

Richard Weston

Authors' addresses
The Welsh School of Architecture
Cardiff University
Bute Building
King Edward VII Avenue
Cardiff CF1 3NB
United Kingdom

Influence without anxiety: Jørn Utzon, Silkeborg Museum and Le Corbusier

Although hailed by Sigfried Giedion as the leader of the Third Generation of modern architects, Jørn Utzon has generally been interpreted as a Nordic regionalist, in succession to Asplund and Aalto. Drawing on both familiar and unpublished material, taken from a monograph to be published by Edition Bløndal later this year, the paper explores striking, but previously neglected or ignored parallels between the work of Utzon and Le Corbusier. A comprehensive assessment of Utzon's work is long overdue, and should situate him in the mainstream of international modern architecture.

Jørn Utzon celebrated winning the Sydney Opera House Competition by buying a tapestry. Later, with fees from Australia coming in, he acquired another, much larger one by the same artist. Seated on Aalto chairs, he dined in his Wright-inspired house at Hellebaek in north Zealand framed by these precious works: they were by Le Corbusier, whom he later met in Paris to discuss a commission for decorative works to enrich the Opera House interior.'

Few architects' domestic settings can have been more revealing. Wright's importance for Utzon's early work is often commented on. The Aalto chairs are also unsurprising, for Utzon has been widely seen as heir to the Scandinavian tradition of an organic, 'softened' modernism, a lineage he has in turn affirmed by acknowledging the inspiration of both Aalto, for whom he worked briefly, and of Asplund. But by comparison with the tapestries, the presence of Wright and Aalto in Utzon's milieu was unassertive: much the same, I shall argue, is true of his work. When Utzon wrote to Le Corbusier to invite his participation in Sydney, he said that he had 'long wanted to write to thank him for what he had meant and continued to mean' to him, and after asking about the purchase of the first tapestry added that he found it 'difficult to express how marvellous your works seem to me' (Utzon, 1958).

The correspondence with Le Corbusier continued until 1964, when Utzon completed the design which reveals most directly his debts to the old master – that for Silkeborg Museum. A favourite with Utzon's admirers, this unrealized proposal for an underground museum has generally been seen as *sui*

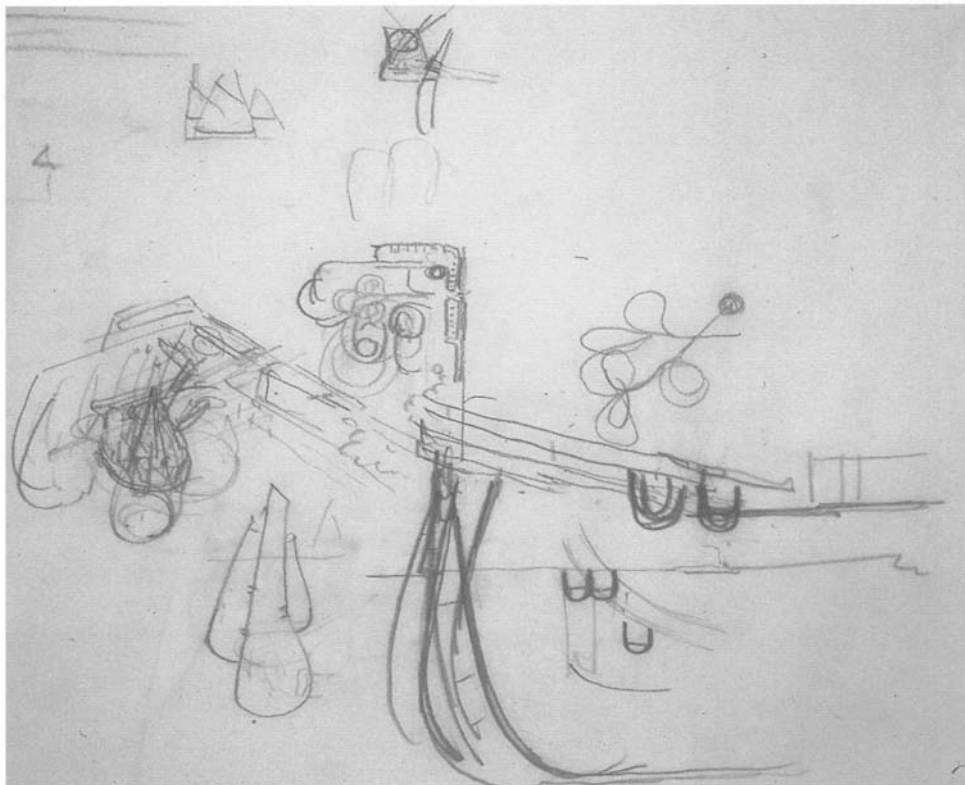
generis, a mysterious, uniquely evocative design without obvious precedent or issue [Figs. 2 and 4]. But like most great architecture, it was an imaginative response to a brief and site, and deeply rooted in the wider culture of its time: following a detailed exploration of Silkeborg, I will offer some more wide-ranging observations about the hitherto largely unremarked interplay between Utzon and Le Corbusier.

Asger Jorn: artist and museum

Silkeborg is a small, unremarkable town in Jutland which was the childhood home of Denmark's leading modern artist, Asger Jorn. Like Picasso, Jorn moved freely between different media – painting, sculpture, ceramics, graphic works, pottery and weaving – and in 1937 had even broadened his experience into architecture by working with Le Corbusier on the *Pavillon des Temps Nouveaux* at the Paris World Fair. An eager propagandist and prolific theorist, Jorn was instrumental in the formation of the radical COBRA group in 1948 (named after the locations of its founders – Copenhagen, Brussels and Amsterdam), and later became a founding member of the Situationist International. At the peak of his career as a painter in the late 1950s Jorn donated a substantial quantity of his own work, as well as his collection of that by other COBRA artists, to the Silkeborg Museum on the understanding that a new wing would be built to house it.

In 1961, Asger Jorn met Utzon by chance while the latter was on holiday near Albisola, where Jorn had a holiday-home. He wrote to the museum director,

facing page
1 Silkeborg Museum:
playful sketch made
in salt on an office
table after the design
was finalized



2

2 Silkeborg Museum: preliminary sketches. Very few of Utzon's early sketches have survived for this or any project

3 Silkeborg Museum courtyard; Utzon's extension was to have been built to the left (east) of the left-hand wing

Peder Nielsen, indicating that he had 'come to the conclusion that it would be contrary to the entire spirit of the collection to announce an architectural competition for the building' (Andersen, 1997). To ease the process, he offered to pay the architect's fees, provided the commission was given to 'the only Danish architect of my day who is of decidedly international outlook ... I cannot see any other Dane at the moment who would be able to create a building that has an intimate relationship to the artistic form of expression represented by the collection'. In due course Utzon's first 'sketch' for the museum arrived: it took the form of a bubble of colour squeezed between two pieces of glass, like a slide for projection in a '60s psychedelic light-show. It was undeniably in the free, creative spirit Jorn espoused, but not overly revealing as to Utzon's intentions.

Asger Jorn heard no more from Utzon and finally, in the summer of 1963, wrote to him again in Sydney to say how important it was that he design the building, and that a sketch scheme was needed quickly to help with fund-raising. The town's Museum is housed in a low Neo-Classical building organized in wings around a courtyard with, to the rear, a lawned garden across which the Museum faces an elevated row of detached houses [Fig. 3]. To one side the site is bordered by a busy road several metres above the lawn, and to the other by a disused railway-line. To ease Utzon's task, Jorn suggested that the best solution on the constricted site would be to have a building which rose 'in a wave of three storeys' to a sufficient height to give views 'across the harbour and some of the river' (Andersen, 1997), and specified that it should be accessible without going through the main building.



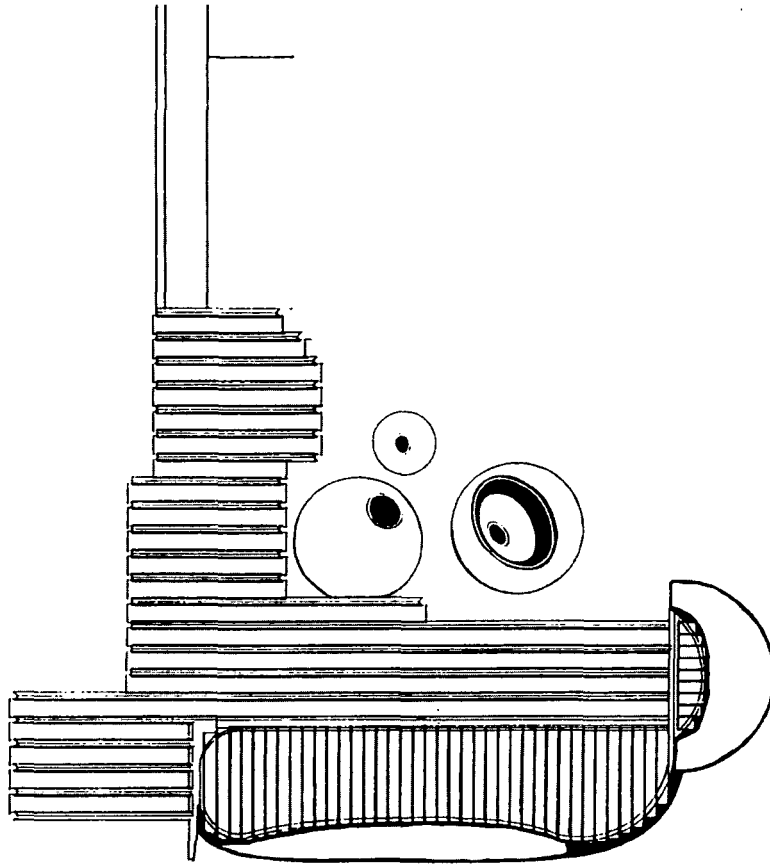
3

To convince Utzon that the project was not wishful thinking, Jorn explained that in Silkeborg he could avoid 'bureaucratic mediocrity' and that it would 'not be possible to freeze us both out of the country' - as international artists, both Jorn and Utzon found the often inward-looking culture of Denmark provincial. Utzon could not resist and replied almost immediately; his proposals arrived on 18 January 1964 and Jorn declared them 'brilliant, fantastic'.

