney Opera House competition. Writing about them, Utzon praised the Jama Masjid Mosque in Delhi for its ability to create a pause and dislocation in the chaotic life of the city,<sup>6</sup> while Chinese buildings were admired for the solidity of the platform. The Japanese house presented a counter-example to the other earthbound structures with its suspended platform.

The examples demonstrated two distinct kinds of platforms with inhabitable surfaces, one that was on the terrain and another that was above it.<sup>7</sup> Utzon used both in his work, the latter in projects like Jeddah Stadium (1967) and Hammershus Pavilion (1969). Some projects had both kinds, although rarely at the same level, like Langelinie Pavilion (1953) where a platform on the ground anchored a vertical core from which other platforms were suspended. With the two kinds at different levels, each platform was either on or above the ground, sustaining a consistent relationship between building and terrain throughout. When the platforms were used at the same level a more complex set of terrestrial relations occurred. This was the case in the visionary project for the Copenhagen World Exhibition, where the platform of the auditorium was both at and above the ground. The same project established intriguing spatial interplays in the transitions between ground, slabs and roofs. The interplay challenged the conventional notion of platforms as being of either one or the other kind.

### Pre-Hispanic precedents

Utzon's essay contained a thorough discussion of the pre-Hispanic platforms in Mexico that he had visited in 1949,<sup>8</sup> focusing on the tensions between architecture and landscape. Platforms in two kinds of landscape settings were examined: the flat lowland of the Yucatan peninsula and the mountains of Oaxaca. In the former, platforms were built up above the ground, while at Monte Albán the top of the mountain was carved away. Despite the differences of Mayan and Zapotec building cultures, Utzon believed the use and experience of platforms had much in common. Regarding the location he stated that "the platforms in Mexico were positioned and formed with great sensibility to the natural surroundings", and on them the "feeling under your feet is the same as the firmness you experience when standing on a large rock".<sup>9</sup> He experienced, in other words, a strong awareness of the landscape and the hard tactile qualities of the platforms. The construction of platforms, either by adding or subtracting, created new solid grounds.

Parallels in Utzon's work may also be found in other pre-Hispanic platforms in Mexico. The landscape in Palenque, which geographically lies between Oaxaca and the sites of Uxmal and Chichén Itzá, was characterised by the rise of the first mountains above the lowland. The site was not unlike the setting of Elviria in Spain, and the organisation of the platforms in the two projects also related to

one another. The pre-Hispanic platforms had two primary kinds of spaces inside of them. One kind was the burial chamber within the platforms, which was found in both communal buildings and individual villas. The other was the interstitial space between the layers of the pyramidal platforms, which was a result of the recurrent construction of new buildings on top of the existing ones. However, none of them were spaces for habitation. The pre-Hispanic platforms remain a source of reference for Utzon until the present day, made evident in his recent design for a loggia on the west façade of the Sydney Opera House platform.<sup>10</sup>

Further on in his essay, Utzon argued that a “human regulation or adaptation of the site has resulted in something even stronger than nature and has given it spiritual content”.<sup>11</sup> The common word for ‘spiritual’ in his native language is *åndelig*, which has both an intellectual and religious connotation, the former being related to thinking and analysis.<sup>12</sup> Given his great interest in nature and lack of concern for religion, it was unlikely that the quote implied an attempt to dominate or even sanctify the landscape. Rather it demonstrated a belief in the ability of the platforms to radically alter one’s perception of the surrounding site, which physically remained unchanged.

All the statements above point toward the interrelations Utzon ascribed to platform and landscape, giving presence and meaning to them both. In the concluding notes on the pre-Hispanic buildings, new dimensions to the potentials of the platform were added. Utzon explained how the platform at “the mountain top has been converted into a completely independent thing floating in the air, separated from the earth” (Fig 1), and with the raised platform how “the jungle roof had been converted into a great open plain ... and [the inhabitants] supplied their visual life with a greatness”<sup>13</sup> (Fig 2). Despite the significant differences of the two configurations described, a similar experience of separation emerged. In the latter, the crown of the vegetation that used to be the top of the land was inverted into the button as a new plane, becoming the vantage of the view. This was at odds with his previous discussions of the platform as being continuous with the ground, since the view presupposes a division between the two.



