

Techniques and materials

Material and structural behaviour of soil constructed walls



FIG. 1. Bin Chad, Morocco.



FIG. 2. Vilhelm Wohlert.

Copenhagen is one of those cities in which the reuse of old buildings has been taken seriously for some time. Redundant warehouses have been adapted as hotels and apartments, and the palatial eighteenth-century offices of the Asiatic Company have been converted (along with their neighbouring warehouse) into the offices of the Ministry of Foreign Affairs.¹ The Royal Danish Academy of Fine Arts is housed in the eighteenth-century Charlottenborg Palace, and it is hardly surprising that a pioneering course of specialist training for architectural conservation was set up here as long ago as 1956. We asked Vilhelm Wohlert, the Academy's Professor in the Department of Restoration (Fig. 2), about these activities and learnt that the annual enrolment has been as many as ninety. Each year the number of graduates is now around ten, who are awarded a diploma in architecture with special reference to restoration, and during weekends and vacations the students have often had an opportunity to develop skills and craftsmanship on building sites in Copenhagen or in the countryside.²

But we had also heard that Professor Wohlert's students had extended their activities outside Denmark. How had this happened?

In the mid-1970s I became associated with conservation problems in Cairo, and in 1980 a first group of four of our students went to work there for four months. First they measured and drew out two derelict buildings, and then they worked with their hands to restore them under periodic supervision from my colleagues and myself (Fig. 3). They worked with Egyptian craftsmen, but they themselves were doing skilled tasks such as fixing lead cladding.

What had prompted him to encourage this?

It must always be useful that architects can do these things, but it becomes even more important that they should gain knowledge of crafts that are dying today. I believe this instruction of architects by traditional craftsmen is a very desirable element in their training. Of course there can be union troubles. . .

The work in Egypt is finished for the present, but maybe similar projects will be started either in Ethiopia or Bahrain. In discussing such schemes, Professor Wohlert stressed that the key to success is to have a reliable project leader; everything depends on him.

As well as holding the appointment in the Academy, he has been one of the country's leading practitioners for almost thirty years; and as we set off to visit some of his work we asked how his interest in architecture had begun.

It was a teacher in my gymnasium, himself from an architectural family, who introduced me to buildings, and when I was fifteen or sixteen I made a study of the Royal Arsenal. I remember too how impressed I was at that time by some illustrations I saw in a magazine of some Italian designs for parabolic constructions, but my interest in old buildings had been there from the beginning and I was fortunate enough to visit Venice and Florence at an impressionable age just before the beginning of the Second World War. When I began my architectural studies I was not attracted by the Modern Movement, but I felt great sympathy for the work of Kaare Klint, who was then Professor of Architecture.

¹ See e.g. *Arkitektur* (1972) no. 6, 225ff; (1979), no. 4, 136ff; (1983) no. 1, 30ff; *Werk, Bauen und Wohnen* (1981) no. 11, 34ff.

² The aims of the Department's work are: 1. The study and impact of knowledge on historical architecture in all its varieties and the examination of its relations to the natural and man made environment as well as to its cultural context. 2. The investigation of and teaching of how the surviving architectural heritage could be integrated in a contemporary society and to point out how it could be preserved in the future as architecture and historical testimony of social and technological conditions of the past. 3. To contribute through education to the development of contemporary architecture and planning with the architectural heritage as an essential prerequisite.

Klint had been trained by his father, Peder Vilhelm Jensen-Klint, the well-known exponent of Danish vernacular brick architecture; and although he is probably best remembered as a designer of furniture and the pleated paper lampshades bearing his name, the younger Klint was also an architect. 'In the 1930s he made very personal designs', commented Professor Wohlert, 'such as the Bethlehemkirk in Copenhagen, which is a very refined, very late Arts and Crafts concept in yellow brick. He relied on materials that would improve with time.' We remembered this comment later when we were sitting in Professor Wohlert's Stengaard Kirke, in which natural materials, bricks, tiles and

² (continued)

A student entering the School, looking for training in restoration, normally follows a programme which includes: (a) 1-2 years studies at one of the four non-specialized departments of Architectural Design or at the department for basic studies of the Institute itself; (b) 3 years more specialized training in the Department of Restoration, after a recommended one-year introductory programme; (c) diploma-project following an agreed programme; and (d) advanced training for Danish and foreign graduates.