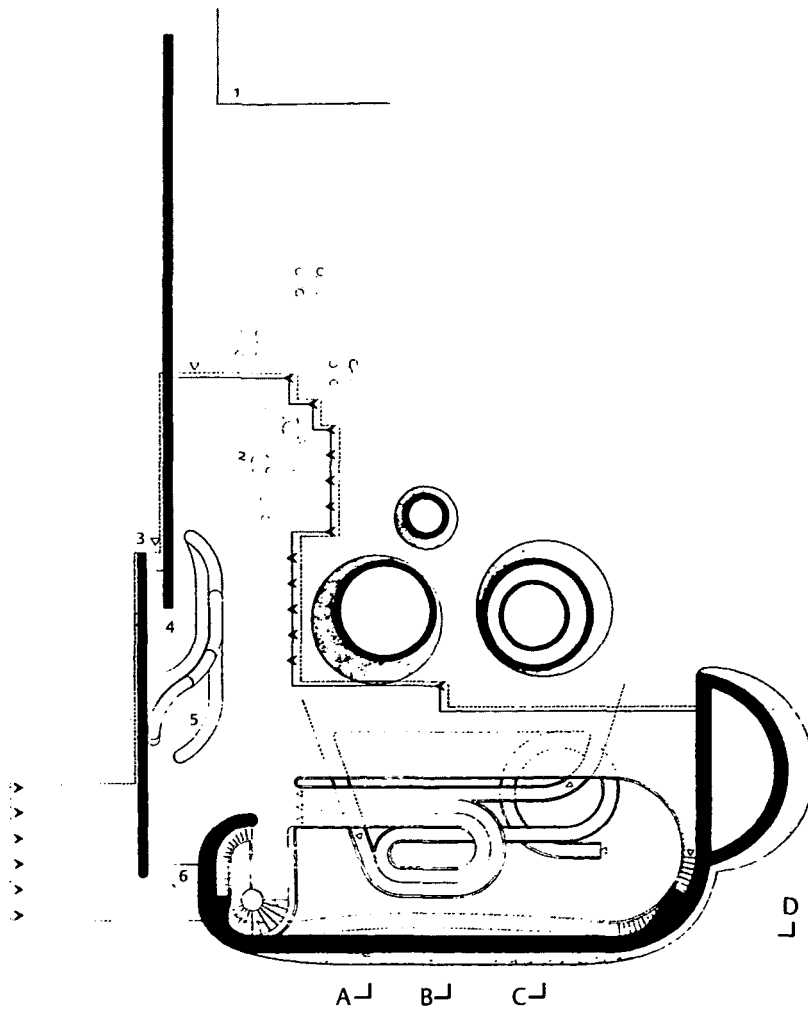
Utzon's underground design

Utzon rejected Jorn's idea of rising to capture the view, explaining that a tall building would be 'like a bull in a china shop' and overpower the garden and museum. Instead, he proposed burying most of the extension three storeys underground [Figs. 4a-j]. As in his own house at Hellebaek, the visitor was to approach facing a long, single-storey blank wall, which links the building to the main museum and breaks to form a staff entrance. The foyer, reception, café and terrace look out over the existing lawn

- 4 Silkeborg Museum –
 see also pp. 110
 and 111
 a Roof plan
 b Ground floor plan
 1 Existing building
 2 Cafeteria
 3 Kitchen entrance
 4 Kitchen
 5 Information
 6 Main entrance

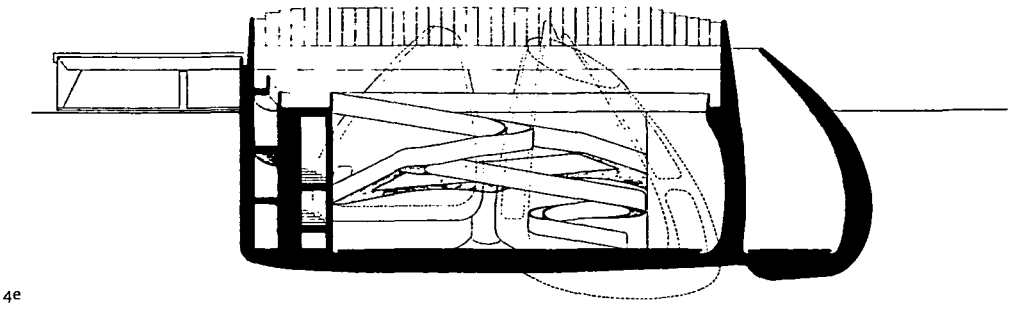
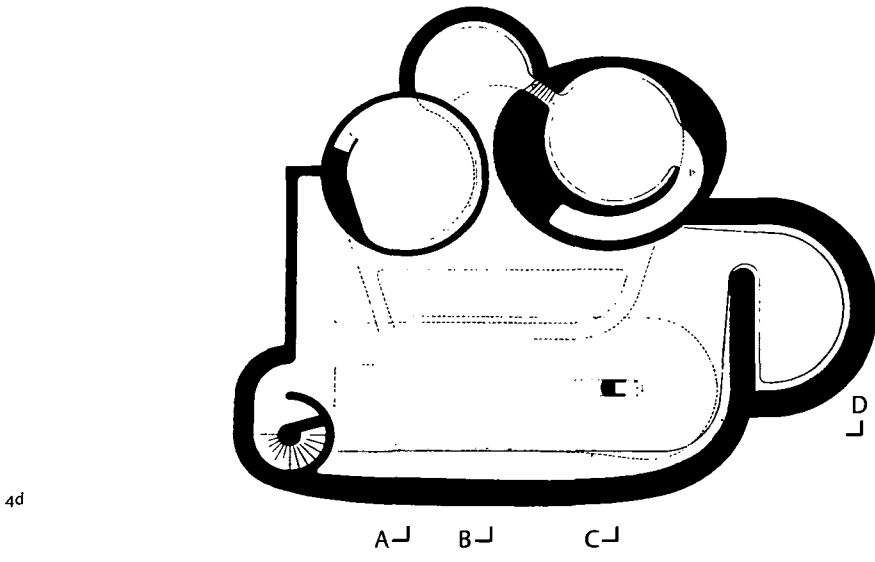
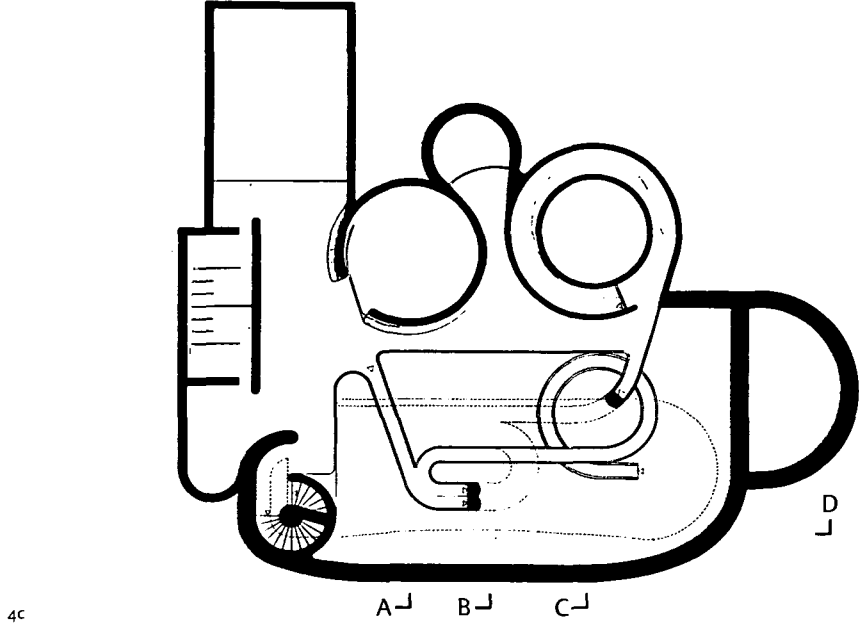