Figure 1: Pre-Hispanic platform at Monte Albán, Mexico.

Source: Michael Asgaard Andersen (reproduced with permission).



Figure 2: Pre-Hispanic platform (Group of the Thousand Columns and Temple of the Warriors) at Chichén Itzá, Mexico.

Source: Michael Asgaard Andersen (reproduced with permission).

The references in Utzon's projects and writings to both geographically and temporally distant cultures made them transcend their immediate context. The disconnection from the surroundings may seem contradictory to the interdependence argued for earlier, but it was precisely the anchoring of the platform into the ground that permitted a simultaneous experience of liberation. Thus, the pre-Hispanic platforms Utzon discussed had the potential for an evocative sensation of freeing, which was paralleled in his own work.

At the end of the essay, Utzon presented some of his own projects. In reference to the Sydney Opera House and the Danish Confederation of Trade Unions School (*LO Højskolen*), the word 'plateau' was applied for the first and only time in the essay. Even though platform was used to describe his own projects as well, plateau distinguished them from ancient precedents and indicated a different and current notion. Utzon argued for a contemporary use of platforms for the following reasons: separating functions, resolving traffic, obtaining restful squares, making undisturbed compositions, and creating contrast to roofs. They show a principal concern for spatial usage and architectural composition. The habitation of the platforms' interior was another important aspect, although only mentioned indirectly. The projects, which followed the essay, unfold these and other aspects of his platforms further.<sup>14</sup>

### Building platforms

The platform (competition design 1956, built 1959-63) of the Sydney Opera House was one of the few large-scale platforms that Utzon ever realised (Fig 3). The construction of its foundations and concourse level offered a unique insight into the properties and tensions of it. The platform was built on bedrocks of sandstone just a few feet below grade.<sup>15</sup> It followed to a large extent the constructed outline of the peninsula, which existed at the time of the competition, but nevertheless needed substantial reinforcement. Hundreds of piers, each with a diameter of three feet, established the foundation for the platform.<sup>16</sup> Surrounded by water on three sides, additional walls sustained the lateral forces. A boardwalk ran along the perimeter walls at one continuous level all the way around and created an intimate dialogue with the surrounding sea. Rising incrementally from this level was the remaining part of the platform that contained interior spaces, thus making the platform as a whole both enclosed and enclosing.



Figure 3: Sydney Opera House, first stage completed (1963).

Source: Government Printing Office Collection, State Library of New South Wales (reproduced with permission).

The horizontal surfaces of the platform were all perfectly level, which was crucial to the experience of their expansiveness. The levelling was achieved by having open joints between the cladding panels and a drainage system below. The prefabricated concrete panels were used on vertical as well as horizontal surfaces and covered up differences within the platform, making it into a unified whole. As a recurrent theme in Utzon's work, the panels utilised an existing ground material by mixing local granite gravel into the concrete. The horizontality and uniform colour of the platform created a stark contrast to the shells, while the perception of it in relation to the sea varied according to the change of light and wind.

The concourse level of the Sydney Opera House formed an important part of the platform and revealed critical tensions between form, structure and construction. In the competition scheme, the concourse level was supported by a centred row of double columns, which were quickly abandoned in the following design development. According to Ove Arup, with whom it was reworked, it was because Utzon's,

concept demanded that the architecture should be expressed through the structure, in fact the structure in this case was the architecture; it should be bold, simple, on an impressive scale and of a form which combined sculptural quality with a clear expression of the forces acting on it.<sup>17</sup>

They aimed at that by spanning across the concourse space in one leap with concrete beams. The middle-scale was thereby downplayed, and the horizontality and grandeur of the platform emphasised.