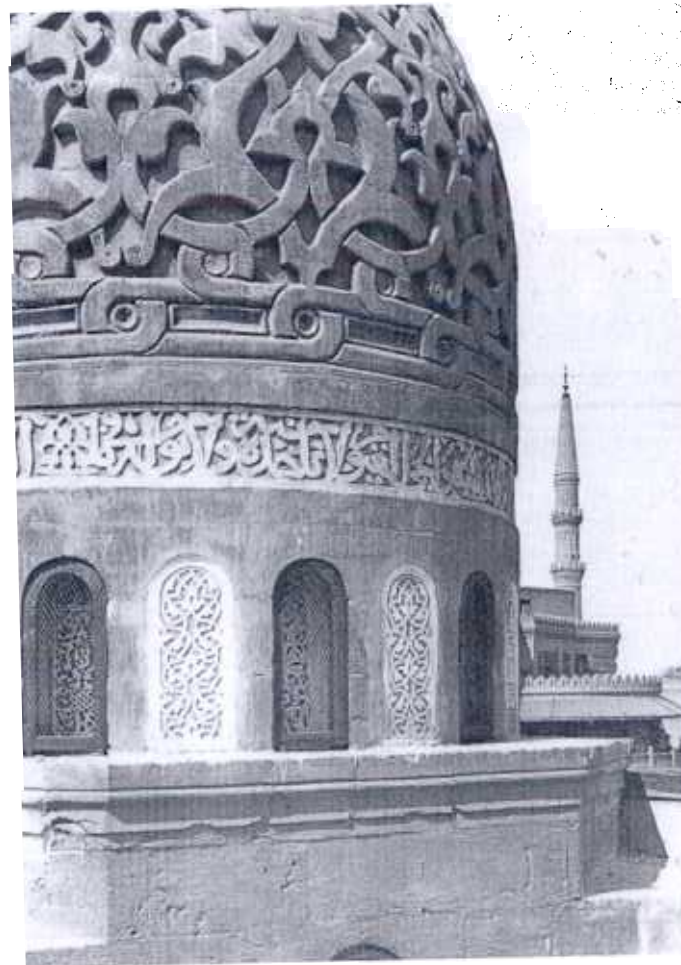


FIG. 3. Medresa El-Gowhariya, Cairo; the restored dome above the tomb.

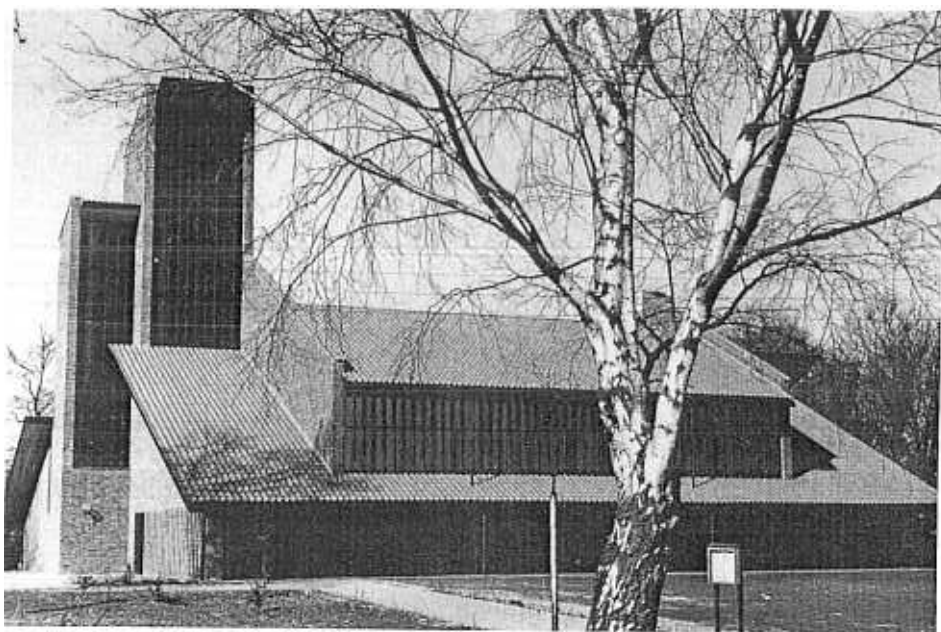


FIG. 4. Stengaard Kirke, Gladsaxe; designed in 1963 by Rolf Graae and Vilhelm Wohlert. The exterior is built of red brickwork and black stained pine.

timber, are used exclusively in a building that is satisfyingly and serenely modelled externally and internally (Figs 4, 5), as well as being integrated with the design of its surrounding site. Surely we can see here the strength of the Klint tradition, which was still potent in 1963 when this church was designed. And we can see it too in the recently built, carefully sited, little thatched building for the garden staff at Marienborg, the official country residence of the Prime Minister, which is one of the many historic buildings in Professor Wohlert's care.

Had he worked with Klint? He had been in his office for a time, and there had been a design collaboration in the 1950s, in an optician's shop in Copenhagen. And it was shortly after, in 1958, that Professor Wohlert began to design the museum of modern art of Louisiana. The home of this important collection is an ever-increasing extension to a relatively modest house built in 1855. The founder, Knud Jensen, describes the idea

to create an unpretentious frame around a collection of contemporary art. Louisiana's grounds with their lawns, old trees, woodland pond and view over the Sound helped to determine the architecture of the new buildings. The different aspects of the park landscape had to be retained, and in order to get a sense of it the architects, Jørgen Bo and Vilhelm Wohlert, wandered through it for months before beginning their drawings. They got to know the lie of the land through their feet, so to speak; they decided which trees were indispensable, and they studied the path of the sun over the site (Figs 6, 7).³

³ *Louisiana: Samling og bygninger*, Humbleback 1982.

The result of such a detailed and sensitive analysis of the *genius loci* is apparent immediately, but there is also an unexpected element in the design. Despite the large amount of new building compared with the old house, the latter has not been overwhelmed. Indeed, from the street frontage deceptively little of the new structures can be seen; and a similar careful distinction between the effect of a new building on the image of a street and on the image of a garden may be seen in the extension to an older house, Schaeffergården (Figs 8, 9), which is now used as a conference centre by the Danish-Norwegian Foundation.⁴ In this case

⁴ *Arkitektur* (1973) no. 6, 15ff. In this building the materials and colours were deliberately kept in a low key; the concrete was painted grey, the timber panels either white or left as natural pitchpine, and the steel black. Red-violet clinker flooring was used in the ground floor, and the settees are covered with red leather.