4a

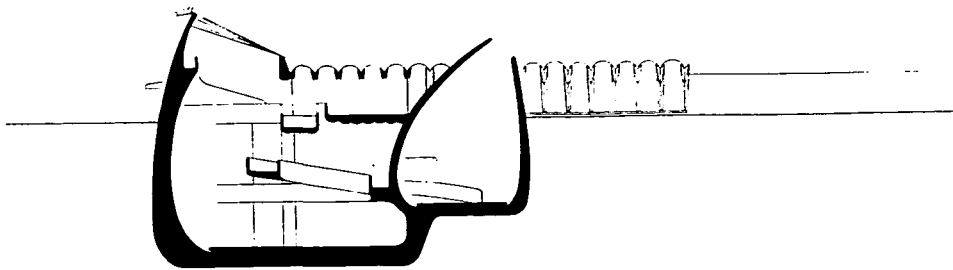


4b

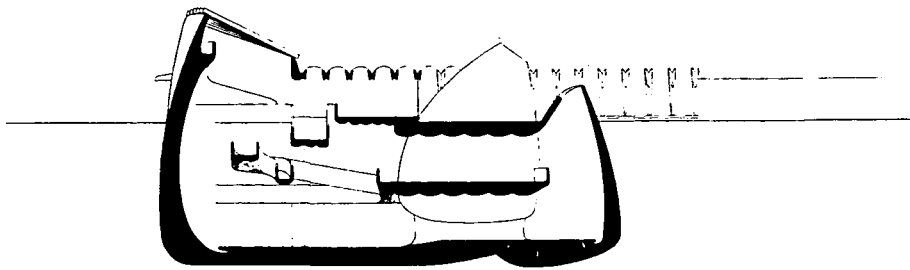
4 c Gallery level plan
d Lower level plan
e Section D



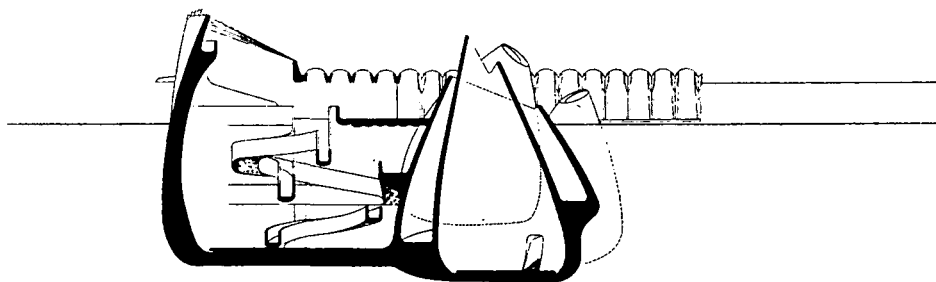
- 4 f Section A
- g Section B
- h Section C
- i East elevation
- j North elevation



4f



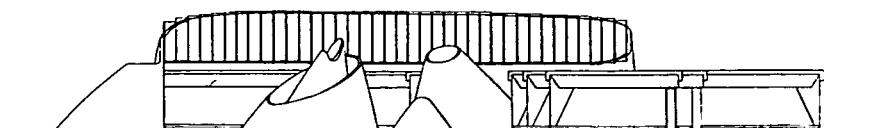
4g



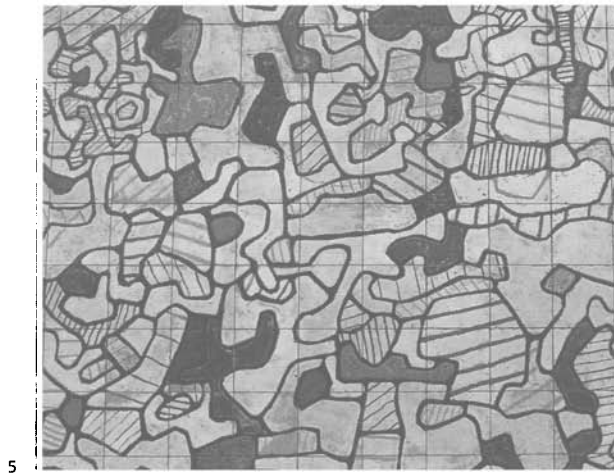
4h



4i



4j



5

5 Ceramic tiles by Asger Jorn, from the Asger Jorn Museum which was ultimately built after the artist's death on a separate site, to an indifferent design by another architect



6

6 Statues of the Buddha in caves at Tatung in China: Utzon visited the site, which was a key inspiration for the design of Silkeborg Museum

through a stepped and staggered glazed screen, made of V-shaped precast concrete columns which support a grid of shallow, barrel-vaulted rooflights; these run over all the ground floor circulation areas and extend to form a generous entrance canopy. The end of the wall by the public entrance is half-round, hinting at the curvilinear world which awaits within: on entering, it erupts through the lawn as huge truncated cones, and is gouged out of the earth to form a subterranean world. In a Danish television documentary made in 1994 entitled 'Skyer' (Clouds), Utzon describes the tips of the cones as like 'crocuses, big and beautiful in porcelain' and they were intended to be decorated by Asger Jorn's dazzling ceramic tiles [Fig. 5].

The main galleries open as a three-storey deep cavern beneath a glazed, ribbed roof whose gently-stepped, curving form resembles a horizontal version of the glass walls being designed at the same time for the Opera House. The visitor is drawn down by an inviting and intricate ramp system. It clearly owes something to Wright's Guggenheim Museum, but is much closer in spirit to Le Corbusier's use of ramps as a means of circulating through the heart of a building - from the Villa Savoye to the Carpenter Centre at Harvard. The glazing bars here, and over the crocus-like galleries, were to be provided with frequent suspension points to enable paintings to be hung from the ceiling; artworks might also hang from the undersides of the ramps and suspended floor. The giant crocuses were designed to transmit different qualities of natural light, and major individual sculptures or paintings could be isolated and displayed there.

Even with the geometric freedom and complexity of Sydney as a precursor, the project seems almost unprecedented. In the marvellously evocative

description which accompanied its original publication in *Zodiac*, Utzon cites the experience of visiting the caves in Tatung, west of Peking as a key inspiration [Fig. 6]. 'Hundreds of Buddha sculptures and other figures' he enthused, 'have been carved in a number of rock caves at the river bed ... All the caves are of different sizes and shapes and have different sources of light ... the most fantastic result is one cave which is completely filled up by a Buddha figure with a face more than 20ft. high. Three narrow platforms connected with ladders give the visitor an opportunity to walk around and get quite close to this gigantic figure' (Utzon, 1965).

Utzon refers to the museum as both cave- and kiln-like, and to the crocus-forms as chimneys, and seen in isolation the sections might well suggest a mysterious chemical works, furnace or foundry. Any number of vernacular/ancient references suggest themselves. The so-called 'beehive' villages of the Middle East and tombs of pre-Classical Greece spring to mind, and given Utzon's love of the Islamic world, brick-built water cisterns and those extraordinary caves-above-ground of the great Iranian ice-houses (built, one recalls, against a long straight shade-wall and shallow rectangular pool) might also have played their part. Far more significant, however, are links to Le Corbusier's late work.

Corbusian form-world

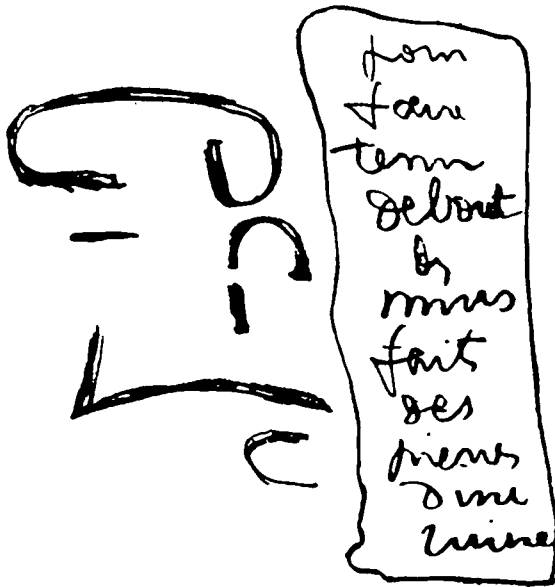
Comparing the plan of Silkeborg with the diagram of Ronchamp Le Corbusier drew to explain how 'to make stand walls made of the stones of a ruin' (Le Corbusier, 1982) [Fig. 7], the formal analogies are striking. And just as the Corbusian form-world found partial explanation in the necessity of re-using rough material from the fire, Utzon's seems peculiarly apt to its subterranean realm task of retaining the earth.

Similarly, whatever the 'crocuses' may owe to more ancient sources, their immediate roots lie in Le Corbusier's exploration of top-light at Ronchamp, in the light-guns of the La Tourette monastery, and in the Firminy chapel project. Flora Samuel has described the latter as being 'raised on a platform as though there were a fire under it' – a kiln indeed (Samuel, 1999).

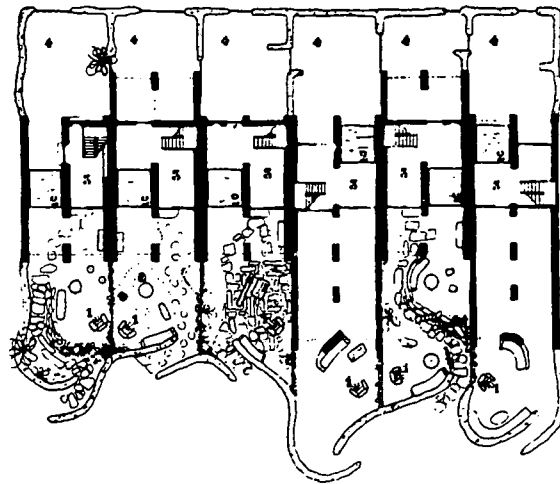
While on the Corbusian trail, it is tempting to suggest that a much less well-known project by Le Corbusier – that for La Sainte-Baume, published in Volume 5 of the *Oeuvre Complète* [Fig. 9] – might also have provided raw material for Silkeborg.² A sequence of huge volumes, replete with spiralling ramps, was to be literally carved out of a mountain and entered via a cave which was believed to have been occupied by Mary Magdalene. The grid of barrel-vaulted residential accommodation – forerunner of the better known 'Roq and Rob' project in the same volume – is counterpointed by

two circular retreat-hotels, and in passing one cannot help but note intriguing similarities between Le Corbusier's free-form walls of rammed earth and the S-shaped plywood lavatory cubicles proposed for the Sydney Opera House [Fig. 8].