The motivation for omitting the columns and expressing the beams was formal rather than structural or programmatic. The desire to express the structural forces resulted in beams with a non-extrusive cross section that had several double-curved surfaces. Arup subsequently dismissed the beams as simply having “a somewhat unusual shape, which was determined more by architectural than by structural considerations”.<sup>18</sup> The construction of them was complicated and lengthy, as they were done two at the time in-situ. With a lack of structural integrity and problematic construction method, the synthesis that Utzon otherwise strived for in his work was not accomplished here.

In the design of Sydney Opera House that followed, including the shells and the interior, reactions to the shortcomings encountered in the construction of the platform were evident. There was an increasing use of simple geometric forms, such as circles and spheres and most of it was designed to be prefabricated. Thus a more successful synthesis of structural forces, construction method, and architectural expression was achieved, balancing the various desires and demands.

### Inside and on

Much of Utzon’s architecture has often been discussed as a dual interplay of roof and platform, but they also unite in one system of support, which allow program and events to occur in between. In the relationship of roof, platform and other building parts, it has more generally been argued that “one must distinguish a building’s system of support from its (social) starting point, although both can be described as its basis. ... [The system’s] cooperation in providing support for the social events suggested a mutuality of land and building-form”.<sup>19</sup> With regard to Utzon’s work, program and events transformed the notion and experience of the platforms into something new.

In the competition scheme for the Sydney Opera House, there was program both inside and on the platform. The program was organised with the supporting functions contained within and the public functions on top of it. The platform hence clearly displayed the programmatic separation, until it was decided to have an additional theatre within it, thereby mixing the supporting and public. On the platform, immediately above the concourse, was an outdoor plaza without a predetermined program assigned to it, where events were arranged and improvised. On the other part of the platform was the auditorium seating, which was roofed by inner and outer shells. Accordingly, the related events of the plaza and the auditorium happened on the same surface. That created continuity across the surface, connecting inside and outside. The continuity was hence as much based on programmatic connections, as it was on visual, formal, and material ones.

The Sydney Opera House platform did not only sustain flows between inside and outside, but also beyond its boundaries to the surroundings. The flows resisted the fixed conditions of the platform. Changes in natural light, wind (causing

varying water surfaces), and inhabitation altered the experience of the platform significantly over short time spans. These changes let the platform blend in or stand out from the surroundings. Oscillating between these appearances, the platform was repeatedly seen in its recurrence or withdrawal.

The same year Utzon won the Sydney Opera House competition, Hans Sedlmayr published a book, in which he discussed buildings relation to the ground. Projects with a spherical geometry from the turn of the century were characterised as literally “drawing the very art of building itself away from the earth”.<sup>20</sup> Alongside a return to basic geometric forms and an increased spatial interchange between indoor and outdoor, this led, in his view, to the emergence of the platform as an architectural element in the first decades of the twentieth century.

Utzon largely drew on this tradition, and particularly the work of Frank Lloyd Wright, to who Sedlmayr also referred, and Ludwig Mies van der Rohe.<sup>21</sup> A central aspect to the work of both Wright and van der Rohe was the relation of building and site. While Wright often used the platform to anchor the building into the site, van der Rohe primarily used it to separate them from one another. As the discussions above suggest, Utzon's platforms incorporated both of these contrary notions. Besides horizontal orientation and spatial interchange, geometry was important to Sedlmayr in his argument. That also found a parallel in Utzon's work, particularly in the Sydney Opera House, where it became a key issue in realising the shells. The dramatic rise of the shells ‘away from the earth’ made a powerful counterpoint to the platform, which enabled it. As in his other projects, Utzon held simultaneously on to both the earthbound and the suspended aspects. Thus, the projects were both a reaction to, and a development of the notions Sedlmayr discussed.