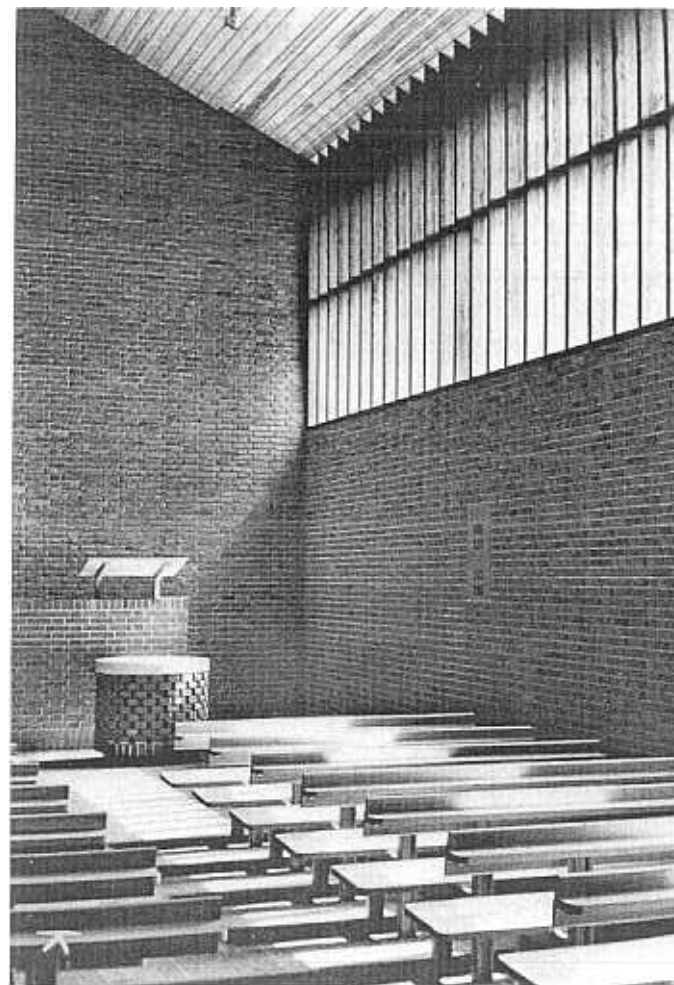


FIG. 5. Stengaard Kirke. The interior is in red bricks and natural timber.

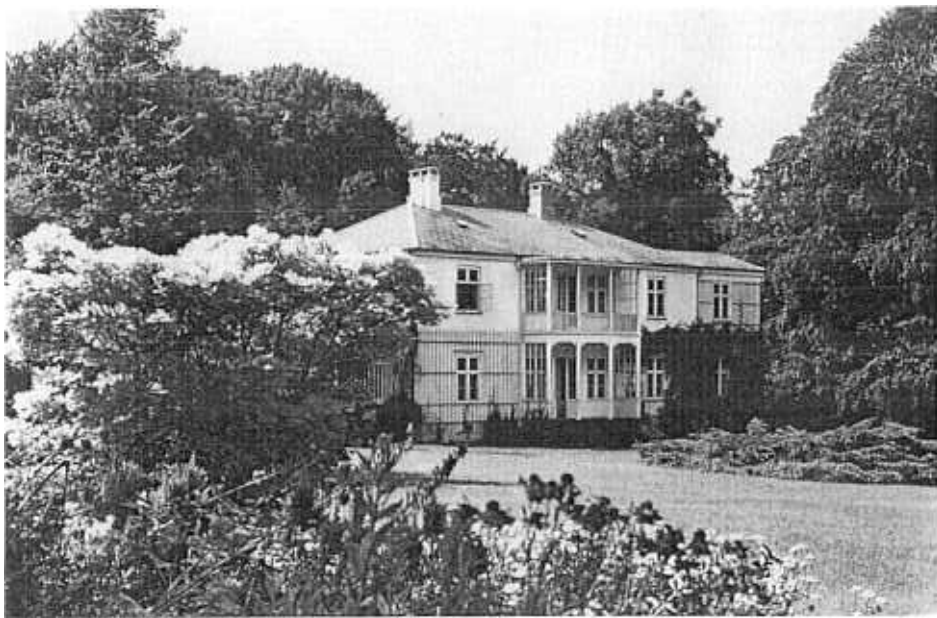


FIG. 6. The Louisiana Museum, Humlebaek; the original house built in 1855.



FIG. 7. The Louisiana Museum; part of the extension designed by Jørgen Bo and Vilhelm Wohlert between 1958 and 1982.