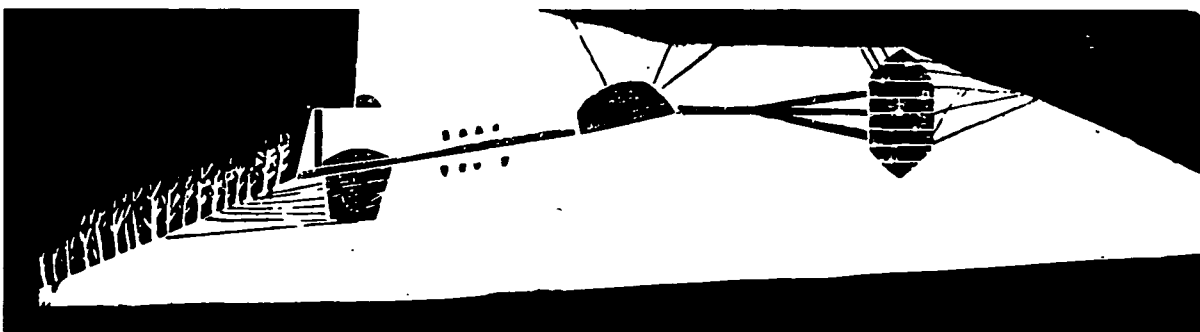
The correspondences are striking, and with a project as apparently singular and unprecedented as Silkeborg, somehow reassuring. Mogens Prip-Buus, one of Utzon's senior assistants in Sydney, recalls Utzon showing him the Sainte-Baume project while they were still in Denmark, and Utzon has confirmed to the author the importance of Le Corbusier's example, including La Sainte-Baume, in designing the project. Silkeborg represents Utzon's furthest exploration of the 'curved form world' (Utzon, 1965) whose first blossoming came in 1952 with the Langelinie Pavilion and, apart from anything else, was also an inspired and remarkably direct response to Asger Jorn's brief as both the client for and, so to speak, content of, the museum.



7



8



9

7 Sketch by Le Corbusier to illustrate how the curved walls of the Ronchamp Chapel were designed to re-use stones from the ruin on the site. © FLC

8 La Sainte-Baume: the pisé walls bear a striking resemblance to the S-shaped plywood doors Utzon designed for Sydney Opera House. © FLC

9 La Sainte-Baume: drawing by Le Corbusier's client and collaborator, Edward Trouin, showing the artificial caves, hanging walkways and ramps. © FLC

Art and architecture meet

In the correspondence already quoted, Jorn said that he had 'something of the German Einstein Observatory in mind – I think the architect is called Mendelsohn' and added that 'at all events, a project dominated by curves will be the right thing, how they are to be arranged is your problem'. In his 1958 manifesto *Pour la Forme*, he used the competition drawing for the west elevation of the Opera House to illustrate the title page of the chapter 'Charm and Mechanics', captioning it 'The architecture of ambience begins' (Jorn, 1985).

Jorn was a major presence among the artistic avant-garde with which Utzon came into contact as a student in Copenhagen, and contributed regular articles to architectural journals and to the students' magazine at the Royal Danish Academy. *Pour la Forme* provides both a synthesis of Jorn's developed theoretical ideas, and valuable insights into the aspirations which were so admirably fulfilled by Utzon's design. 'Many artists and architects', Jorn wrote, 'were questioning whether or not sculpture and painting were still viable as expressive forms'. It was impossible now, he believed, 'to put paintings in frames and place sculptures in niches' and questionable whether they can even find a place 'in houses built for everyday life'. What was needed, Jorn suggested, was a 'temple' to art, of which Frank Lloyd Wright's spiral Guggenheim Museum was a first approximation. And it was vital for artists and architects to work together to combat the 'neutralisation of our environment' by endless, identical, mass-produced objects, through artistic research directed at the 'creation of the UNIQUE'.

Writing in the first edition of COBRA's journal *Reflex*, Michel Colle argued that the first generation of modern architects had instituted an architecture of 'right angles' and 'cadaverous rigidity' (Sadler, 1998), and Jorn himself later suggested that 'a true ambience, created to the measure of man' (Steffensen, 1995) would be produced by restoring the lost unity of the arts within the framework of architecture. Central to his vision was the relationship between artistic creativity and play. In 1963 – at the time he was in correspondence with Utzon – he wrote that 'man wants to play ... The opposition between play and seriousness is false. Play seems to be the only thing taken seriously'. Extending this insight to animals, he suggested that their play 'has the effect of life; indeed, perhaps its most intense and inspiring nature, renewal. Can we call this aesthetic?' (Steffensen, 1995). A keen student of archaeology and mythology, Jorn's vision of aesthetic renewal was in part grounded, like Le Corbusier's and Utzon's, in a revaluation of ancient cultures: 'The "New" which the architecture of our time reveals is the discovery of the plan of eternity', he wrote in *Pour la Forme*.

Even by the standards of the American Abstract Expressionists, Jorn's paintings are remarkable for their savage brushwork. He borrowed Jackson Pollock's drip technique, but turned it to semi-representational ends: COBRA, he observed, 'was an abstract art that did not believe in abstraction' (Jorn,

1985), and in many of his works strange figures, by turns mythical and cartoon-like, emerge from seemingly abstract passages of furiously worked paint. In 1954 he challenged the refined sensibilities of the Milan Triennale of Industrial Design with a group of writhing ceramics which evoke memories of disparate natural forms – fungi, shells, strange sea creatures – while remaining unmistakably anthropomorphic in inspiration. Like other members of the Situationist International, Jorn was determined to challenge conventional ideas of 'high' and 'low' taste. Their publications praised architecture from 'the Aztecs, to the delirious temples of India, to Easter Island, to the great Indian totems of North America – without doubt the greatest architects of all time' (Sadler, 1998). In the late 1950s, Jorn began the transformation of his garden in Albisola. The project occupied him until his premature death from cancer in 1973 and revealed the baroque sensibility running through much of the Situationists' work. Their major theorist, Guy Debord, believed a 'baroque character' was 'always marked in essays upon an integral art' (Sadler, 1998) and it was clearly manifested in their projects for a *Cavern of Anti-Matter* and assorted labyrinths.

Seen in this intellectual and artistic context, Utzon's project for Silkeborg no longer seems an unclassifiable, uniquely personal work, but an extraordinarily inventive and evocative response to his client's aspirations. The spontaneity of the original bubbles of colour is still there: wholly in keeping with the playful spirit Jorn – and, of course, Le Corbusier – valued so highly, it was recaptured in the remarkable reverse-printed drawing in table-salt Utzon made after the project was well-developed (not, as a recent publication has suggested, as the first 'inspirational' sketch)⁹ [Fig. 1]. Prip-Buus, who worked closely on the project with Utzon, recalls that it was produced in an exceptionally playful spirit. They certainly had the Guggenheim's spiral ramp in mind, but were well aware of the museum's shortcomings, and preferred the analogy of a roller-coaster to explain what they were after.

Diverse inspirations

Although the influence of Le Corbusier was decisive, it is not hard to find other possible 'sources' for the project. The experience of walking next to the great hulls of ships in the dockyard at Hellebaek surely played its part, and Utzon's elder son, Jan, recalls his father explaining architecture to his younger brother Kim by asking him to imagine himself reduced to the size of an insect and squeezing between towering bottles of sauce on the lunch table. The origins of Utzon's ideas generally lie in such direct experiences, real or imagined, and what he was after at Silkeborg was a continuous, depthless space in which conventional clues about distance were suppressed. He likened the effect to that of a cyclorama, and one notes how the walls disappear under the rounded, projecting edges of the floor to suggest that you were floating in an ambient sea of space – which would, of course, have been animated

by Jorn's vigorous but apparently weightless paintings hanging all around. The antithesis of being imprisoned in frames or niches, the artworks were liberated to occupy space on the same terms as the viewer.

There is a striking precedent for this way of displaying art, in the surrealist gallery – 'Art of this Century' – which Frederick Kiesler created for Peggy Guggenheim. Like Jorn and Utzon, Kiesler was determined to break down the barriers between the viewer and works of art: he displayed the paintings frameless, hanging them from the ceiling or bracketing them off bowed screens mounted in front of the gallery's actual wall (for the World House Gallery in New York in 1957, Kiesler was able to create real bowed walls). He believed that the 'act of seeing – of receiving – is a participation in the creative process no less essential than the artist's own' (Phillips, 1989), and based his ideas on 'primitive man' who 'knew no separate worlds of vision and of fact. When he carved and painted the wall of his cave or the side of a cliff, no frames or borders cut off his works from the space of life' (Phillips, 1989). Kiesler's fascination with caves inspired his best known design, the Endless House of 1959, with which Silkeborg has sometimes been compared. The comparison is, in fact, misguided, for Kiesler's all too obviously cave-like space is an example of the over-literal organicism in architecture which both Jorn and Utzon both detested.

