# WORLD ARCHITECTURE

ISSUE No. 5 1990 $10 US

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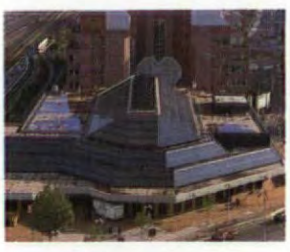

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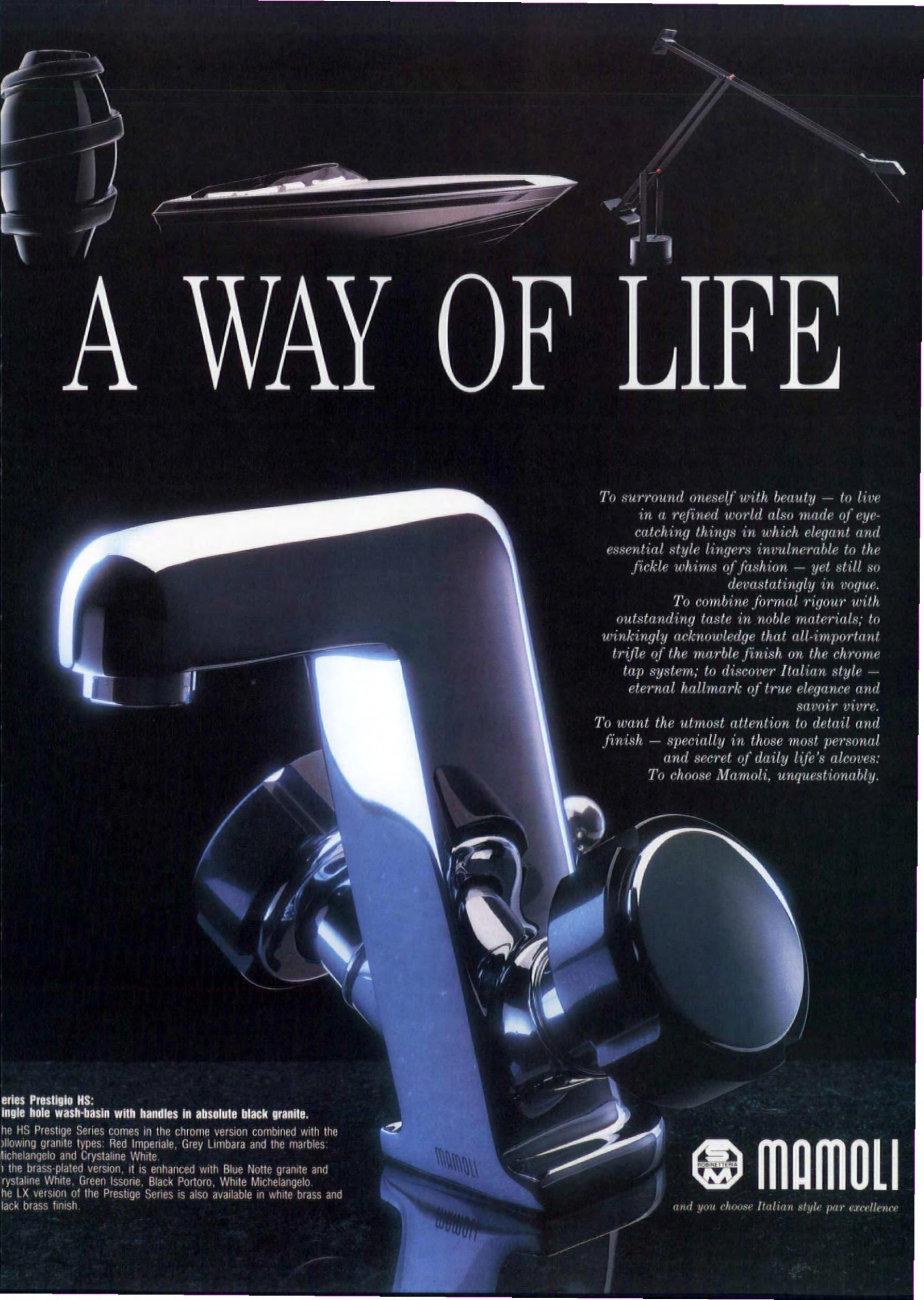
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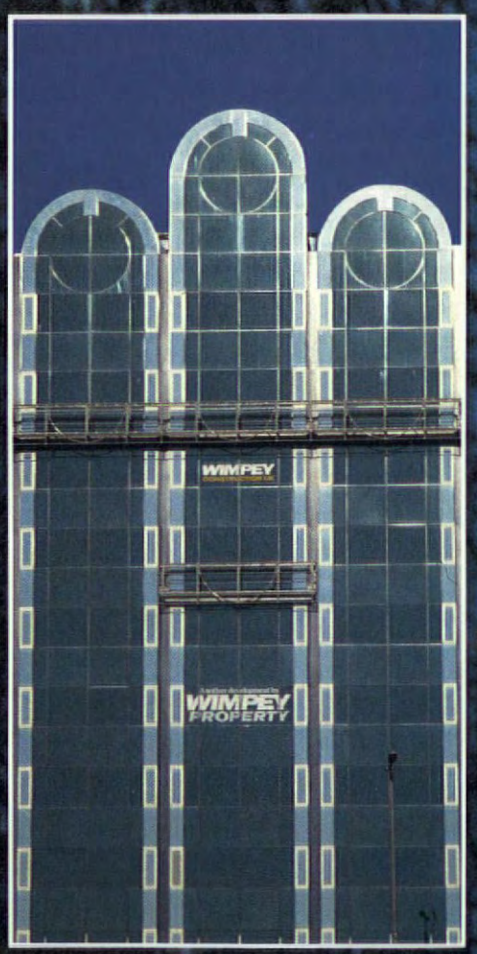


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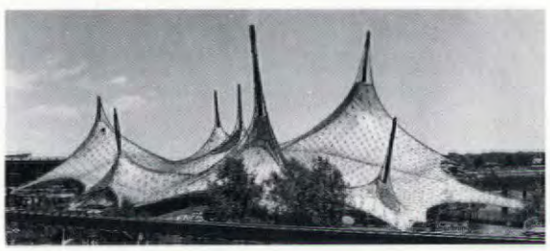

Nowadays there is a growing demand to achieve more with less. Has this resulted in a greater understanding among architects and a new approach towards construction? Textile structures give this question another dimension.

The possibilities for large coated fabric structures were first demonstrated in 1967 by Frei Otto and Rolf Gutbord with their designs for the German pavillion in Montreal.

This type of architecture is unmatched. Its immediate advantages are obvious. No other structure can achieve so much. The need for materials and energy to cover such large areas is reduced.

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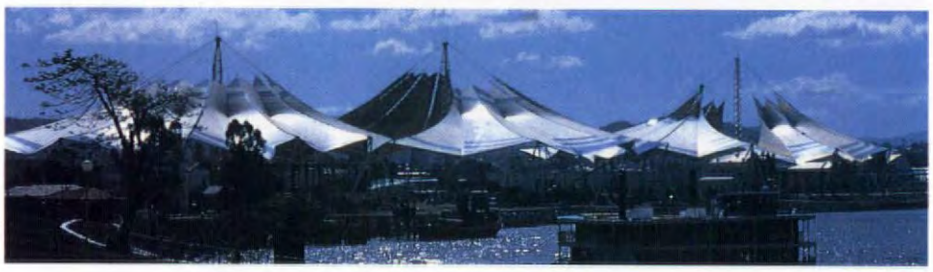

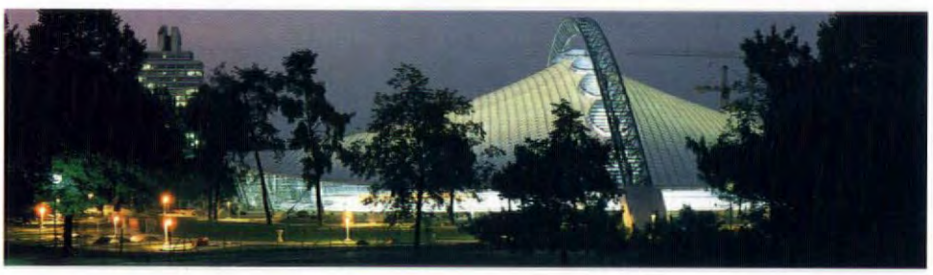

Close to the Munich Olympic Park, this covered leisure area is open for skaters all the year round, and its architecture blends perfectly with its surroundings.

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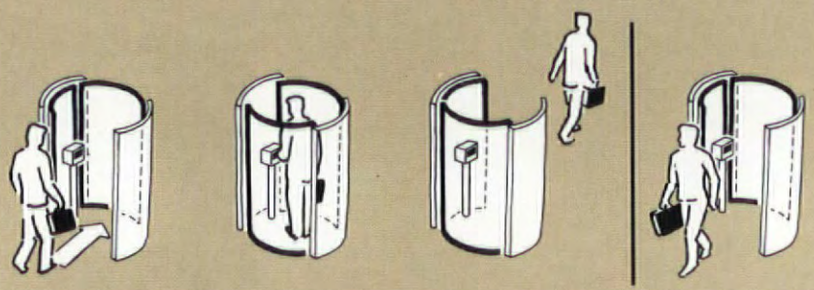

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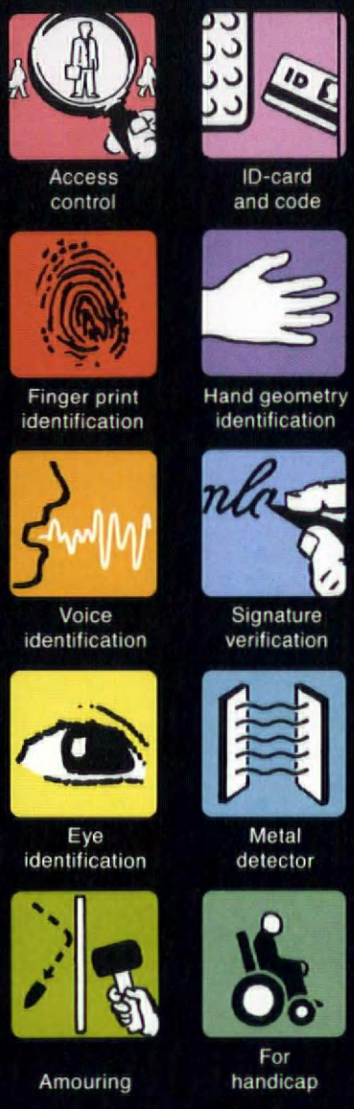