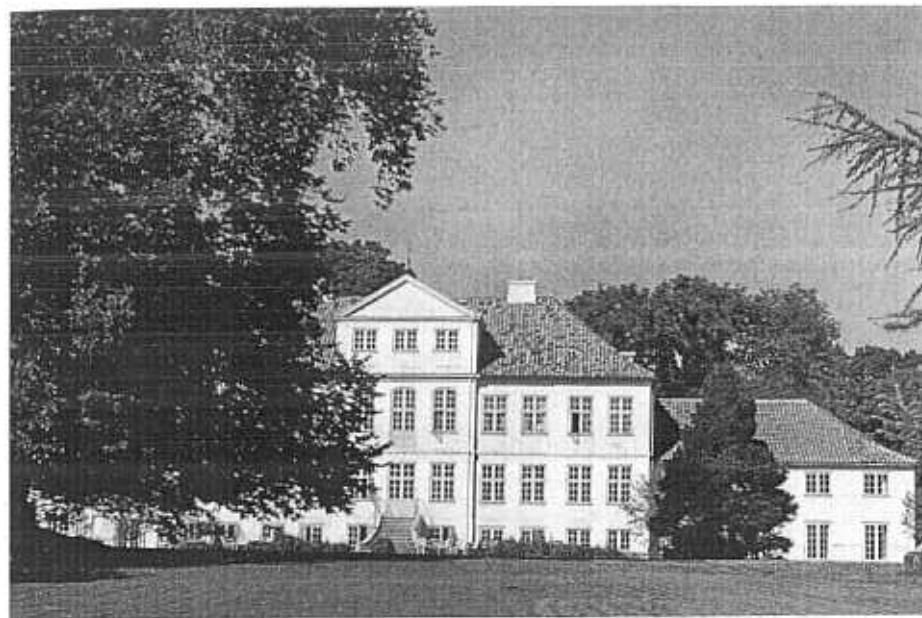


FIG. 8. Schaeffergaarden, Gentofte; the Danish-Norwegian Foundation Conference Centre. The seventeenth-century house restored by Kaare Klint in 1920 and extended by Palle Suenson in 1952.



FIG. 9. Schaeffergaarden; the new wing with dormitory and dining hall designed by Vilhelm Wohlert in 1973.

⁵ The first phase was completed in 1958, and extensions were built in 1966 and 1971. The concert hall was added in 1976 (see *Arkitektur* (1978) no. 6, 243ff), and the south wing was added in 1982. There is an intention to construct the final phase and complete the circulation by forming an underground gallery parallel to the coastline.

⁶ *Arkitektur* (1976) no. 6, 201ff, and Strömstad, P., J.C. Jacobsen: *Bryggergård I Brolagger Strade*, Copenhagen 1977.

the frontage to the street is simply a blank limewashed brick wall which continues the established pattern of enclosure; the garden front is glazed and modelled with balconies. Of the two designs, that of Louisiana is the more subtle with new buildings that are skilful, positive additions that integrate with the natural surroundings and offer great visual set pieces seen through plate glass.

Professor Wohlert sees Louisiana as an important building in his career in many ways.⁵ He had been to California where he was Visiting Professor at Berkeley from 1951 to 1953, and he believes the influence of the Bay Region style was still strong after his return to Copenhagen, especially in the relationship between architecture and nature. It was also a great opportunity to develop what had been a growing interest in museum design since his visits to Italy in 1954 to the then relatively recently completed galleries in historic buildings such as Castello Sforzesco in Milan and Castelvecchio in Verona. 'I have always been fascinated by the problem of using what is there', he told us.

The existing building and landscape at Louisiana were an inspiration to me, and this fascination was really what brought me to a fuller realization of the potential of historic buildings and areas. I had worked on the restoration of some eighteenth-century buildings in Klint's office, particularly the Museum of Applied Art in Copenhagen, but at that time I was both interested and uneasy about it. I think I had to go through a series of modern commissions and their problems before embarking confidently on old buildings; but they began to come to me. In 1965 there was the restoration and rehabilitation of an eighteenth-century house in Copenhagen as the Museum of Music History, done in collaboration with Jørgen Bo; and ten years later there was the rehabilitation of an old brewery for the premises of the New Carlsberg Foundation, to which I was indebted for sponsoring my 1954 study visit to Italy.⁶

This is an outstanding example of a rescue of a group of buildings that had been condemned, but for historic reasons it was then thought worth preserving as the place in which the first experiments in fermentation and beer production had been made by J.P. Jacobsen. This led eventually to the establishment of the world-famous Carlsberg Breweries. The property was bought by the New Carlsberg Foundation in 1972, and it was Professor Wohlert's task to make the old buildings suitable for new purposes. The existing features have been carefully preserved and integrated in the restoration work which has not allowed any changes in the external appearance (*Fig. 10*). Consequently, the small windows precluded the possibility of residential use but did not prevent the adaptation of the rooms as offices and display rooms for works of art which the Foundation is considering purchasing. Some of the rooms have been preserved complete, and necessary additions such as an elegant staircase with curved glass doors have been skilfully inserted in this complex with a comfortable atmosphere, in which it must be a pleasure to work. Externally there has been a careful treatment of the walls to recover the traditional patina and texture, and this work has probably acted as a



FIG. 10. The New Carlsberg Foundation, Copenhagen; the converted old brewery and warehouse in 1975. In the courtyard, the new windows have been made without mullions to distinguish them from the old reused ones.

model for the now frequent rehabilitation and adaptation of courtyards in Copenhagen. As a matter of interest, we asked how the walls had been treated in achieving the variety of colour. 'First I removed the old plastic paint, then applied a layer of chalk with a brush, and used iron oxide as a pigment in the final coat; this is green at first and then turns yellow.'

Professor Wohlert's restoration of original concepts of colour and lighting are also illustrated in the interior of the Vor Frue Kirke, Copenhagen's cathedral.⁷ A major work of Christian Frederik Hansen, this is a single-naved interior with coffered ceiling supported by

⁷ *Arkitektur* (1980) no. 3, 89ff; *Københavns Stiftsårbog* 1979, Copenhagen 1979.

colonnades. It was completed in 1829, but later generations reacted against its severe neo-classicism. 'There were political implications', he commented.