Organic synthesis

Writing in 1952, Jorn extolled the 'design' of natural organisms, from oysters to bones, termites to skulls, but went on to criticize the 'one-sided naturalism' of those like the Frenchman Jacques Couelle who believed that simple imitation of nature would provide a way of transcending 'rationalistic functionalism' (Jorn, 1952). He explained that whereas natural forms 'arise of their own accord', works of artifice 'are put together', constructed from 'parts that are not organic in respect of each other', and looked forward to the transition from 'a static and analytical to a dynamic and synthetic form of construction' composed 'according to tension curves and force lines'. In light of these observations, it is not difficult to see why Utzon's project for Sydney Opera House exerted such a strong and immediate fascination for Jorn, nor to understand his excitement on receiving the proposals for his museum. He could hardly have hoped for a more fitting 'temple', or a more compelling demonstration of a genuinely organic architecture.

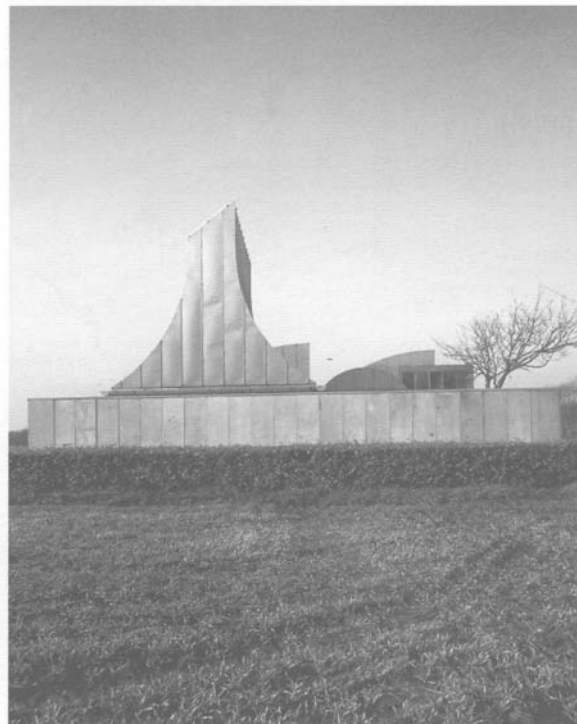
Whereas Kiesler's Endless House seemed to have grown from some primordial soup, Utzon's project was designed to be *built*, and in part assembled from a kit of parts. The V-shaped columns, wall panels, and roofing systems would be prefabricated like the shells in Sydney, and the apparently free-form caverns were geometrically controlled, generated by rotating and changing the angle of a French curve – a process which could be replicated in making the formwork. These constructional and geometric disciplines help explain, in part, the feeling of

rightness which pervades the plans and sections of Silkeborg. But only in part, for what we see here is a project fit to stand with the chapel at Ronchamp as a masterpiece of what Le Corbusier called 'plastic happenings' which 'are not regulated by formulas from the schools or the academies' but 'are free and innumerable' (Le Corbusier, 1982).

In the event, Utzon's proposal fell foul of practical considerations. An underground solution was thought risky so close to the river, and a new site was sought for which he prepared a radically different design, only to see this founder following Jorn's death in 1973. The first project, however, was the perfect complement to Asger Jorn's art, abstract in form, yet replete with figures and associations – of the first stirrings of art in the caves of France and Spain, perhaps; of being below decks in the hull of a great ship; of floating between giant buoys bobbing in the ocean ... Jorn could hardly have wished for a more 'intimate relationship to the artistic form of expression represented by the collection'.

Utzon, Le Corbusier and the creative process

Once noted, Utzon's debts to Le Corbusier seem obvious, and readily multiply. He treasured a folio presentation of the Venice Hospital project: its accretional, mat-like structure echoed his admiration of Islamic cities and was later emulated in his 'Additive Architecture' projects of the late 1960s. The top-lighting explored in the Silkeborg project reappears in a 'school-town' designed for Herning [Fig. 10], and that in turn – informed by the



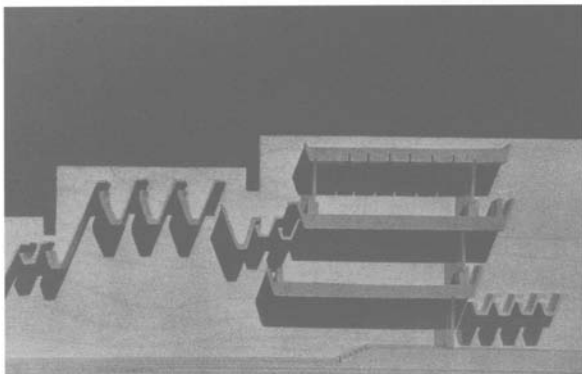
10 Prototype building for the projected 'School town' at Herning in Jutland

section of the earlier Melli Bank in Iran – yielded delicious fruit in the Bagsvaerd Church [Figs. 11a and b]. But like any mature artist of the first rank, Utzon does not borrow, he steals, and these Corbusian models were generally so well assimilated as to avoided detection. They are more overt in an unpublished sketch design for a settlement on Majorca, intended to bring light to the lives of children who had suffered from polio [Fig. 12]. Designed shortly after the Sydney competition project, the shell-roofs seem almost to have flown in from Ronchamp or Chandigarh.

More significant than these formal debts, however, is Utzon's intuitive alliance with Le Corbusier's way of thinking. Describing the genesis of Ronchamp, Le Corbusier wrote that 'the human mind is a container into which we can pour the elements of a problem helter-skelter and let them float, simmer, and ferment for a while. Then, one day, a spontaneous inner impulse triggers a reaction ... The idea, or child, emerges' (Le Corbusier, 1982). By

'elements' he had in mind not only the specific circumstances of client, brief and site, which he liked to assimilate and then 'forget for several months if at all possible' (Le Corbusier, 1982), but also his wealth of reading and experience. Chief among the latter were his travels among ancient and so-called primitive architecture, and the example of natural forms, both of which provided increasingly fertile sources of inspiration after the Second World War.

Lecturing in Buenos Aires in 1929, Le Corbusier declared that although he was considered 'a revolutionary' he had 'only one teacher: the past; only one education: the study of the past ... I have been everywhere where there were pure works – those of peasants or geniuses – with my question "How? Why?"' (Le Corbusier, 1991). And in a letter to Rex Martienssen, offering advice to students of architecture, he said we could increase our creativity 'not by subscribing to architectural journals, but by venturing into the inexhaustible realm of natural riches' (Guiton, 1981). Both these sentiments might



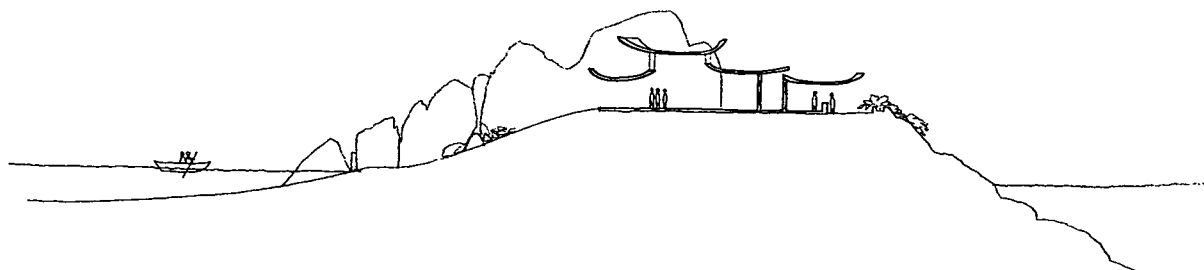
11a

11 Top lighting developed through the roof section
a Sectional model for the Melli Bank in Iran, completed in 1963
b The dramatic 'sky vault' of Bagsvaerd Church developed from the Melli Bank via the light scoops at Herning

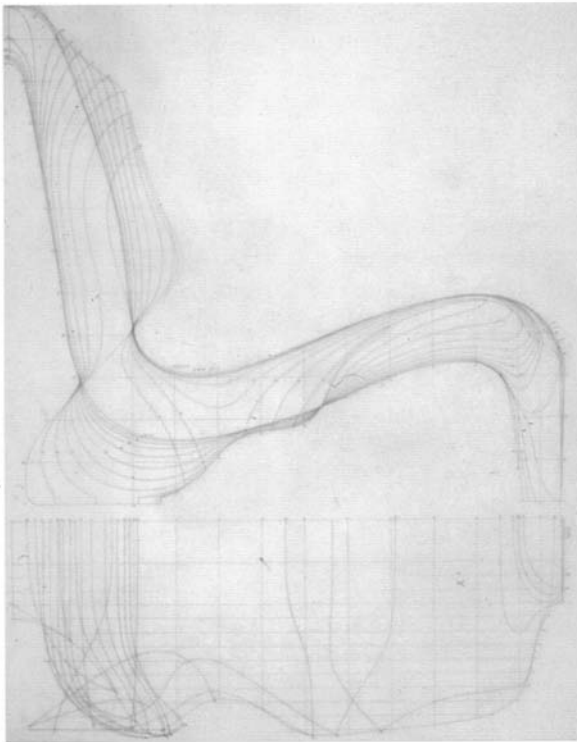
12 Sketch design for a holiday camp for child-victims of polio on Majorca, c.1958: the curved, floating roofs are reminiscent of both Ronchamp and elements at Chandigarh