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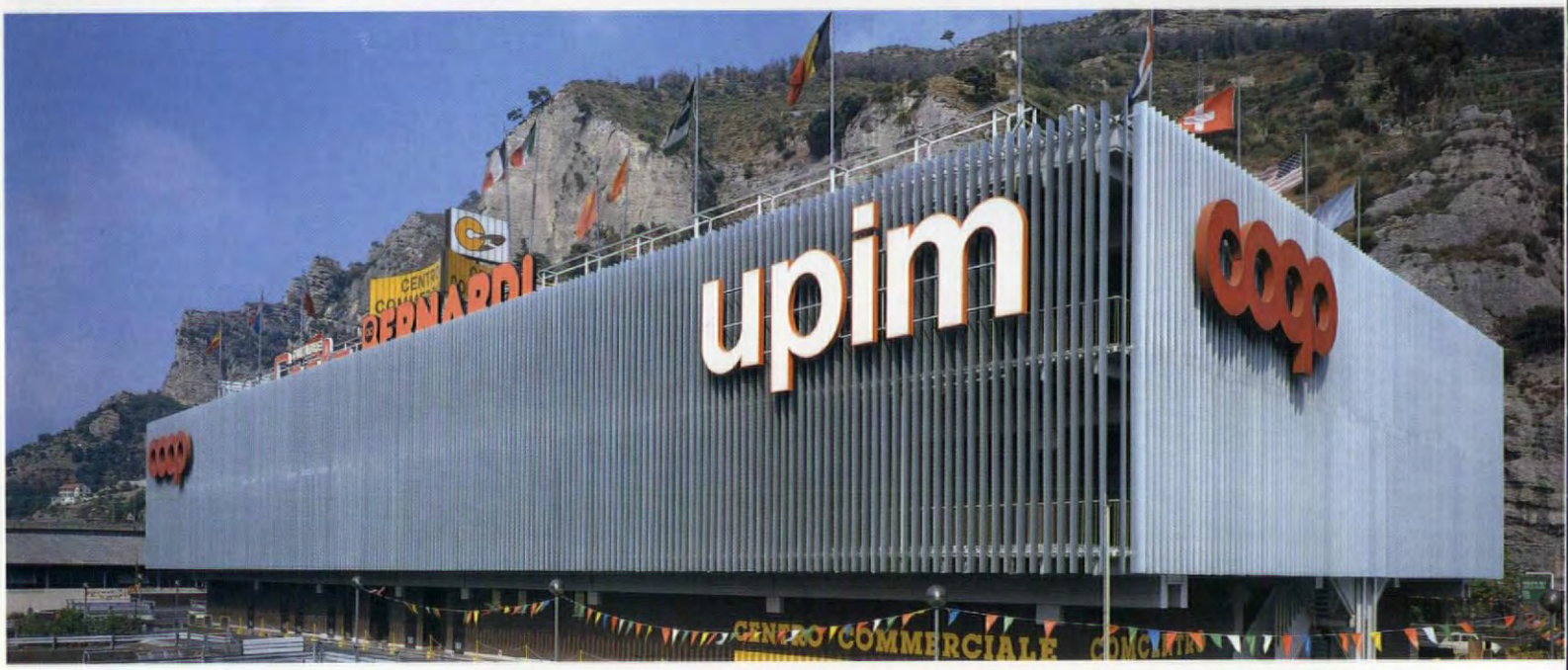


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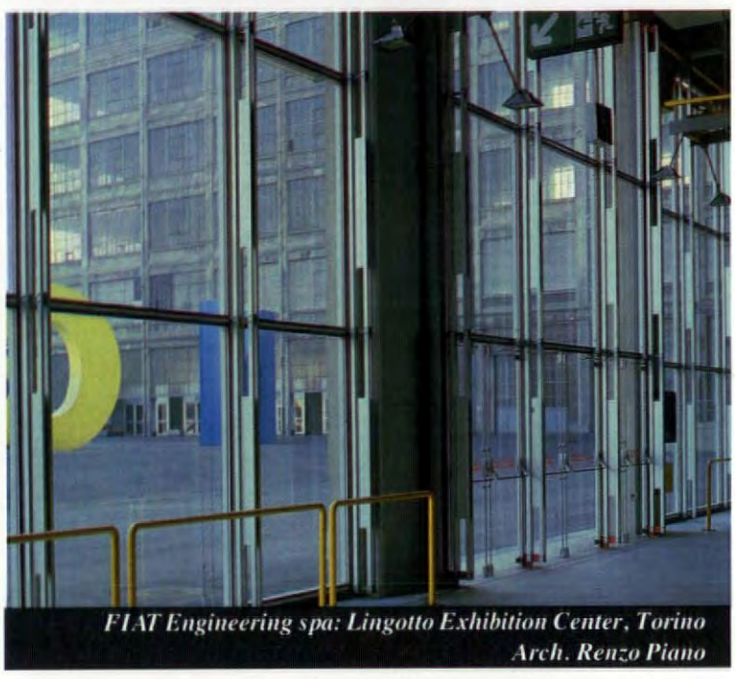

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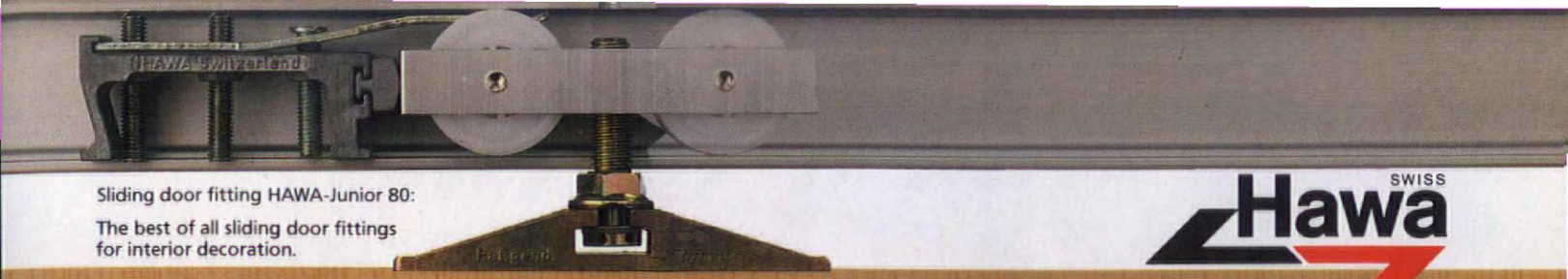


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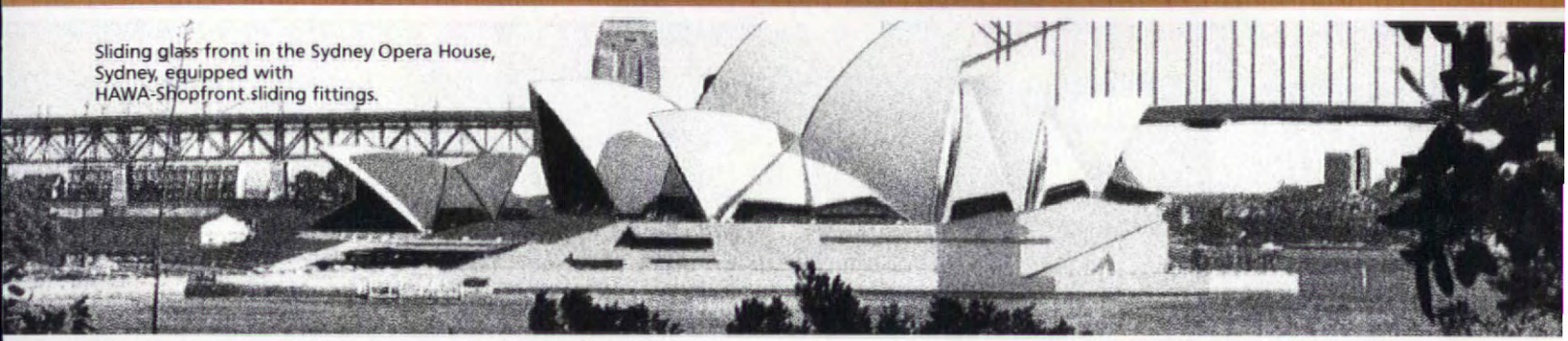

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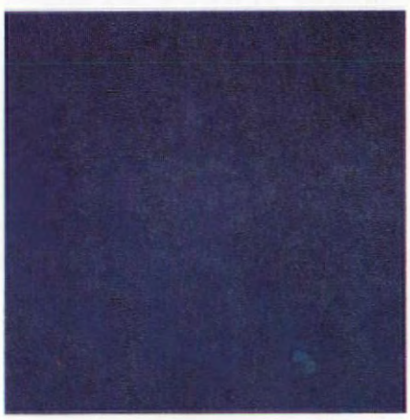
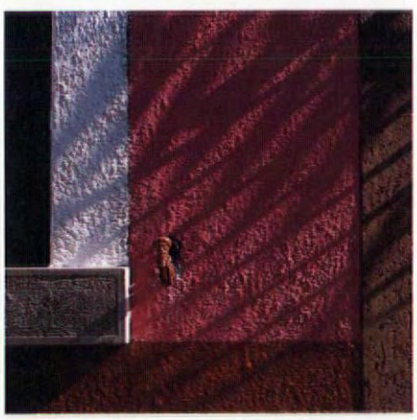