It was considered as representative of the old ruling class, and after the 1848 revolution had given added power to the middle class and ended absolute monarchism in Denmark there were many changes to the interior. What I had to do was to discover Hansen's original intentions and attempt to restore them. For example, his concept of axial planning had been obscured by the insertion of side doors which destroyed several of his intended effects. The subtle gradation and



FIG. 11. Vor Frue Kirke, Copenhagen; designed by C.F.Hansen in 1829 and restored by Vilhelm Wohlert in 1979. The interior of the nave with sculptures by Bertil Thorvaldsen.

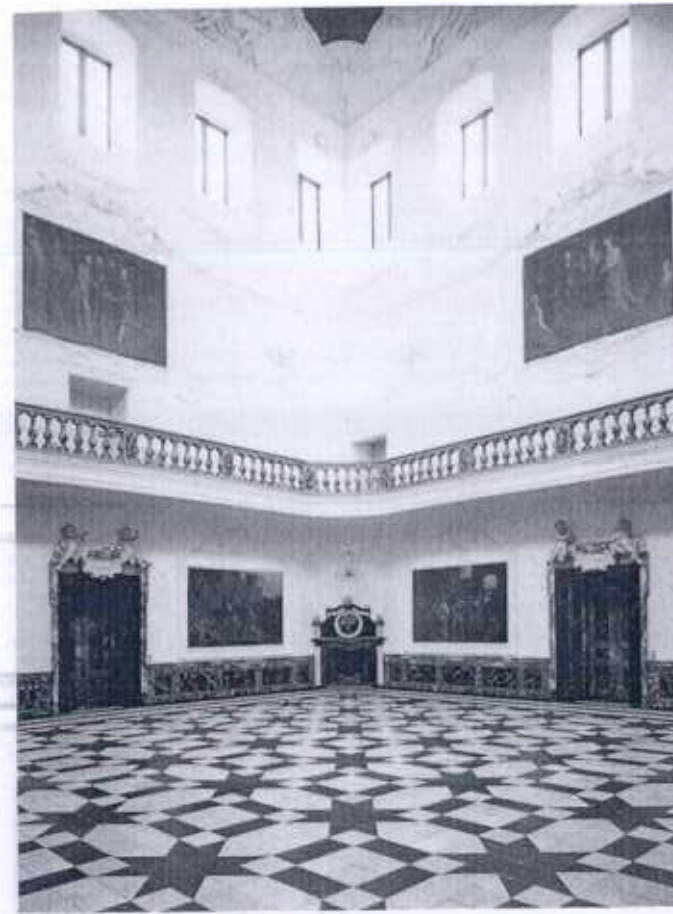


FIG. 12. Fredensborg Castle; the central hall as restored in 1977.

variety of natural lighting had been lost when the oculus over the apse and the central roof lights had been filled in. The intended severity of the coffering had been reduced by the insertion of gilded stars, and the whole interior had been painted ochre, a decision that was opposed to the cold purity of Hansen's design. After making a complete repair of the roof and reconstructing the coffered vault, I was able to follow Hansen's drawings and restore the appearance and effects he intended; although additions such as the spiral staircases leading to the gallery out of the body of the church are unashamedly in today's idiom. (Fig. 1) There was a good series of documents, and a fine painting⁸ showed the design of the original lighting fittings on the pew ends, which I copied (Fig. 11). In the research on the original colour I had the assistance of the National Museums Conservation Department, and I was able to call on their services again when the central hall of Fredensborg Castle had to be restored.

⁸ This painting by Niels Simonsen dating from 1839 shows the cathedral at the time Bertil Thorvaldsen's statues were being installed.

⁹ See *Nationalmuseets Arbejdsmark* (1979) 5ff for a short account of this work by Vilhelm Wohlert and a detailed article about the colour research by Jørgen Høj Madsen.

¹⁰ See Raabyemagle, H., 'Moltkes palæ på Amalienborg', *Architectura* (1983) no. 5, 7ff.

In this building Professor Wohlert was dealing with an earlier decorative style. It was the work of Johan Cornelius Krieger, who in the 1720s developed a sketch design given to him by Frederik IV as an Italian *casino* with a central domed hall or *salotto*. With its black and white marble tiled floor, its corner fireplaces and central doorframes of variegated Italian marble, and its marbled balustraded gallery, this impressive room rises to a stuccoed dome which was originally decorated in various colours (Fig. 12). For two hundred years the dome had been white-washed, and in 1860 the walls had been painted Wedgwood blue. Recently Professor Wohlert has redecorated the room, basing his reconstruction of colours partly on a coloured drawing of a section through the building dated 1728 and partly on the research by his colleagues in the National Museums.⁹ In the process of this work more information has been gained about eighteenth-century practice and techniques.

'We are always discovering something new about original methods and materials', we were told.

Consider the Chinese pavilion at Frederiksborg, which is now under restoration. Here we were able to establish that the roof covering was copper shingles, and so we are replacing them according to the old design. These will then be lightly sandblasted to provide a key and painted as they were originally in Chinese yellow outlined in brown. The interior and exterior of this exotic building will also be redecorated according to the results of our research.

While visiting several of the royal and state buildings for which he has been responsible since 1975, we were given examples of the value of documentation in establishing correct details. For instance, we noticed that extensive refacing with new stone is now being done on one of the four corner palaces within an octagonal piazza that comprise the Amalienborg Palace. The one containing the State Rooms (themselves delicate rococo interiors that seemed almost like those of the Sleeping Beauty as we saw them in their shuttered state with dust sheets covering the furniture) reveals a masonry facade that is visibly decaying to such an extent that the profiles of many mouldings have been lost. How are they being restored?