11b

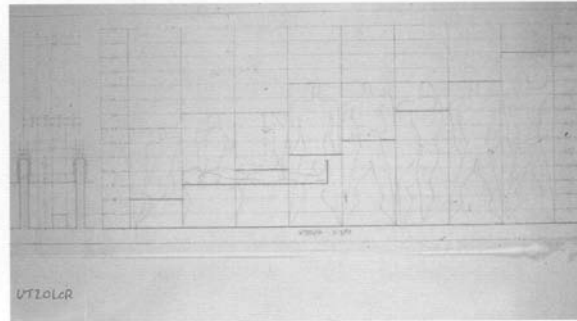


12



13 Study for a chair: the organic form, emphasized by the contours, is reminiscent of the drawings of bones in D'Arcy Wentworth Thompson's *On Growth and Form*, one of Utzon's favourite books

14 'Utzolor' dimensioning system developed to control furniture designed for Sydney Opera House



14

equally well have been expressed by Utzon. Mistrusted as a student by Kaj Fisker, his professor at the Royal Danish Academy, for his rejection of the academic disciplines Fisker encouraged, Utzon absorbed himself in the study of distant cultures and the world of natural forms. The book he recommended most strongly to new staff was D'Arcy Wentworth Thompson's classic *On Growth and Form*. Thompson's analyses of bone-structure were echoed in Utzon's furniture studies [Fig. 13], and his mathematical treatment of nature doubtless encouraged Utzon's use of Le Corbusier's Modulor – for example to regulate the steps and openings in the garden walls of the Fredensborg houses – and the development of his own 'Utzolor' dimensioning system for furniture and fittings in Sydney [Fig. 14]. Utzon's staff recall that he showed almost no interest in architectural magazines, and little in the major European traditions. He travelled widely, to see the works of the Mayan, Chinese, Japanese and Islamic civilizations, and when he arrived in Sydney for the first time, standing on the site of the future, and to most eyes futuristic, opera house he told the eager local press: 'It's okay! This is the way they placed temples in the old days!' (Drew, 1999) – while working on the competition Utzon took inspiration from a book of aerial photographs of ancient Greek sites.

On site that day Utzon gave as full an account of the genesis of the shells as he would ever offer: 'I looked at flowers and insects, at organic forms. I wanted something that was growing out'. The result, he said, tapping a photograph of the model, 'is Our Time Style, it is our own'. Although they are the signature of the building, the shells arrived very late in the design process. Assistants recall being told that Utzon was seen waving large rhubarb-like leaves –

most likely *Gunnera* – over a model of the podium, still uncertain how to roof his built landscape. Wind-filled sails, cumulus clouds, Chinese temples, the shell structures of Candela and Torroja, Saarinen and Nervi – ubiquitous in the architectural literature of the 1950s – even 40m span shell of Wilhelm Lauritzen's Radiohus building in Copenhagen: all could conceivably have played a part, but the shells had no single inspiration, still less 'source', and Utzon is no more able to specify their exact origin than anyone else. But if you seek the form-world to which they belong most naturally, Le Corbusier's painting and lithographs – of which he owned several originals – are as good a place as any to start, and Utzon commended them to his colleagues as Le Corbusier's 'laboratory for architecture'.

The inspiration of Mayan temple-platforms and of 'floating' Chinese roofs is a familiar part of the lore about Sydney but, as with Le Corbusier, I would argue that the influence of Utzon's voyages to 'the Orient' exerted a more pervasive hold. To take two instances, one specific, the other general. The original competition perspective [Fig. 15], which has never to my knowledge been reproduced in colour, shows the underside of the vaults in gold, the same colour – more or less, courtesy of bronze-clad plywood – Utzon intended for the ill-fated glass walls. These were designed to hang like a curtain and recall the extraordinary golden 'stalactite' vaults of the Friday Mosque in Isfahan (one of Utzon's favourite buildings), which similarly appear to be suspended, despite acting in compression – precisely the opposite effect, as Edward Sekler has pointed out, of gothic vaults (Sekler, 1965). Or, turning to the whole composition, the abiding image behind it was surely that of the Islamic city, with its glistening tiled domes

flowering exotically from a continuous fabric of earth-coloured brick – a pervasive image revisited, for example, in the ‘school town’ at Herning referred to above and, much abstracted, in competition entries for Madrid Opera House [Fig. 16], Wolfsburg Theatre and at the Bagsvaerd Church, where the internal ‘cloud-vaults’ are delineated externally by glazed tiles.

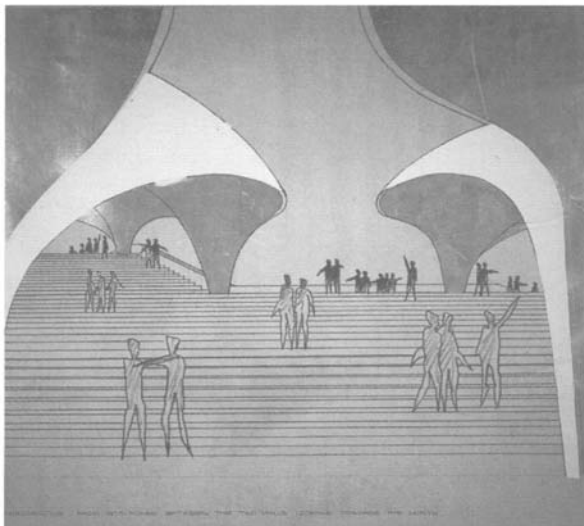
Utzon's ability to assimilate and transform great architecture was complemented by a remarkable capacity to make use of everyday experiences. A few examples will confirm the point. In a restaurant in Italy, he walked through a glass-bead curtain and was rooted to the spot, struck by how a straight line could transform itself into a free curve – precisely the challenge facing him in designing the vast glass walls in Sydney. The subtly tapered beams of the reinforced-concrete slab over the Opera House concourse were inspired by contemplating a ceramic soap-dish in the bathroom – he was so delighted, an early assistant recalls, that he leapt from the closet to relate the idea! Aalto's suggestion that architects take a twig of blossoming cherry as a model – each flower unique, but similar to its neighbours – led him to make the garden-walls for the Fredensborg court-houses similarly unique, in response to their specific circumstances of view, orientation and micro-climate: they were configured on site by sitting in each courtyard in turn. A famous Blossfeldt photograph of a horsetail stem inspired the array of dumb-waiters, lifts and services of the generous hollow ‘trunk’ of the Langelinie Pavilion [Fig. 17]. An unusual, trade-wind driven configuration of clouds was the catalyst for the vaults of the Bagsvaerd

Church. I know of no documented examples of an architect making such creative use of such diverse material, save for Danièle Pauly's account of Le Corbusier's design process for the Chapel at Ronchamp (Pauly, 1983).

Cavernous spaces

Utzon's and Le Corbusier's shared interests in nature and the primitive came together in their fascination with caves. Thanks to the tireless efforts of l'Abbé Henri Breuil, cave art was a subject of wide interest in France during the first half of the century. Le Corbusier owned two of Breuil's books and the well-known story of Plato's cave was quoted in *The Architecture of Truth*, a book by François Cali about Le Corbusier's favourite monastery, Le Thoronet, for which he wrote a short and typically passionate introduction (Cali, 1957). Both played their part in the design of the artificial caves projected at La Sainte-Baume, and Mogens Krusturp has suggested a relationship between Ronchamp and Homer's description of a sea-cave on Ithaca filled with wine bowls and honey: Le Corbusier's illustrations to the *Iliad* did not appear until 1955, but he may well have been familiar with the passage before that (Krusturp, 1984). It is tempting to believe so because it provides a wonderfully neat link back to Utzon who, in 1968, was asked to design a theatre in a real sea-cave at Jeitta in the Lebanon.