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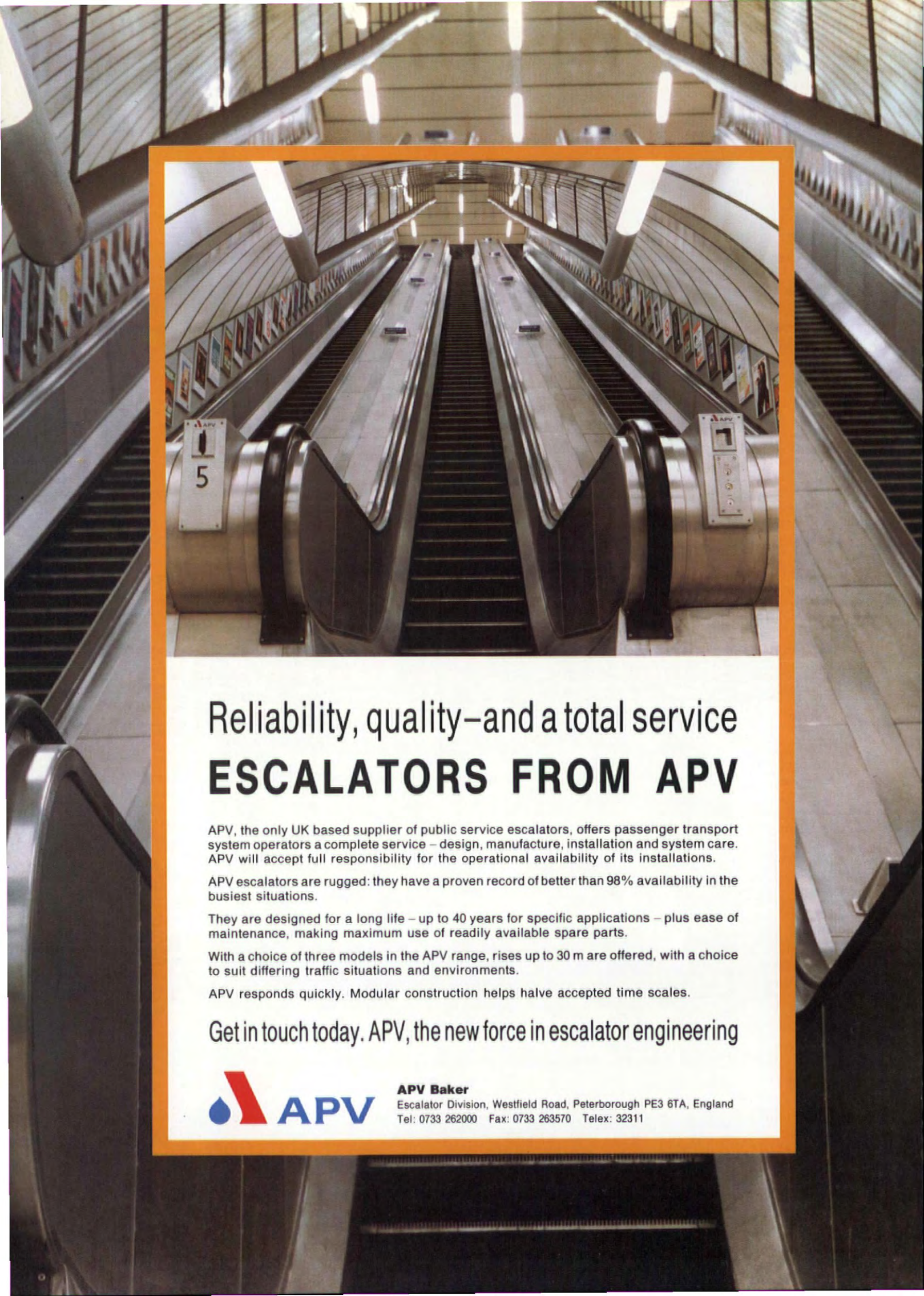

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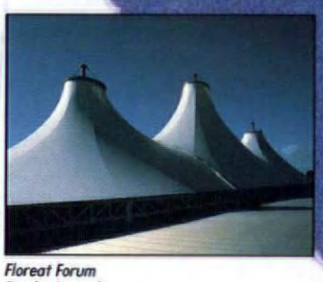

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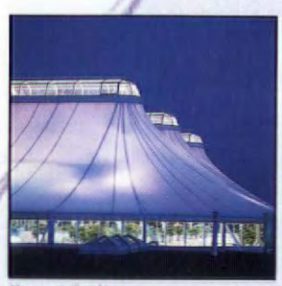

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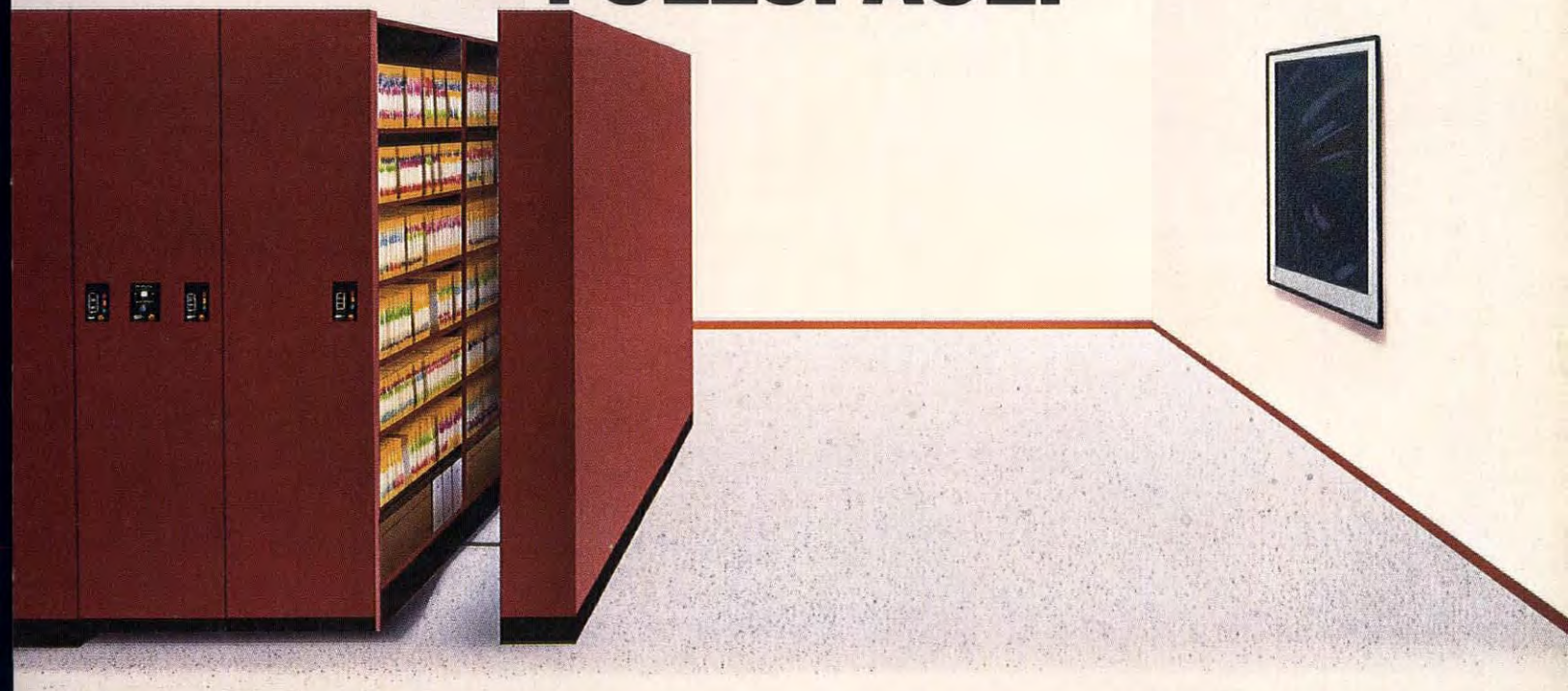

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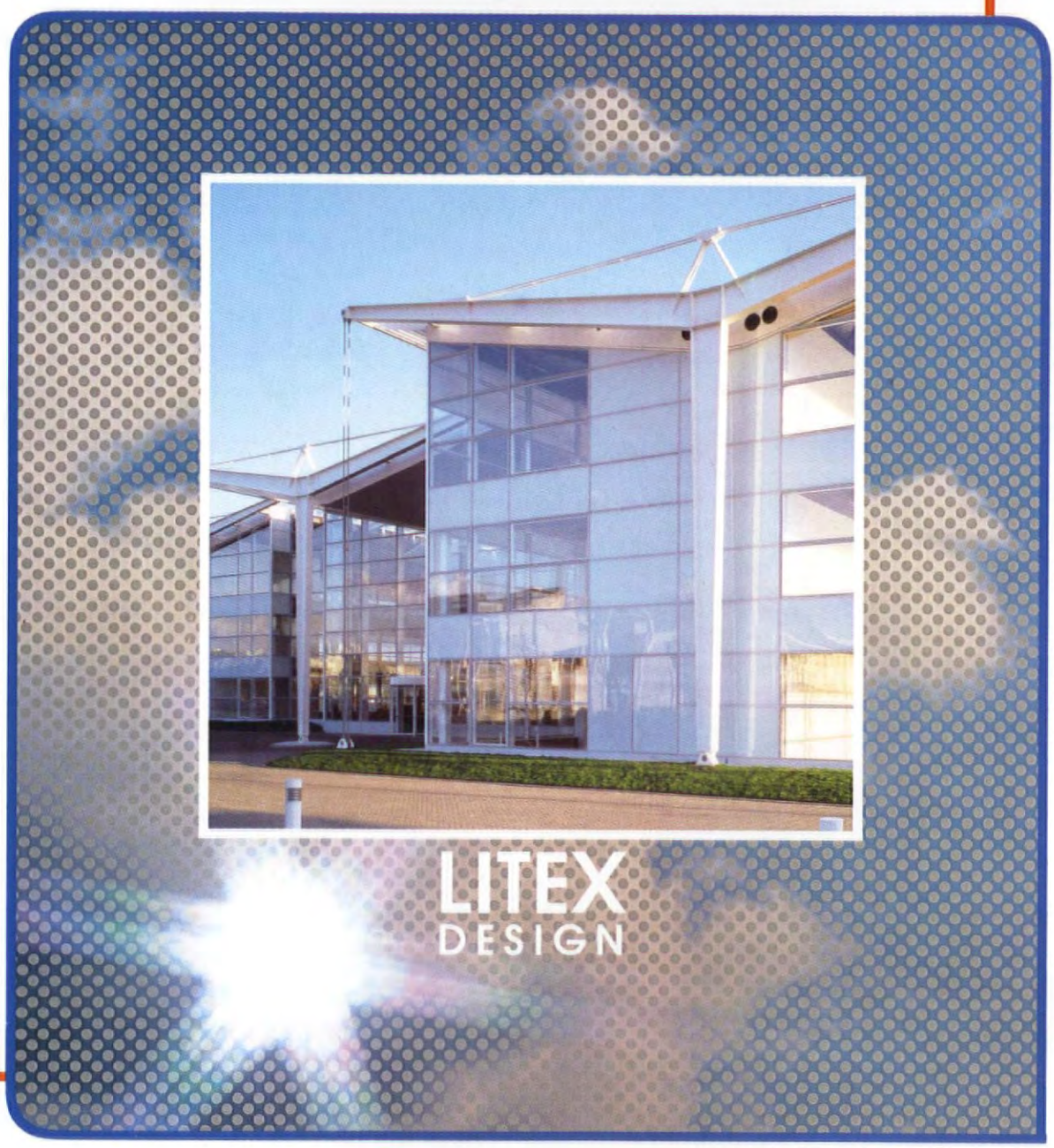


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# WORLD ARCHITECTURE

This issue of *World Architecture* arrives at a time of tumultuous change in the world. The enormity of recent events, particularly in the various parts of Europe, presage fundamental structural and regional changes. Nothing is likely to be the same again. They all affect architecture which has an important part to play in this whole process of change. Throughout society, concern for the physical well-being and sympathetic design for the environment stands high on the agenda. It reflects a deep-seated concern about general environmental conditions; about attitudes towards buildings, to traffic chaos and pollution as well as to new projects, conservation and nature. Communities, whether small and rural or regionally large-scale and metropolitan, are all involved.