In this case we were very fortunate, because archival research produced information that in 1750 the stonemason was claiming extra payment because he had been instructed to make mouldings more elaborate than those on which he had originally priced. As evidence he submitted sections of both states, the intended and the executed, and so we have the exact profiles as recorded in these documents to use as templates.¹⁰

Was it his intention to replace the entire facade, which had been partly restored some time ago? Or were the less eroded stones going to be retained?

In some places I would like to keep the best of the old material, but there is so much evidence of the rapidly accelerating rate of deterioration of this rather soft

stone that we are replacing most of it with a more durable material from Bremen in Germany. We hope that this will last another century or two, and so I think it is important in this case to restore the complete artistic concept. There are no hard and fast rules, and we have to judge each building's problems on its own.

How consciously does he refer to the Venice Charter when having to make such decisions?

I think the definitions are very useful, but reality demands compromise and it would be difficult to follow the recommendations literally. I think each practitioner has to develop his own sense of responsibility and understanding while bearing the Charter in mind. Every problem is a new one. In some cases, we might have to concentrate on an exterior, as in the Yellow Palace which I am restoring and adapting for new use as the offices of the Queen's Chamberlain. The room has been replaced as it was originally, and so have the window mullions. The facade has been painted in its original colours, but internally there has been a less strict historical restoration in some rooms because of the new functions the building will have.

As we made our tour of these royal buildings we asked about Professor Wohlert's responsibilities and how he was selected.

I think the Ministry was interested in having a mixed practice appointed rather than an historical specialist. They asked the Royal Academy of Fine Art to make a recommendation, and that is how I came to be offered this opportunity. As a result of my work, I was also recommended as architect for Roskilde Cathedral, the traditional burial place of Danish monarchs.

We drove to this red brick building that is filled with royal tombs, many of them loudly proclaiming with worldly pomp and trumpeting angels the authority and achievements of the deceased; and we heard about the proposed external burial ground in which the late king is to be interred with relative quietness and simplicity. Interestingly, this may be seen as

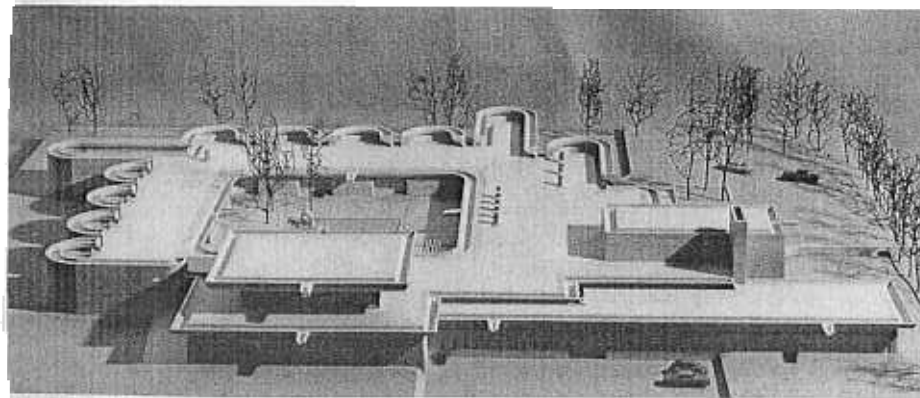


FIG. 13. The Professional Training Centre, Ksar-el-Boukhari, designed by Hans Munk Hansen and Vilhelm Wohlert in 1982. The dining hall facing a courtyard, surrounded by student housing, administration and workshop. The pre-cast concrete and plaster work are painted ochre.

¹¹ *Arkitekten* (1982) no. 2ff.

another aspect of Professor Wohlert's concern for the integration of a building with its setting, since he regards it as a fitting opportunity to incorporate the partly enclosed geometric burial ground within a broader design for the treatment of the whole area around the cathedral.

To what extent is he personally responsible for the designing within his office.

Once I tried to do all the designing, but as the work grew and as my duties as Professor increased I found it impossible though I still develop and discuss the designs, both for old and new work, with my partners and I value human connections highly. I benefit from discussions with my colleagues, and I hope they feel the same about the reverse.

How many architects work in his office?

Today there are between twelve and fifteen, including the secretaries. At the time there was more new work there were up to twenty-five, but I think that was too large a staff. Most of our work today is on old buildings, although I have been working with Jørgen Bo on a new art museum in Bochum, West Germany, and not long ago I completed a Vocational Training Centre of Sonelec in Ksar-el-Boukhari in Algeria (Fig. 13).¹¹ This is a project on which I collaborated with Hans Munk Hansen, who has considerable experience of working in the



FIG. 14. A proposal for a new national museum, Kabul, made in 1974. The model shows the exhibition rooms surrounding a courtyard; on the right are the administration rooms and lecture hall.

Middle East; and I still collaborate with Jørgen Bo who shared the responsibility for Louisiana with me.

The Algerian project incorporates some characteristics of traditional architecture in the two groups of compactly clustered buildings formally placed on opposite sides of a dry river bed. All are low, either one or two storeys high, and they are closed towards the surrounding barren landscape but open into richly planted courtyards. Without being self-conscious, this is a design in a North African tradition, and it led us to talk about Professor Wohlert's Unesco commissions.