Previously unpublished, the Jeitta scheme was presented to the client in spring 1968 but later foundered because of the civil war, and provides a fascinating insight into Utzon's thought processes [Figs. 18a and b]. Replete with stalactites and



15

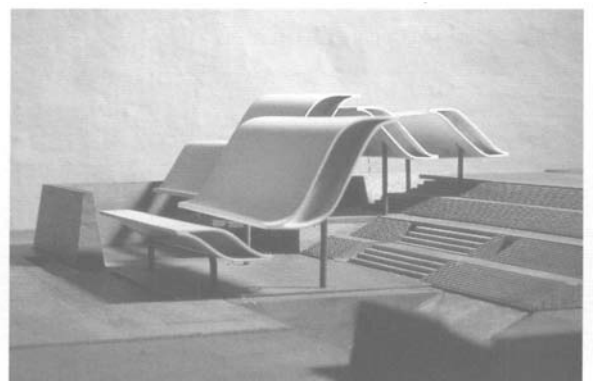
15 Competition perspective for Sydney Opera House: the areas which print dark in black and white are gold in the original drawing, and were inspired by Islamic buildings such as the gold-tiled ‘stalactite

vault’ in the iwan of the Friday Mosque in Isfahan

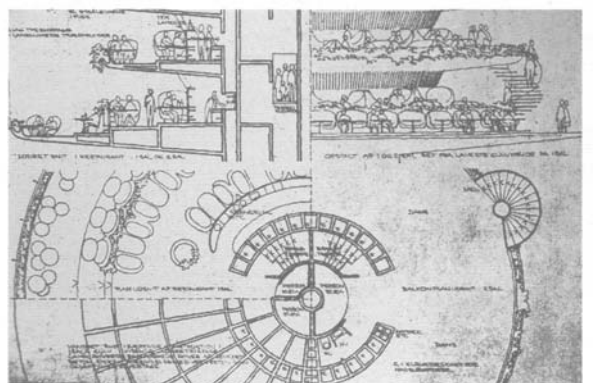
16 Detail of (damaged) model of Madrid Opera House competition entry, 1964: the ‘cloud canopies’ floating above a large earthwork are a

recurring motif in Utzon's work and were ultimately inspired by Islamic tiled domes

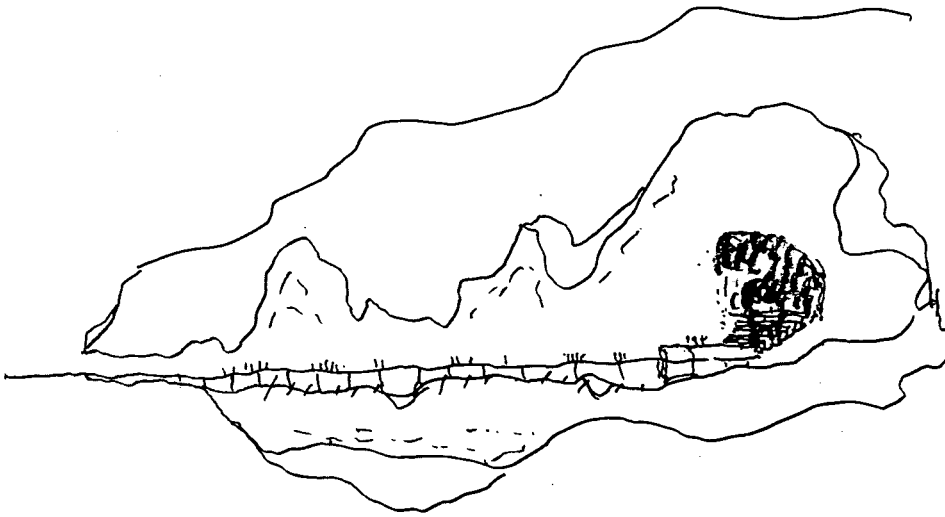
17 Part plan and section of the Langelinie Pavilion competition, 1952



16

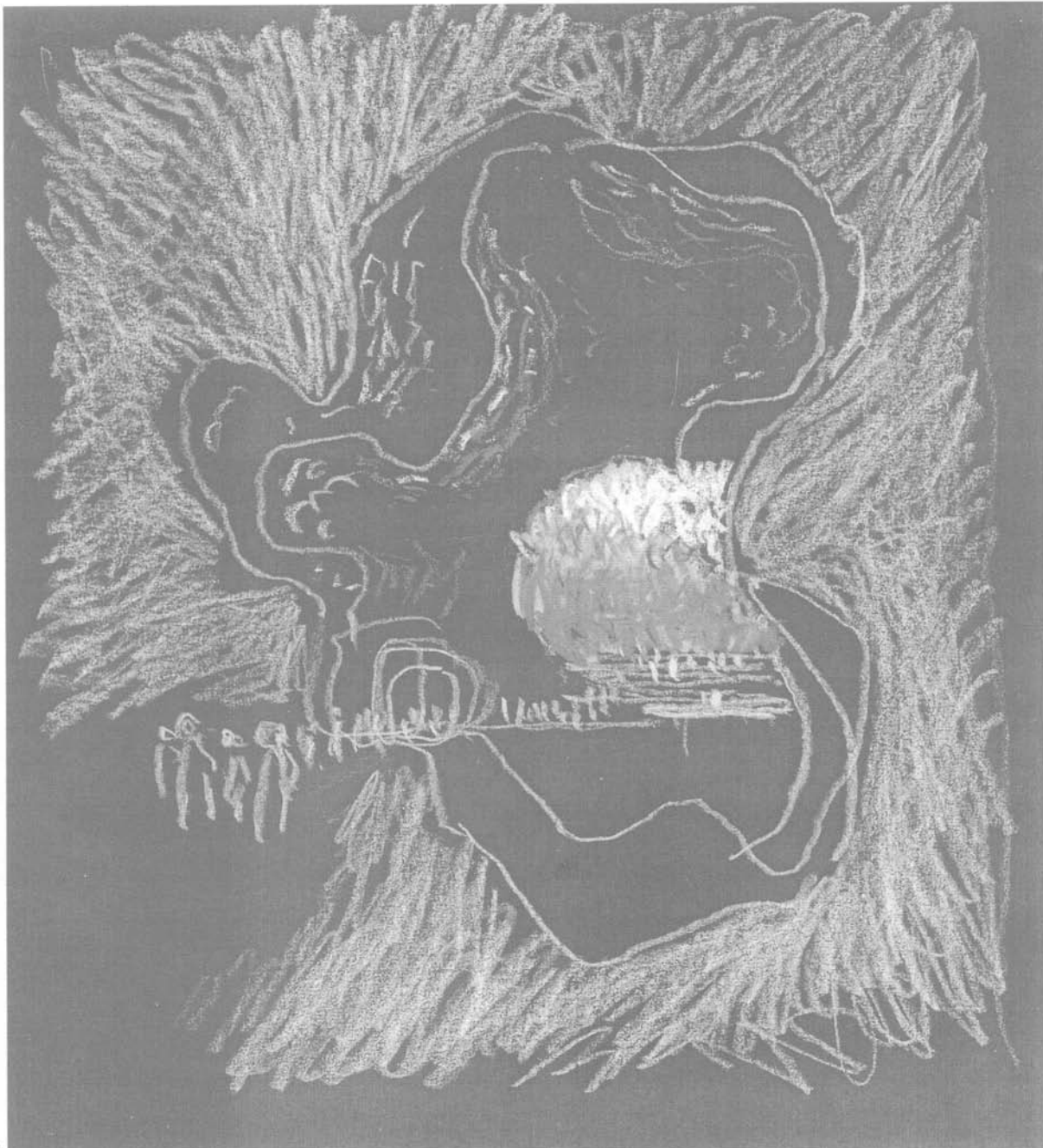


17



18a LANG SNIT

18 Cavernous space:
 project for a theatre in
 a sea cave at Jeitta,
 Lebanon. Designed in
 1968, the project was
 lost to the civil war
 that engulfed the
 country
 a Sketch section. The
 cave was so vast and
 intimidating that
 Utzon proposed a net-
 like enclosure which
 glowed red, like a
 primeval fire, as the
 audience approached.
 The 'fire' was to be
 extinguished before
 the stage lights came
 on
 b Perspective. At
 the end of the
 performance, the cave
 was finally revealed
 by floodlights



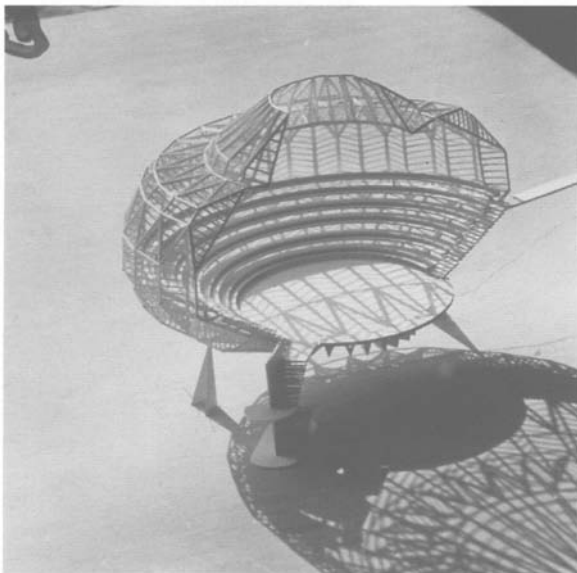
18b

stalagmites, the cave was vast and intimidating and Utzon immediately realized the theatre would require some form of enclosure, for psychological rather than physical reasons. At the same time it should ideally disappear after the performance to allow the grandeur and otherness of the cave to reassert itself. Typically, he found inspiration in an unlikely source, in this case a legend familiar to most Danish schoolchildren. King Rodbrog wanted a Princess, but to prove her fitness she had to pass three riddle-like tests. One required her to appear 'undressed but not naked': she solved it by wrapping herself in a fishing-net – a motif, we may recall, which appears frequently in Le Corbusier's *Poème a l'Angle Droit* (Le Corbusier, 1955).

The theatre, Utzon realized, could be a slender, net-like steel framework made to appear and disappear by careful lighting [Fig. 19]. Moving through the cave on an elevated walkway, visitors would glimpse it in the distance: lit red and orange it would be like a fire smouldering in the depths of the cave, recalling the ritual sites of early *Homo sapiens*. Once the audience had assembled, the 'fire' would die down and after an interval of darkness, the stage lighting come up. At the end of the performance, the cave itself would finally be revealed with floodlights, and the unlit tracery of the structure would all but disappear from view – nature, not architecture, providing the final enclosure, much as it would in Le Corbusier's artificial caves at La Sainte-Baume.