Architecture has the power to change the course of history. Like the words that act as symbols of power and intentions, buildings too summarily symbolize aspirations – not just to grandeur, but to culture, taste, comfort, convenience as well as community and individual well-being. This view is sometimes countered. Arguments are constructed that allege that conformity is only achieved through prescriptive measures. These, of course, are the sort of games princes and dictators love to play.

Architecture, bound by inherent forces, demands recognition on its own terms; the combination of structure, materials, space and the balance of elements and forces that make a project special to the age it appropriately records, is not a plaything that puts on a classical cloak at one moment and changes into gothic or modernist attire the next. Present-day architecture should surely make the new connections within society visible, the new changes recognisable and clearly express the new aspirations.

The great pioneers of modern architecture, and some of today's best exponents of our own contemporary design attitudes, from the North European regionalists to the new technologists, have shared concerns for place, for the value of physical structures and social frameworks and for natural laws, forms and demands. They also shared creative ideals appropriate to their own times. It would be absurd to halt the clock now. What was recognized as suitable and appropriate at the beginning of this century is no longer so. We may feel nostalgic about it and we may well admire it as a part of our heritage.

As we enter the last decade of this millennium it is recognised that we have been going through a period of re-assessment. Our view of the past – and of the future for that matter – is completely different from the views that prevailed only a few decades ago. But we must not, as Le Corbusier said, brandish modern views against "Folklore" as if they were weapons; they are component parts of the same battle. The search is for good design, for originality, for the invention of confident and expressive forms and, above all, for an architecture that uses history and place creatively not just to confirm a previous age or conform to conventions, but to enliven, enrich and excite the user and the observer.

In devoting this issue of *World Architecture* to the Argentinian architect Clorindo Testa, whose work extols the virtues of the classic moments of modern architecture, an attempt has been made to see it in its widest cultural and social contexts. It provides a telling portrait of an individual architect whose own creative work has constantly responded to change. □

*New magazines have their teething troubles. We seem to find it difficult to credit photographers and owners of photographs. First, issue No. 2. The inspiring photographs of Imre Makovecz's buildings were taken by the photographers Tamás Nagy, László Sáros, Tibor Zsitva and Janos Gerle. Also in this issue we failed to credit the slide library of the Architectural Association, London with supplying us with the photographs of Alexandr Brodsky and Ilya Utkin. We have compounded the AA's displeasure with us by failing to credit the same library with supplying us with images of Richard Meier's High Museum, Boston, his museum at Frankfurt and pictures of the Musee d'Orsay used in Charlotte Ellis's article* The Assertion of Culture. *Naturally we hope to mend our ways before our apologies become feature length.*

# CLORINDO TESTA

*A paean to Testa by Professor Peter Cook*

The idea of the artist-architect has appealed to many twentieth century commentators since it seems to offer an alternative to the creeping technocratic determinism that forms the basis of much recent architecture. Clorindo Testa's paintings and drawings have a powerfully spatial as well as dramatic quality – marvellously uncluttered and direct by comparison with the usual architect's "art-piece". But then the same can be said very confidently about his buildings. They demonstrate a capability for broad strokes of form and heroic presence, but with a subtlety of touch which can be seen in the way he articulates a series of openings, ribs or barrels and the way that humorous extrusions from the main form seem to find themselves just in the right place.

Testa says of his student days in the 1940s "we had experienced, pleasant, learned teachers, whose teaching had absolutely nothing to do with current trends in architecture. I must have been in fourth year at the University when I heard Le Corbusier speak. He became my model both in my university years and after graduation, for I never paid much attention to other architects".

Certainly there is a Corbusian attitude towards the strong carcass and the potential of other strong objects to wrap and fold into it. The clue to his fluency with such actions is to be found, once again, in the drawings. The action of climbing, waving, grasping or folding seems to occur in many of them, in particular a drawing of 1978 entitled "La Peste entra en la casa de B.V" (from series *La Peste en Ceppaloni*) which has a nearly mythological ghost-figure folding outwards from a pedantically moulded window opening. If one looks at the National Library one can see (on an enormous scale) the same instinct for objects to come out from the shadows, call for your attention and then fold themselves back.

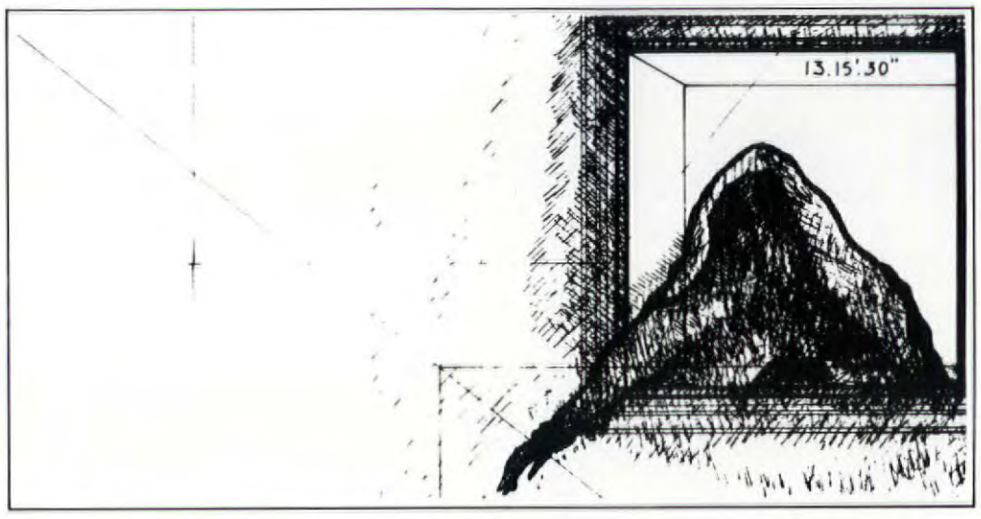
Sometimes, the instinct to fold and tuck is carried to its extreme and a piece of the building is completely buried in the ground and then folds itself out from under – as in the *Casa Carabassa Vivienda* (1972). Elsewhere it judders into profile – as in the *Casa Castaneira* (1977-79).

In these ways Testa most reminds one of the early Arata Isozaki, during the period of his school and banks for Oita and Fukuoka. Both architects extended out from the inheritance of Le Corbusier far more flamboyantly than most (in Isozaki's case, via the intermediary filter of Kenzo Tange).

Another link, though perhaps coincidental rather than referential, exists between Testa's formalism and dynamic ability with extruded solids, and that of the English Bowellists, notably Michael Webb. Tubes and vents are the more obvious elements with which to create such a forceful vocabulary, but to allow the major spaces themselves to wrap and fold and become part of the same exercise requires both boldness and control if it is not to become tiresomely eccentric. The Bowellists thought in

*Opposite: Corner detail of the Bank of London, Buenos Aires.*

Peter Cook




*Top: "La Peste entra en la casa de B.V.".*
*Above: "El saludo de la Peste al Feudatario".*
*Both from the series "La Peste en Ceppaloni".*

terms of "flow and form" creating an analogue between the internal rise and fall in pressure and sequence of action, and a squeezed or filled ballon defined by a thick concrete skin. Testa seems to do the same. In the library building and in the prize-winning scheme for a city Auditorium for Buenos Aires he does just this and begins to draw our attention, by inference, towards the defined or "contained" pieces of air between these objects. If looked at as "white rooms" as opposed to the built "black rooms" they have a highly evocative presence.

In critical terms this all leads up to the masterpiece of his output: the Bank of London and South America. The competition project was made in 1959 by Testa together with the office of SEPRA (Sanchez Elia, Peralta Ramos and Agostini) and the building was finished in 1966. The characteristics already alluded to are all here, but are given a programme and a degree of development (and presumably budget) that permits them to flower.

In a sense though, the greatest achievement of the building is generated from outside the site. The building is at the intersection of two narrow streets in the business district of Buenos Aires. The corner condition of the building opens up towards the intersection but dropping a great visor of concrete over one part of the opening. The meaning of this is revealed from within: for the other three corners become apparant constituents of the "room" made from this piece of city. The building makes exotic and brilliant use of the layering of fins, punctured concrete panels and deep-set glass walls. It carries out the proposition of the bold cage of concrete with a degree of inventiveness so far unmatched.