The first he undertook was in 1973–74, when he was invited to help the Afghan Ministry of Information and Culture in planning a new national museum in Kabul. Apart from the technical and planning considerations, which were carefully investigated, he was anxious that the new building should be related to identifiable characteristics of Afghan vernacular architecture so that in one respect it could be symbolic of the country's history and traditions (Fig. 14). He also recommended that the scents and shades of the planting and the cooling effect of the water in the enclosed courtyard should be carefully considered elements in the total impression of the museum.¹²

He would have enjoyed developing these ideas, but as yet there has been no sequel to the report. Indeed, Professor Wohlert feels that a weakness in Unesco's admirable work is the failure to follow up many of the reports presented to them. In 1977 he was consulted about the problem of designing new buildings in the historic centre of Fez El Bali in Morocco to replace two fondouks destroyed by fire. In his report he suggested that this might be an opportunity to establish a principle that could be employed in other similar situations, and once again he stressed the need to relate these designs to a healthy, viable and rational development of Moroccan architectural traditions and to ensure that they are integrated in the traditional character of the townscape.¹³

But if there has not yet been an opportunity to realise any of these proposals Professor Wohlert does look back with satisfaction on the work he, his colleagues and his students have been able to accomplish in Cairo. For him, this represents one of those chances that come too seldom, in which teaching and practice, theory and experience, may be combined with benefit to everyone.

Résumé

Titulaire de la chaire de restauration l'Académie Royale des Beaux-Arts du Danemark, Vilhelm Wohlert a aussi été depuis près de trente ans l'un des architectes les plus en vue au Danemark.

Il fit ses études à Copenhague où il fut très influencé par Kaare Klint dont les œuvres sont dans le style 'art

et artisanat' qui insiste sur l'usage de matériaux qui s'améliorent avec l'âge. Cette tradition est illustrée dans les ouvrages du Professeur Wohlert comme la Stengaard Kirke pour laquelle seuls des matériaux 'naturels'—briques, tuiles et bois de charpente—ont été utilisés.

¹² See Unesco Report, *The National Museum, Kabul, Afghanistan* 1974.

¹³ See Unesco Report, *Projet du 'Fill In' dans la Medina de Fes* 1978.

C'est en 1958 que les Professeurs Wohlerl et Jørgen Bo entreprirent la construction du musée d'art moderne de la Louisiane, une extension à un bâtiment relativement modeste qui date de 1855. Selon le fondateur du musée Knud Jensen

le parc de la Louisiane avec ses pelouses, ses vieux arbres, son lac caché dans un bois son point de vue sur le Sound fut un élément important dans la conception du nouveau musée. Les divers aspects du parc devaient être pris considération; aussi, pour bien en saisir l'atmosphère, les architectes s'y promènèrent-ils pendent des mois avant de commencer leur projet.

Le résultat d'une analyse aussi détaillée et sensible du *genius loci* est immédiatement apparent dans les nouveaux bâtiments qui forment une extension intelligente et positive qui s'intègre parfaitement avec l'environnement.

Selon le Professeur Wohlerl, la Louisiane compte beaucoup dans sa carrière. Il avait passé deux ans, de 1951 à 1953, en Californie comme Visiting Professor à Berkeley et il pense que le style architectural de la baie de San Francisco fut une influence non négligeable sur son projet. Mais, construire la Louisiane c'était aussi mettre en pratique son intérêt croissant pour la muséographie déjà avivé en 1954 par une visite aux nouveaux musées d'Italie installés dans des monuments historiques comme le Castello Sforzesco à Milan et le Castelvecchio de Vérone: 'J'ai toujours été fasciné, dit-il, par la difficulté d'utiliser ce qui existe... et je me suis donc efforcé de mieux comprendre le potentiel des bâtiments et des sites historiques.' Mais il pense néanmoins que ce fut la réalisation des plusieurs projets modernes qui lui permit d'entreprendre avec confiance l'adaptation des bâtiments anciens.

Un exemple remarquable de la sauvegarde de bâtiments qui avaient été condamnés fut la transformation d'une ancienne brasserie, siège depuis 1975 de la Nouvelle Fondation Carlsberg. Les caractéristiques des bâtiments ont été soigneusement conservées et intégrées dans la restauration qui n'a changé en rien l'aspect extérieur. Certaines des pièces ont été entièrement conservées tandis qu'ailleurs des additions nécessaires ont été habilement faites en style contemporain. De même, le Professeur Wohlerl a construit un escalier résolument 'moderne' dans la Frue Kirke, la cathédrale néo-classique de Copenhague qui date de 1829. Il en a également restauré la couleur et l'éclairage d'origine, travaux pour lesquels il bénéficia de l'assistance du Département de la Conservation des Musées Nationaux; de même pour la restauration de la couleur du hall à coupole de Château de Fredensborg. Grâce aux informations rassemblées au cours de ces travaux

sur les coutumes et les techniques du XVIIIème, le Professeur Wohlerl fut en mesure de restaurer aussi, à l'original le Pavillon Chinois de Frederiksborg.

Depuis 1975, il a été chargé de la conservation des bâtiments royaux et nationaux. Les travaux en cours sur la façade de l'un des quatre bâtiments du palais d'Amalienborg soulevèrent un certain nombre de questions quant au choix des solutions adoptées en référence à la Charte de Venise: 'Chacun, dit-il, doit prendre ses responsabilités tout en gardant la Charte à l'esprit; chaque restauration demande des solutions spécifiques.'