Jørn Utzon, heir to a modern tradition

The parallels and interplay between Utzon and Le Corbusier are fascinating and could clearly be explored at much greater length. They seem to me important for two main reasons. First, for the light they shed on the thought processes of two of the major modern masters: both were profoundly anti-academic, committed to building as the medium of architecture, and therefore suspicious of drawings – were he alive today, Le Corbusier would surely be urging students to detest most computer-generated images, just as he railed against the 'clever stagings'



of Beaux Arts renderings (Le Corbusier, 1947). And second, because it helps situate Utzon firmly in the mainstream of European architecture, not on its fringes – whether Nordic (the fascinating, but by choice marginal, Asplund/Aalto lineage), or Expressionist. Utzon has never understood the frequently suggested links to the work of Mendelsohn and Scharoun: he admired the Berlin Philharmonie interior, but otherwise had little interest in their work, and the supposed 'influence' does not stand up to serious scrutiny other than at the most basic level of superficial visual analogy.

Summarizing CIAM's first postwar discussions in *A Decade of Contemporary Architecture*, Sigfried Giedion suggested that 'the period of rationalism is nearing its end. If this is so, then the more intangible methods of expression will reconquer equal rights with the world of logic' (Giedion, 1954). Trained in the German tradition which saw architecture as the expression of the *Zeitgeist* and space as its 'natural' material, Giedion believed the key to architectural progress lay in the resolution of what he called 'the vaulting problem' and suggested that 'the area where spatial imagination has the greatest freedom [is] the area that floats over our head' (Giedion, 1954). Jürgen Joedicke, in similar vein, argued that it was the thin-concrete shells of Felix Candela which 'represented the means by which the ideas of the epoch materialised' (Joedicke, 1962). Complementing the emphasis on expressive freedom was the search for a 'New Monumentality', promulgated in a nine-point manifesto signed by Giedion, Fernand Léger and Josep Luis Sert in 1943 (Georgiadis, 1993).

For Giedion, the long hoped-for synthesis of imaginative vaulting, expressive form and monumentality appeared on the grand scale in Utzon's competition-winning project for Sydney. Nowhere had spatial imagination been more liberated than in Utzon's great shells, which were intended literally to 'float over our head'. And nowhere had anyone dared monumentality on the scale of the great platform and tiled vaults soaring 15 storeys into the air above. It was hardly surprising, therefore, that in the Third Edition of *Space, Time and Architecture* published in 1965, Giedion hailed Utzon as the leader of the Third Generation of modern architects.

Utzon's eventual departure from Sydney cast a long shadow over his subsequent career, and from being proclaimed by Giedion as heir-apparent to the Corbusian mainstream of modern architecture, he came to seem an increasingly marginal figure. Contemplative, even reclusive by nature and not given to expressing himself in words, still less to self-promotion, his isolation was partly self-imposed. But the time has surely come to re-evaluate his relatively small, but remarkable and still potentially seminal

19 Model of the net-like structure proposed for the Jeitza theatre. The tracery of the net disappeared from view when the cave was floodlit

body of work. Le Corbusier's influence overwhelmed many a lesser talent, but in Utzon's case it was so nearly without anxiety as to have almost escaped notice. Working with universally available material drawn from ancient cultures and the natural world, Utzon sought the archetypal, reducing his richly nuanced themes to pure, abstract forms. In this he

stands shoulder to shoulder with other major modern masters such as Le Corbusier, Picasso and Brancusi, and could claim of Silkeborg and Sydney, as Brancusi did of his Endless Column in Târgu-Jiu, that it 'belongs to all time, for I have stripped the essential form of all the features which could link it to an epoch' (Varia, 1986).

Notes

1. Utzon wrote to Le Corbusier on 31 October 1958 inviting him to contribute decorative works to the Opera House, and asking to buy the first of the tapestries referred to above, which he had seen on exhibition in Copenhagen. Le Corbusier replied on 6 November, accepting the commission in principle, and they met a year later at Le Corbusier's home at 24 rue Nungesser et Coli. These letters, and the other correspondence with Le Corbusier referred to below, are in the archives of the Fondation Le Corbusier: see Utzon (1958) below. This paper draws extensively on interviews with Utzon and key employees, undertaken in preparation for a monograph to be published by Edition Bløndal later this year. The best currently available sources on Utzon are Fromonot, F. (1998). *Jørn Utzon. The Sydney Opera House*, Electa/Gingko, Corte Madera, California, and Drew (1999) cited below.
2. I am grateful to my colleague Flora Samuel for drawing my attention to the Sainte-Baume project, the focus of her PhD research, and for information on Le Corbusier's interest in caves referred to below.
3. See Myers, P. (1998). 'Joern Utzon', *The Journal of Architecture*, Vol. 3, Winter 1998. The 'drawing' was made as an amusing diversion at lunch and then photographed by Mogens Prip-Buus in Utzon's office, not in a restaurant using a borrowed camera, as Myers states. The error appears minor, but in the paper is used to help build up a misleading picture of Utzon as an 'inspired artist' rather than professional, problem-solving architect.

References

Andersen, A. T. (1997). *Asger Jorn. En Biografi. Årene 1953-73*, Borgens Vorlag, Copenhagen. This biography contains all the material quoted from the correspondence between Jorn and Utzon. Translated from the Danish for the author by W. Glyn Jones.

- Cali, F. (1957). *The Architecture of Truth: The Cistercian Abbey of Le Thoronet in Provence*, Thames and Hudson, London.
- Drew, P. (1999). *The Masterpiece. Jørn Utzon. A Secret Life*, Hardie Grant Books, South Yarra, Victoria, Australia.
- Georgiadis, S. (1993). *Sigfried Giedion: An Intellectual Biography*, tr. by Colin Hall, Edinburgh University Press, Edinburgh.
- Giedion, S. (1954). *A Decade of Contemporary Architecture*, Editions Girsberger, Zurich.
- Guiton, J. (1981). *The Ideas of Le Corbusier on Architecture and Urban Planning*, tr. by Margaret Guiton, George Braziller, New York.
- Joedicke, J. (1962). *Schalenbau und Gestaltung. Dokumente der Modernen Architektur*, Karl Kramer Verlag, Stuttgart, translation by the author.
- Jorn, A. (1952). 'Naturalistisk arkitektur – eller naturlig form', *Dansk Kunsthåndværk*, vol. 25, no. 3, pp. 45–48.
- Jorn, A. (1985). 'Pour la forme' in *Documents relatifs à la fondation de l'Internationale Situationniste, 1948-1957*, Editions Allia, Paris. The text was circulated in typescript in 1958. Translations from the French by the author.
- Krustrup, M. (1984). *Le Corbusier. L'Illiadé dessins*, Borgens Forlag, Copenhagen.
- Le Corbusier (1947). *The Four Routes*, tr. by Dorothy Dodd, Dobson, London.
- Le Corbusier (1955). *Le Poème de l'Angle Droit*, Editions Verve, Paris.
- Le Corbusier (1982). *Texts and sketches for Ronchamp*, 3rd (English) edn., Association oeuvre de Notre-Dame du Haut, Ronchamp.
- Le Corbusier (1991). *Precisions on the Present State of Architecture and City Planning*, MIT Press, Cambridge, Mass. and London (originally published in French in 1930).
- Pauly, D. (1983). 'The Chapel of Ronchamp as an Example of Le Corbusier's Creative Process', In *Ronchamp, Maisons Jaoul, and Other Buildings and Projects, 1951-1952*, Garland, New York and London.
- Phillips, L. (1989). *Frederick Kiesler*, W.

- W. Norton & Company, New York.
- Sadler, S. (1998). *The Situationist City*, MIT Press, Cambridge (Mass.) and London.
- Samuel, F. (1999). 'A Profane Annunciation: The Representation of Sexuality at Ronchamp', *The Journal of Architectural Education*, November 1999, pp. 74-90.
- Sekler, E. (1965). 'Structure, Construction, Tectonics', In (ed.) G. Kepes, *Structure in Art and in Science*, pp. 89-95, Studio Vista, London.
- Steffensen, E. (1995). *Asger Jorn*, Edition Bløndal, Hellerup.
- Utzon, J. (1958). Letter to Le Corbusier, dated 31.10.1958. Fondation Le Corbusier, R3-5, Dossiers nominatifs, UNI-UTZ, item 244.
- Utzon, J. (1965). 'Silkeborg Museum', *Zodiac* 14, 1965, pp. 89-91.
- Varia, R. Brancusi, Rizzoli International, New York.

Illustration credits

arq gratefully acknowledges the following:

Jørn Utzon and Edition Bløndal for Utzon's drawings and models (all photographed by Bent Ryberg, who also kindly provided figure 10) Fondation Le Corbusier, 6, 7 and 8 Other photographs by the author.

Acknowledgements

I am grateful to Jørn Utzon and his former staff who have given generously of their time and memories during my research, and in particular to Mogens Prip-Buus in respect of the contents of this paper. Special thanks also to my publisher, Torsten Bløndal, whose passion for Utzon's work and tireless efforts over almost three years have secured the finance to research the forthcoming monograph and generated material to support many future studies.

Biography

Richard Weston is a Professorial Research Fellow at Cardiff University; his monograph on Utzon will be published this autumn. He is writing a history of the 20th century house, and previous books include *Alvar Aalto* (1995) and *Modernism*.