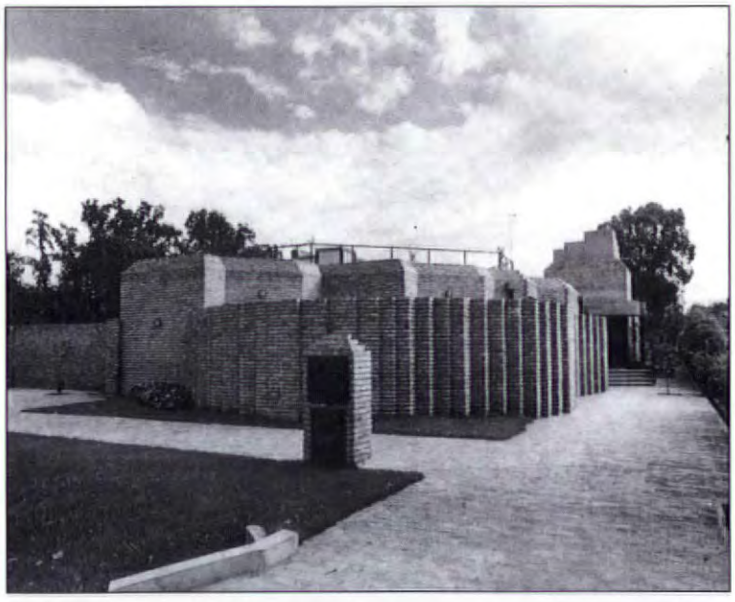
The general proposition of the building is strong too, for it can be read both as a system of two bands of trays separated by a void, or as a skilful combination of "tree" growths. Within this series of propositions the deftness of position in and stylisation of such things as lifts, stairs, columns and fins is quite beautiful.

I first saw the scheme in illustration in the mid-1960s and was of course fascinated by it, but then the memory receded . . . after all Argentina was a long way away, and I was unlikely to see it. The most pungent after-image was that of the shadows running into the rounded-off screen apertures and the strident fins.

Before I saw the reality in the 1980s, I had fallen out of love with the rounded corner and the bold fin, and felt that Isozaki's big bank in Fukuoka had said just about all that one could in this particular aesthetic. On seeing it, however, I found myself totally unprepared for the sheer *spatial* quality, the dramatic handling of filtered light and the "corner" gambit.

This experience allowed me to draw two conclusions. Firstly: one should not presume that first experiences be edited out by the breathless search for the "new" aesthetic. Secondly: one should not trust books and magazines, for when the building is *this* good, they are poor means of representing or explaining space and quality of theatre in architecture. □

*Casa Castañeira. A single-family dwelling. Tortugas, Province of Buenos Aires. In association with the architect, Héctor C. Lacarra. 1977/79.*



# WHERE IDEAS BECOME CONCRETE

*Professor Jorge Glusberg argues that Clorindo Testa's architecture springs from art, not theory.*

Buenos Aires acquired a Spanish appearance during the time of the Spanish colonies, which is still preserved in certain parts of the southern suburb of Sam Telmo. But today the architectural influences are so varied that they form a veritable kaleidoscope of different styles, with the result that the city has an eclectic appearance and provides a metaphor for urban development.

In the 400-year-old city this careless juxtaposition of styles is combined with a theoretical tendency represented by a split with modern architecture, a contemporary post-modernism which has proved richer in declarations and plans than in practical achievements. It can be seen as a living example of post-modern awareness that combines classical and baroque architecture without neglecting the modern concept. However, post-modernism tends to be quickly replaced, being seen as a moment of crisis between modernism and future forms of visual experimentation. We must therefore consider Buenos Aires – as well as other Argentinian cities – as an architectural manifestation of a development process in which the image will sooner or later be significantly different and will have developed beyond its present eclecticism.

The architectural future of Buenos Aires cannot be approached with an apocalyptic vision of destroying everything which currently exists in order to start again from the beginning. The city is historically poor but it is important to respect the representations that the inhabitants possess in their "naturalised" environment. By carrying out a systematic analysis of the technical possibilities, the physical and ecological bases of the environment, the economic resources and real needs, it will be possible to develop a model which will provide a point of reference for present and future architectural action.

The questions that are continually present in the mind of a conscientious architect are those relating to the form of the urban development of the future and the effect that decisions taken today will have on the city which is in the process of being built. However much he questions town planners, sociologists, historians, economists, and social and cultural commentators, it is the architect who must ultimately provide the answers. Testa's designs belong with those of architects who, in the latter stages of the twentieth century, have come up with such answers.

## A common denominator

The visual arts and architecture are both forms of symbolic expression. In the case of architecture, it is perhaps more difficult to appreciate this, since academic tradition has tended to consider it as a "functional" skill directed towards satisfying social demands and immediate requirements.

Testa, who approaches both areas with equal skill, has developed buildings which are something more than simply consumer articles. Through them he demonstrates his potential as a creator of imaginative form. Two of his more inspired works are the *Banco de Londres* (Bank of London) and the *Biblioteca Nacional* (National Library). Such works enable us to recognise the importance given to the existing urban structure, not only from the formal point of view but, above all, as a fact of socio-cultural nationality.

The consideration of urban structure from this double point of view can also be found in one of the few theoretical essays published by Testa (*Hacia una crítica de la arquitectura*, Nueva Visión, Buenos Aires, 1980). In a passage in this article, he denounced the inhumanity of Chandigarh and Brasilia, two cities which we owe in varying degrees to Le Corbusier.

Testa declares that he has not liked any particular architect, either before or since his university studies, except Le Corbusier. He has certain things in common with the Swiss architect which have nothing to do with similarities of style but rather an overall attitude towards the phenomenon of aesthetics. They both have an exceptional capacity for imagination, in their works of architecture and in their art. They both have a preference for the use of reinforced concrete, and both have the desire to satisfy the functional demands of architecture using materials which are aesthetically pleasing.

However, the architecture of Testa is characteristic and distinctive in spite of the wide variety of materials that he uses. Beyond the immediate differences which exist between his state buildings of Santa Rosa and the *Banco Holandés Unido* (United Bank of Holland) in Buenos Aires, his work is unified by a common denominator which transcends the mere use of terminology. To find this unity, it is necessary to consider the overall idea of each project and the way in which component parts are brought together.

There is a notable absence of theorising in Testa's work. It is extremely hard to reduce his architecture to a series of statements. This naturally causes problems when trying to explain the principles on which he bases his work. In terms of following a system of standards, Testa is the least "classic" of architects that can possibly be imagined. He is an extremely skilled architect who has renovated the art of architecture.

He possesses an audacious talent, a vigorous and creative imagination and a fine sensitivity that makes it as difficult to situate him within an architectural style as to ascribe to him a particular artistic tendency or to define his theoretical position in relation to his own and other people's architecture. He prefers to let his work speak for him: "what I wanted to say is said by the works that I have created". He was not exaggerating when he told a reporter in 1981 that he was "not very well-informed about architecture" and "not interested in information . . . Really, I don't know which architects and painters I like".

There are no preconceived ideas in his designs which are likely to hinder their realisation. This allows for greater freedom. He remains loyal to his belief according to which an artist should always be prepared to try something new, to modify, to take a chance with traditional values. However, we are not dealing with a man obsessed with form but rather a creator of spaces in which individuals can live together, abolishing the isolation and loneliness which he criticised in *Habitar* (Living). It seems that his motto is that man should not only have more, but that he should be more.

Testa is also one of the figures who inspires architects in Argentina and in the rest of America to look closely at the assumptions on which their architecture is based. The clearest example of this was the impact made by the Bank of London in the 1960s. Its repercussions were of international dimensions and today it represents an important milestone in the architectural heritage of South America.

## The overall idea

One of the dominant features of the view of architecture which can be deduced from Testa's work, is that there are no preconceived ideas about the space in each building, other than that it will emerge from a particular set of parameters. What is preconceived is that it

*Exterior view of the Civic Centre of Santa Rosa, La Pampa.*

*Two views of the refurbished interior of the Argentinian Airlines offices, Buenos Aires.*

must be a space of a high imaginative quality – as in the case of the Bank of London, the *Casa Di Tella*, the restructuring of some of the offices of *Aerolineas Argentinas* – and not a space which is the result of the "functional" or technological principles of the planning process.

This implies that the limits of the space, i.e. the walls and floors, are part of a unified three-dimensional scheme and not a two-dimensional drawing which has an imaginative value in its own right. Taking the work as a whole, we notice that Testa has a dominant double preoccupation – the creation of a particular interior landscape and the incorporation of the building within its setting. In terms of the first, we have already mentioned the worldwide repercussions of the Bank of London. As for the second, it is possible to refer to an "awareness of environment", which includes the topographical environment and which is demonstrated magnificently by the National Library and the Civic Centre of Santa Rosa.

Therefore, one condition that characterises Testa's architecture is the clear existence of an overall idea for each project. Another, which is related to the first and is perhaps even more important, is that when this idea is realised, it should be a perfect summary of aspects of style and principles of technology and aesthetics in one coherent and unified whole. If we mention the importance of this marginal note, it is because we know only too well the distortions and fantasies that arise from the dominance of one of those factors over the others.

We also believe that at times like the present, when the attacks and criticisms of the modern movement come from very different quarters – without the clear emergence of any suitable way of correcting the defects within a supposedly international architecture – that the ideas of Testa deserve to be studied closely, although (and perhaps precisely because of their creative characteristics) it is impossible to derive a formalised doctrine from them.

At least, there is no set of rules to refer to, and this makes us think again about these ideas in times of crisis – in spite of untransferable stylistic principles – and their validity as revolutionary elements which may enable us to aim towards valid alternative solutions. This was the basis for the suggestion that many of Testa's works were "architectural operas".

These works comply satisfactorily with the requirements of style, but, by using architectural materials which are aesthetically pleasing, they also provide a complete intellectual stimulation for the observer. It is not merely a coincidence that he prefers to use reinforced concrete, a material which in addition to its monolithic and malleable qualities offers the possibility of constructing in prefabricated, streamlined sections which never lose their expressive powers. With this basic component, the architectural elements designed by Testa acquire an unusual strength, which is particularly true in the case of the Bank of London and the National Library.

In the field of architecture, it is quite possible to achieve a lot with very little. To support this statement we only have to refer to non-stylistic or alternatively to ahistorical architecture, the "architecture without architects" such as that found in the villages on the shores and islands of the Mediterranean. There is nothing sophisticated or intellectual in these structures. It is a logical and direct form of architecture with results that are important on the level of formality.

The idea of achieving a lot with very little can be recognised in the works of Testa which are aesthetically pleasing other than appealing to the intellect of the specialists. In this respect, it occurs to us to make a comparison between the forms used by Le Corbusier and those of Testa, the point of contact being closer to the chapel of Ronchamp than the *Villa Savoye*. Certainly the works of Steiner, Mendelsohn and German expressionists of the 1920s also deserve to be mentioned, for their interest in

giving precedence to the field of the imaginative vision over the other architectural values.