La plus grande partie de son travail aujourd'hui concerne des bâtiments anciens mais il a aussi édifié en collaboration avec Jørgen Bo un musée d'art moderne à Bochum en RFA et, récemment encore, il a travaillé avec Hans Munk Hansen à un projet pour un centre de formation professionnelle pour la Sonelec à Ksar-el Boukhari en Algérie. L'Unesco l'a envoyé en mission en Afghanistan et au Maroc mais sans aboutissements pour le moment. Néanmoins, son intérêt pour les traditions architecturales des pays étrangers aussi bien que du sien l'amena à former, par une remarquable combinaison d'enseignement théorique et de pratique, des élèves qui furent en mesure de répertoire et de restaurer un certain nombre de bâtiments détériorés du Caire: 'Il a toujours été utile que les architectes sachent faire ces choses mais il est encore plus important aujourd'hui qu'ils se familiarisent avec des techniques artisanales en voie de disparition.'

Resumen

Además de su cargo como Catedrático del Departamento de Restauración de la Real Academia Danesa de Bellas Artes, Vilhelm Wohlerl ha sido una de las más destacadas figuras de su especialidad en Dinamarca durante casi treinta años. Formado en Copenhague, recibió fuerte influencia de Kaare Klint, cuyas creaciones arquitectónicas pertenecen a una forma tardía de creación artesanal basada en materiales que mejoran con el paso del tiempo. La fuerza de esta tradición puede verse en obras del Profesor Wohlerl tales como Stengaard Kirke, donde se emplean exclusivamente materiales naturales: ladrillo, baldosas y madera.

En 1958, el Profesor Wohlerl y Jørgen Bo empezaron a diseñar el museo de arte moderno de Luisiana, como extensión de una casa relativamente modesta construida en 1855. Como escribió Knud Jensen, fundador del museo,

el terreno de Luisiana, con el césped, los antiguos árboles, estanque umbroso y panorama del Estrecho, contribuyó a establecer la arquitectura de los nuevos edificios. Había que

conservar los distintos aspectos del paisaje natural y, para compenetrarse con él, los arquitectos pasearon por él durante meses antes de ponerse a diseñar.

El resultado de un análisis tan minucioso y sensible del *genius loci* resulta inmediatamente aparente en la sutileza de unos edificios añadidos que se integran hábil y positivamente al medio natural.

El Profesor Wohlerl considera Luisiana como edificio de importancia en su carrera profesional. Había estado en California, donde fue Catedrático Visitante en Berkeley desde 1951 hasta 1953, y cree que el estilo de la Bay Region todavía ejerció fuerte influencia en su diseño; pero Luisiana le ofreció también la oportunidad de desarrollar lo que había constituido un creciente interés en el diseño de museos desde sus visitas a Italia en 1954 a las entonces relativamente recién completadas galerías de edificios históricos, tales como Castello Sforzesco en Milán, y Castelvecchio en Verona. 'Siempre me han fascinado los problemas de poder utilizar lo que se halla en un sitio... y esto me hizo comprender mejor la potencialidad de zonas y edificios históricos.' Pero considera que tuvo que enfrentarse con una serie de encargos modernos y sus problemas, antes de sentirse capacitado para los edificios antiguos.

La habilitación en 1975 de una antigua fábrica de cerveza como local de la Nueva Fundación Carlsberg es un ejemplo notable de rescate de un grupo de edificios que habían sido condenados. Las características existentes han sido cuidadosamente conservadas e integradas en las obras de restauración, que no han admitido cambio alguno en el aspecto externo. Algunas de las habitaciones se han conservado enteramente y las adiciones necesarias se han añadido hábil y positivamente en lenguaje contemporáneo. De modo parecido, ha añadido sin ningún reparo escaleras 'modernas' en Vor Frue Kirke, la catedral neoclásica de Copenhague terminada en 1829. En esta

construcción, el Profesor Wohlerl ha restaurado los conceptos originales de luz y color, con la colaboración de Departamento de Conservación de los Museos Nacionales para averiguar el colorido original. De nuevo pudo solicitar sus servicios cuando renovó la decoración del salón central con cúpula del Castillo de Fredensborg. Mediante estos trabajos se han ampliado los conocimientos de las técnicas y sistemas del siglo XVIII, y en otra restauración, la del pabellón chino de Frederiksborg, la investigación ha permitido que pudiese trabajar según la idea original.

Desde 1975, el Profesor Wohlerl está encargado de los edificios reales y del Estado, y las obras actuales en la fachada de uno de los cuatro edificios que forman el Palacio Amalienborg hizo surgir la cuestión de la toma de decisiones y la de su actitud hacia la Carta de Venecia. 'Creo que cada profesional tiene que formarse su propio sentido de responsabilidad y comprensión, teniendo en cuenta la Carta. Cada problema es nuevo.'

En la actualidad, la mayor parte de su trabajo está relacionado con edificios antiguos, aunque ha estado trabajando con Jørgen Bo para un nuevo museo de arte en Bochum, Alemania Occidental, y hace poco colaboró con Hans Munk Hansen en el diseño de un Centro de Formación Profesional en Sonelec, en Ksar-el-Boukhari, Algeria. Ha aceptado encargos de Unesco para Afganistán y Marruecos, aunque todavía no han sido empezados. Con todo, el interés del Profesor Wohlerl en las tradiciones arquitectónicas de otros países, así como del suyo propio, ha llevado a una valiosa combinación de práctica y docencia, teoría y experiencia, a la catalogación y restauración práctica, por parte de algunos de sus estudiantes, de varios edificios abandonados en El Cairo. 'Siempre tiene que resultar útil que los arquitectos puedan hacer estas cosas, pero todavía es más importante que adquieran conocimientos de artes en proceso de extinción.'