In his work with platforms, Utzon evidently dealt with a wide range of architectural challenges. As the analyses above show, he continuously experimented and investigated them in his projects. His explorations of them addressed many key concerns of the time and brought them into a new architectural realm. One aspect that pervaded his platforms was the tension of belonging to and detaching from the context. It was played out throughout his projects and writings in multiple ways, such as in the separated and continuous ground, anchored and liberated sensation, and recurrent and withdrawn appearance. A strong sense of the communal was also central to the tension, as it penetrated the programmatic organisation, social interaction and inter-subjective experience. All these multifaceted and often paradoxical aspects were synthesised in Utzon's platforms, creating places where embedded emancipation emerged.

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## Notes

- <sup>1</sup> The division of man-made and nature was central in Christian Norberg-Schulz's writings on Utzon. See Norberg-Schulz, *Utzon og Den Nye Tradition*, Copenhagen: The Danish Architectural Press, 2004 (posthumous).
- <sup>2</sup> Jørn Utzon, 'Om Stockholm-universitetet', *Arkitekten*, 15 (1961): 290. Translated from Danish.
- <sup>3</sup> Utzon, 'Om Stockholm-universitetet', p 290.
- <sup>4</sup> The project had already appeared once in *Arkitekten*, 4 (1960): 55.
- <sup>5</sup> Henning Larsen, 'Svar fra Henning Larsen', *Arkitekten*, 15 (1961): 291.
- <sup>6</sup> Referred to as "The big mosque in Old Delhi" in Jørn Utzon, 'Platforms and Plateaus: Ideas of A Danish Architect', *Zodiac*, 10 (1962): 115.
- <sup>7</sup> A generic classification of platforms in Marcel Breuer, *Sun and Shadow*, New York: Dodd, Mead & Co, 1955, pp 40-41.
- <sup>8</sup> The essay discussed Uxmal, Chichén Itzá and Monte Albán.
- <sup>9</sup> Utzon, 'Platforms and Plateaus', p 114.
- <sup>10</sup> Utzon referred to Chichén Itzá's Group of the Thousand Columns and Temple of the Warriors in conversation with Richard Johnson about the loggia. Video shown at *The First International Utzon Symposium. Nature, Vision and Place*, Aalborg University, 2003.
- <sup>11</sup> Utzon, 'Platforms and Plateaus', p 116.
- <sup>12</sup> Bolette Rud Pallesen & Christian Becker-Christensen (eds), *Politikens Nudansk Leksikon*, Copenhagen: Politikens Forlag, 2002, CD version 1.0.
- <sup>13</sup> Utzon, 'Platforms and Plateaus', pp 114-16.
- <sup>14</sup> The projects were the Sydney Opera House, Elviria Development, Copenhagen World Exhibition, Danish Confederation of Trade Unions School (1<sup>st</sup> and 3<sup>rd</sup> prize projects), Platform-Courtyard House, Shopping Centre and Hand-Finger Airport.
- <sup>15</sup> John Carter, 'Sydney Opera House Progress Report 1', *Architect's Journal*, (23 February 1961): 284.
- <sup>16</sup> Carter, 'Sydney Opera House Progress Report 1', p 287.
- <sup>17</sup> Ove Arup & R S Jenkins, 'The evolution and design of the Concourse at the Sydney Opera House', *Proceedings. Institute of Civil Engineers*, (1968): 541.
- <sup>18</sup> Arup & Jenkins, 'The evolution and design of the Concourse at the Sydney Opera House', p 541.
- <sup>19</sup> Interpretation of Gottfried Semper's argument, in David Leatherbarrow, *Topographical Stories. Studies in Landscape and Architecture*, Philadelphia: University of Pennsylvania Press, 2004, p 20.
- <sup>20</sup> Hans Sedlmayr, *Art in Crisis*, London: Hollis & Carter, 1957, p 106.

<sup>21</sup> Utzon visited them both and saw their buildings in 1949.