It is not our intention to demonstrate that Testa is continuing the historical line of expressionism, or that he simply derives from Le Corbusier. Since all forms of creation derive from somewhere, and antecedents can always be recognised, his architecture summarises those old Vitruvian maxims which, far beyond form, continue to be the lifeblood of the discipline, suitably developing what has been produced in the past or in the present without subscribing to any trends of fashion.

In identifying the parameters which can be said to characterise Testa's work, it is more relevant to define his *attitudes* towards architecture rather than any formal characteristics. In attempting the latter, we would be falling into the trap of thinking that Testa can be defined in stylistic terms by means of the appearance of his work: the contrast between solidity and emptiness, the feeling of the consistency of the material. Although this is possible, it is certainly very much a secondary consideration compared with his overall idea of what a work of art should be.

In support of this, two of his projects stand out, which can be compared in terms of theme, environment and typology. One is the central building of Argentinian Airlines – a tower described as "a high table with drawers", which leaves floors free or without "drawers" to be completed as required – to be erected in the centre of Buenos Aires in the Catalinas Norte district, amidst a group of towers of similar height. The other is the development for the government offices in the city of Santa Rosa, in the province of La Pampa, which from the beginning took into account the possible future costs of the project. In fact, the work was divided into at least three stages, each stage to coincide with the beginning of a new decade: 1960, 1970 and 1980. However, apart from the biographical details, it is important to stress the so-called "historical" aspect of both projects – how they stand up to the passage of time, what precautions have been taken, how much freedom has been allowed.

Once again we observe the strength of a main overall idea which draws together the various aspects of a piece of architecture, and the spontaneity and absence of preconceived ideas with which he approaches each new project. The expressive vitality which emerges and the absence of prescriptions, makes a welcome change for overburdened architecture.

**The design in action**

Testa has written: "From the moment I started to work intensively with Agostini on what was to be the Bank of London, we began to think about what was going to be a covered public square. There were two very narrow streets, Reconquista and Bartolomé Mitre, approximately ten metres wide.

"On one side there was the National Bank, built in the 1940s by the architect Bustillo, well known for its French style and for being very well constructed. On the other side there were two other banks, old buildings with huge columns. We made use of the angle formed in order to create, as I have said, a sort of covered public square.

"The outer facade gave us no cause for concern. In fact, we wanted it to echo the facades of the two banks opposite, and also it is not seen in its entirety, only from a foreshortened angle. Finally, we supported the idea of the street going into the bank, without which there would be no division between the interior and exterior space. The building had to be incorporated into the city, but bearing in mind that when it was finished, perhaps the building next to it may have been demolished. The city is a living thing which is always changing, and in this respect there must be certain guidelines. In the Bank of London, we were not too much concerned with preserving the style of the neighbouring building, since, like our building, it might one day disappear.

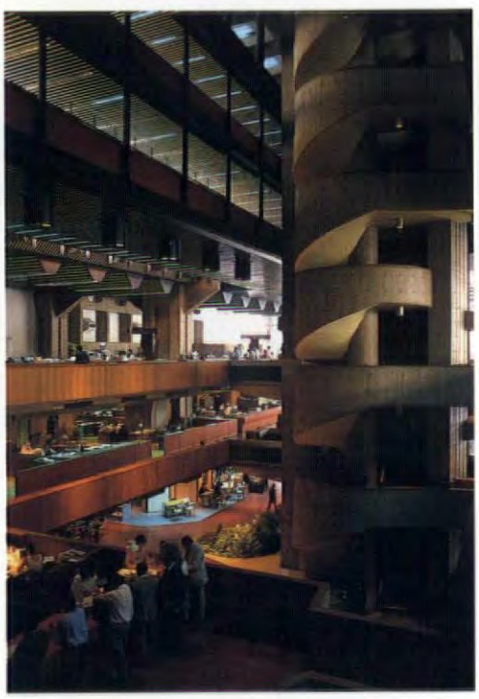
"We were concerned, on the other hand, with finding a way of immediately widening those narrow streets. In order to do this we created this great open space, and by doing so made access to the bank very easy. It is important to make things easy for people moving about the city. To do this, we initially came up with the idea of a covered square, along the lines of the Loggia dei Lanzi in Florence. When you are on the ground floor of the Bank of London, you have access to a large sunlit area, but there is also a huge roof and columns. The structure of the Bank of London is intended to be a huge *loggia* in which all types of activity can be carried on."

The basic principles of the concourse of the Bank of London and South America, illustrate the need to "convey a feeling of integrity, efficiency and confidence by a clear and concise

*Proposed new office building for Argentinian Airlines.*

Roberto Ruiz

Peter Cook



Roberto Ruiz

*The Bank of London, Buenos Aires: exterior view and detail.*

means of architectural expression which does refer to images of the past or to modern clichés which then become out-dated".

They also wanted flexibility in the distribution of facilities, stating clearly that the columns within the precincts of the building should be kept to a minimum. Testa's design not only better fulfilled the functional rquirements, but was also the one which most clearly fitted the symbolic purposes by using technical resources which were unusual within the setting, and an outstanding creative imagination which accentuated its presence.

The building, which was opened in 1966, has three floors below ground level and six upper levels – a total area of almost 80,000 square metres – with a height of up to 26 metres, complying with the basic idea that a building functions within a single space and that the area it covers distinguishes a private from a public area. It is noticeable that the latter, for its part, functions in relation to the external space as a prolongation of the adjacent streets.

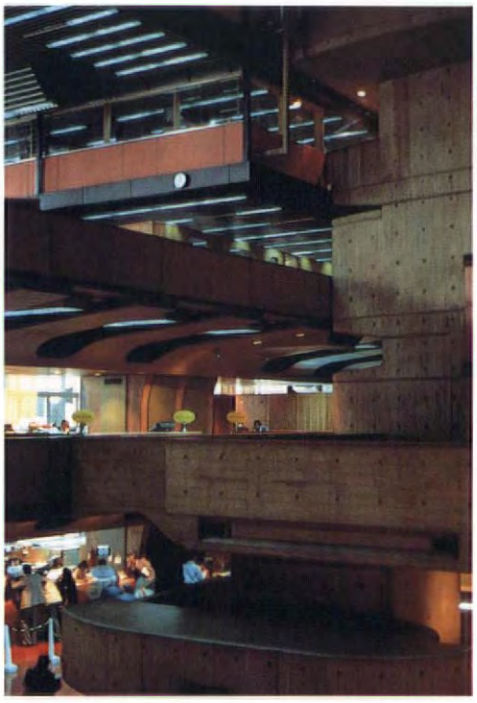
The plan of the "single space" becomes more defined by the limitation of the block of the roof – with its network system – and by the two boundary walls, the volume being completed by the two facades: a perimeter colonnade or curtain wall which is rich in expressive value. The roof is partly maintained by this colonnade, which also acts as a protective screen against the reflections of sunlight inside the building and takes on an unusual and significant expression. In this way, it is the structure which gives the work its remarkable characteristics.

The single space is broken by the six horizontal levels which are connected by two structures reserved for the vertical movement of the public and employees respectively. The first two of the six upper floors are for client services, and the remainder are for internal use. These, plus an additional level, have the distinguishing feature of being suspended from the main roof by steel cables which gives the building its very particular feeling of creative freedom.

The approach to the angle formed by a high public area is emphasised by a screen of enormous dimensions, constructed in concrete, as are the other elements mentioned above. This screen limits the space and view from inside. In all cases, special care has been taken in the finishing of the concrete from the visual point of view, which is a distinctive element of the building. If the apparent limits of the building are those defined by the concrete structure, the confines, technically speaking, are determined by an aluminium structure which stands independently of the building and serves to support the panes of glass.

The theme of a dominant main hall, which is

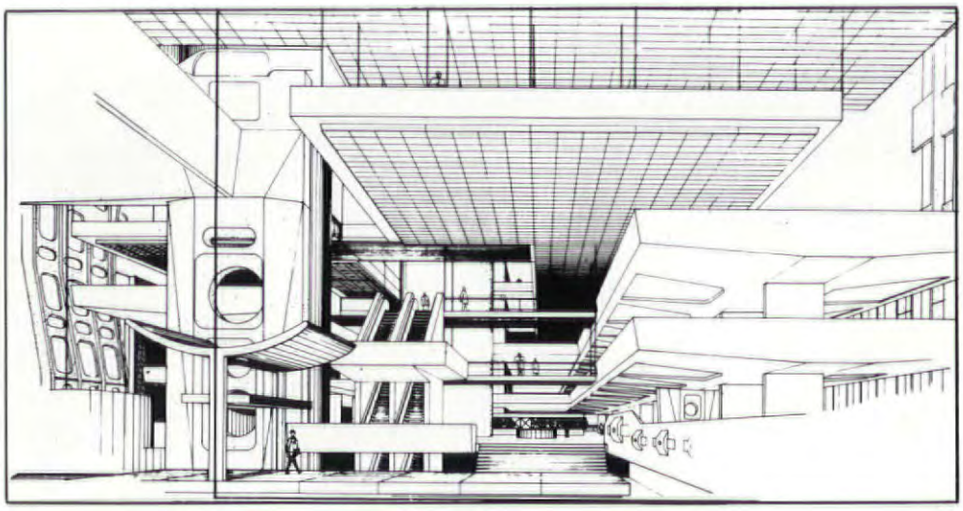
*The Bank of London, Buenos Aires: interior views.*

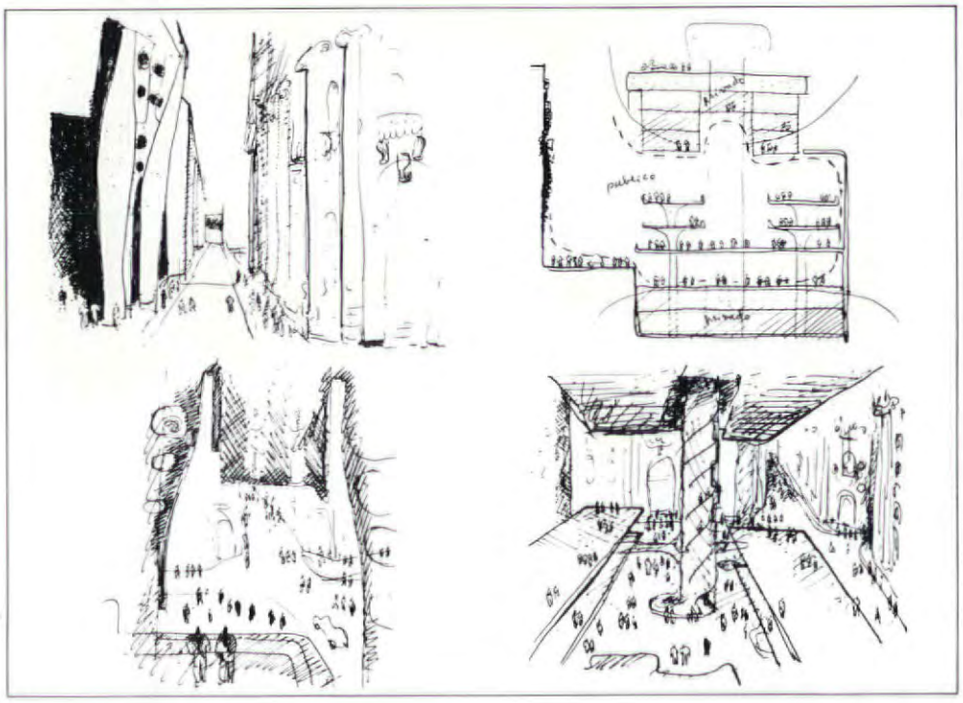


Roberto Ruiz

Roberto Ruiz

*The Bank of London: view of the entrance.*





*The Bank of London: preliminary sketches.*

almost obligatory in this type of building, assumes surprising characteristics in the Bank of London, since here it is a question of a "full" hall rather than an "empty" one. Unlike the classic examples of this type, this space has a use. Without losing any of its character, it is filled with the connections and elements which are usually peripheral. Perhaps this is the true identity of the Bank of London, a *continuum of space* which materialises through the use of concrete and a highly imaginative use of form.

**Reading and memory**

In contrast to the Bank of London, the National Library is situated on a site with a rich variety of trees, in an urban district consisting of residential buildings with extensive green spaces, stretches of water and public recreation areas. The main concern of the architects has undoubtedly been to preserve the rural aspect of the setting which was the reason for adopting this particular plan.

The shelves for the books and reviews have been placed on three levels, like large naves, but accommodated below ground level with the idea of occupying as small a space as possible by using superimposed structures. At the same time it allows the strong shape of the building to rise energetically, which, in the midst of the gardens and at the highest point on the site, is symbolic of the function and the superiority of this cultural land mark.

The reading rooms are situated on the upper levels, producing a kind of inversion of the characteristic layout of the library of recent years. But it must not be inferred from this that there has been a radical transformation of the system, rather it has been adapted to a particular urban situation.

The physical aspect of the building should provide *a priori* a clear expression of the functions performed by each part within the whole, so that by looking at the external form, there should be no doubt about the organisation of the internal structure of the building. This was largely responsible for the idea of raising the public areas, enabling the space of the gardens to be brought into the building and continue uninterrupted below the main raised section.

From the upper floors of the library can be seen the distant river and the parks which extend on two sides, a truly essential setting for the type of activities carried on within a library.

The basic design of the solid structure of the

Roberto Ruiz

*National Library, Buenos Aires: side view*

building is in keeping with the general district. It is constructed in reinforced concrete and below ground level uses a system of slabs without girders but supported by columns. The main part of the building above ground rests on four large supports, erected on an independent system of piles, in such a way that the different elements of the structure can co-exist without difficulty.

At different levels, the slabs are held in place by systems of columns or by steel cables, suspended from large flat surfaces of the structure. For example, on the level of the main hall, there are no vertical supports other than the four main supports referred to which define a unified space.

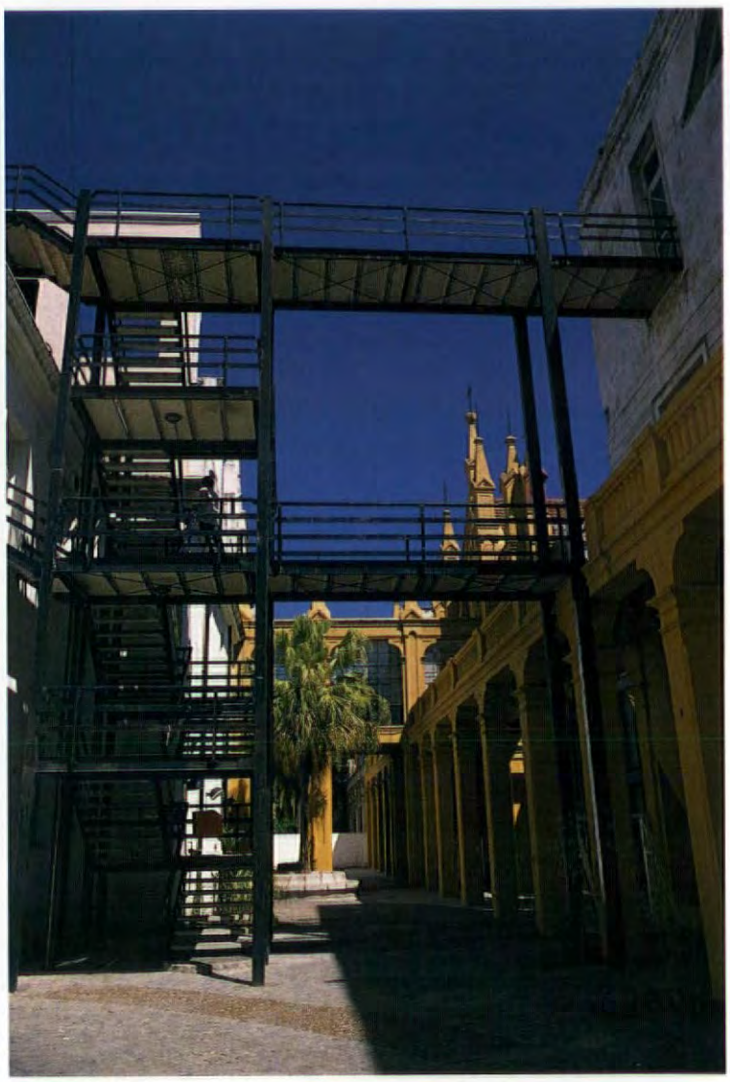
Work on the library was started in 1971, nine years after the competition. Ten years later, a third of the building had been erected. The State, which on various occasions had cut back on funding for the project, then announced that it wanted to speed up the work and increased economic resources. This considerably reduced the period of five to eight years which (in 1980) Testa had estimated would be necessary to finish the Library: "Neither Bullrich nor I mind the fact that the building is being completed slowly. Architectural projects also need time to be created, and that is what is important. It doesn't matter if it takes twenty years to complete, it continues to be a valid piece of work . . . In the same way that a painting cannot be worked again once it is finished, the Library will continue to be built according to the plan. The only possible changes will be of a technical nature."

**The parts which make up the whole**

The Cultural Centre of Buenos Aires, currently being built, consists of a series of buildings from the eighteenth and nineteenth centuries with a total area of some 20,000 square metres and with 8,000 interior thoroughfares, courtyards,

*The Cultural Centre of the City of Buenos Aires.*

Roberto Ruiz



Roberto Ruiz

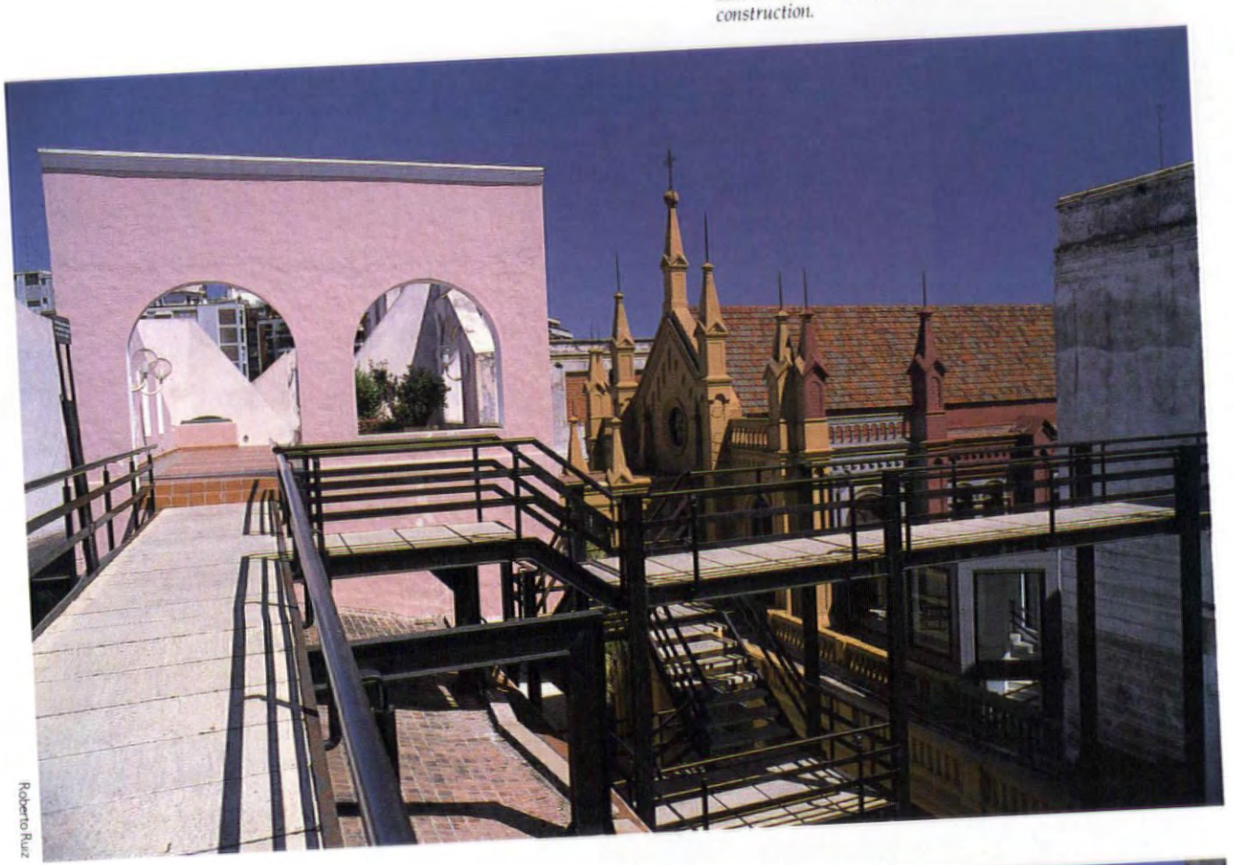
*National Library, Buenos Aires: front view.*

terraces, gardens etc. Its functions include the different areas of cultural activity within the urban community such as the plastic and performing arts, cinema, music, audiovisual methods and others which are developed in 31 exhibition halls, auditoria, mini-cinemas, laboratories and all types of areas linked to the specific role of the Centre.

The particular characteristic of this building is that it is neither a new building nor a restoration, but rather a conversion which adapts the existing facilities to the functions to be fulfilled. What is being preserved is, strictly speaking, the structure of the building, which has changed its use several times during the course of history. It was originally a monastery, then a prison and, finally, an old people's home. The cloisters, for example, are the arched halls remaining from the original building. The windows are not the originals and there are concrete blocks which will not be kept as they are not in keeping with the period.

It does not fit in with the idea of the project to simply think of a monastery in which works of art are being exhibited. On the other hand, the diversity of cultural exhibitions that will be housed by the Cultural Centre require an exhaustive analysis of the areas to be assigned to each of the component parts. For example, the Fernández Blanco Museum, dedicated to Argentinian colonial art and furniture of the last century, is situated in the eighteenth-century cloisters. The museums of modern art and the cinema are housed in late nineteenth- and early twentieth- century buildings. The Capilla, which dates from the end of the last century will be maintained in its general state both inside and out, but a tiered, sunken area will be

*Re-structuring of the former General Viamonte Old People's Home to convert it into the Cultural Centre of the City of Buenos Aires. In collaboration with the architects Luis Benedit and Jacques Bedel. 1980. Currently under construction.*



Roberto Ruiz

Roberto Ruiz

Roberto Ruiz

*The Cultural Centre of the City of Buenos Aires: interior views.*

incorporated in the centre to act as a lecture or projection theatre.

It is possible to summarise the architectural treatment in a few basic principles: respect for the different buildings by preserving the character of each of them, new buildings constructed in accordance with modern criteria, maximum use of existing buildings through their interior space. In line with these same principles, operations of a different kind are sometimes carried out, such as demolition – complete or partial – or new construction and, obviously, conservation and/or conversion, as much of entire areas as of sections of component parts, for example sections of walls.

The conversion project naturally takes into account the external spaces, mainly through two main avenues: a central avenue giving access to all buildings and the other following the boundary of the property, the former incorporating a semi-covered *loggia* and an open air theatre. The whole thing is completed by a series of spaces linked to the parks and green areas in the neighbourhood.

In terms of an architectural operation, the most outstanding achievement is to have converted existing buildings into a truly coherent whole, generating a central route with a series of alternative choices and not merely a collection of parts, each one having its own separate function. The individual parts fit in so well with the finished product that it does not appear that each part is separate from the entity but, on the contrary, that it belongs to and is part of that entity. In addition to the plan adopted, the treatment which is characteristic of the work of Testa also contributes, for example, sculpture and design in certain areas such as roofs and terraces, tiled floors and ornamental coverings, and the singular use of colour to support more formal designs.

**Testa: artist-architect**

Finally, Clorindo Testa, whose talent exceeds his professional activity, reminds us at each stage of his work that art is the complement of architecture and vice-versa. On the other hand, it is also the need to sublimate a desire, as an irrepressible and inexhaustible creative drive.

As far as he is concerned, his imaginative and architectural works are entirely different, but this is achieved with the feeling that his entire inspiration is being poured into each one of them. The differences are grasped when we consider the specific function of the two disciplines, but the all-encompassing nature of his conception marks the deep-seated similarities which exist between them.

Similarities and differences provide the key to an understanding of Testa's work, without forgetting that the distinction between the two is purely formal and analytical. Architectural and artistic ideas occupy the same place alternately within his imagination. There is a continual transition from one to another, and sometimes he produces art in architecture and architecture in art.

In his poem *El Golem*, Borges wrote:

If, as the Greek said in his Cratylos,
The name is the archetype of the thing,
The rose is in the word rose
And the whole of the Nile is in the
word Nile.

By referring back to Plato's ideal of language as an expression of reality and a condition of understanding it, this beautiful verse can persuade us to consider and share the feeling of the case of the architect. His projects are vibrant with the reality of the work of architecture, as is his world of the imagination which is as real as the external world, as secure and as productive.

If, in the words of Socrates, "the word is the archetype of the thing", the work of Clorindo Testa is also a substantial archetype of his world of construction and visual expression.

# ONCE UPON A TIME IN AMERICA . . .

*Professor Tomas Dagnino offers an assessment of Testa's influence.*

Roberto Ruiz

*The Naval Hospital*

Born in Naples, Italy, in 1923, Clorindo Testa arrived in Buenos Aires when he was only three months old. It was in the Argentinian capital that he became and still is an architect, where he developed his talents as a creative artist and where, essentially, he demonstrated his imaginative creation of unusual form.

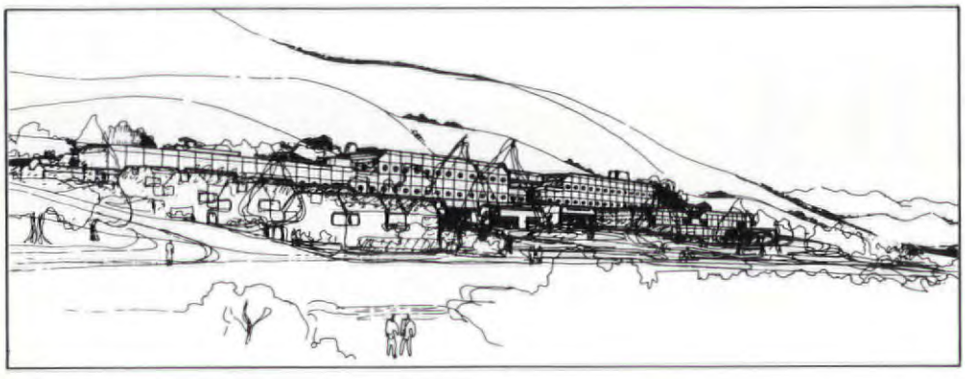
Buenos Aires is a true metaphor for urban development. The city originally had a strong Spanish appearance, which was superseded by Italianate and later by French style, eventually reaching its present eclectic form. The history of the city has always been linked to that of Europe and its people, customs, builders and architecture. It has therefore always been considered the most European city in Latin America.

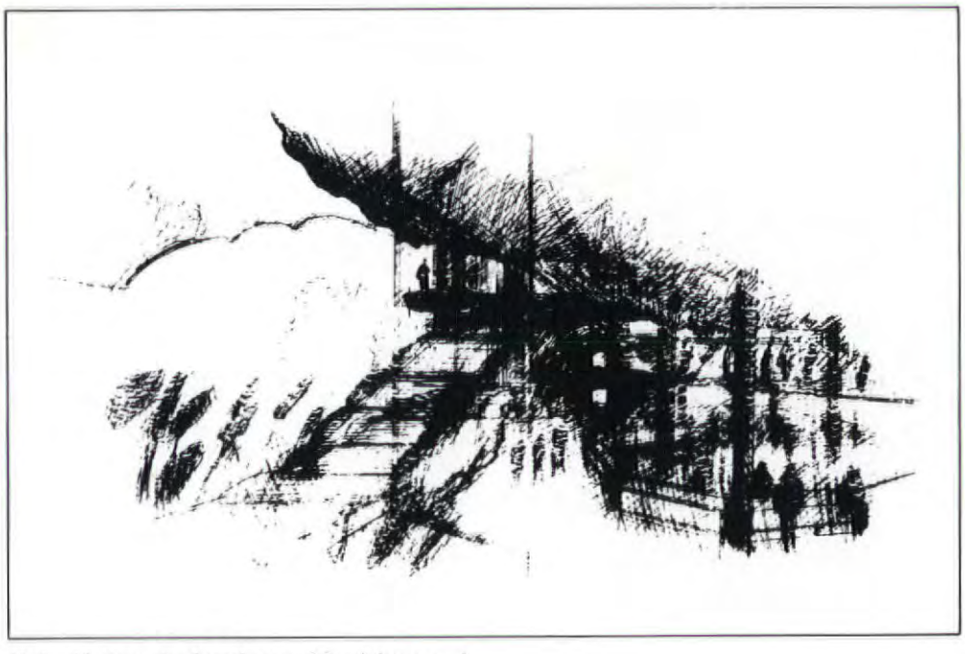
It is this co-existence of Europeanism and Americanism that has produced "the Architect of America". The buildings of Clorindo Testa are always more than just consumer objects, and several of them have affected the development of architectural form in South America. Confronted with his work, one wonders whether Testa's architecture can be considered truly representative of Latin American style. To answer this question, many different aspects of his work, and as many more determining factors must be taken into account.

As an architect, painter, draughtsman and sculptor, Testa forces any attempt at analysis to go far beyond the work of architecture. If we consider his work from an Americanist standpoint, bearing in mind that his early career was strongly influenced by Le Corbusier, we have to recognize that his creativity has personalized his work so that it stands out clearly from other work simply following international fashions and trends.

And he is not the only example of this. This early reinterpretation of the legacy of Le Corbusier is also strikingly present in the works of Oscar Niemeyer in Brazil, which are

*National Competition for the Preliminary Plans for the Hospital of Bariloche. In association with the architect, Héctor C. Lacarra. First Prize, 1970.*





*National Lottery: view from the second floor below ground level.*

examples of a severe translation of the modernist language made in response to the needs of Latin America, albeit at the cost of criticism and incomprehension.

For his part, Clorindo Testa is aware of the ever-changing nature of Latin American cities. He has said: "The building must be incorporated into the city, bearing in mind that when it is finished, the building next to it may well have been demolished." He knows that the cities in which he has to work are living elements which are continually changing, and that in this way they are different from the almost everlasting consolidation of European cities. Perhaps it is because of this that he is trying to make an impression through architecture, by leaving landmarks in each of the cities in which he has worked. Always with the idea – or so we believe – of developing the city and strengthening belief in a new type of urban concept.

Whether as a creative artist or an architect, Testa varies his work, as do the composers of Latin American music, and his attitude towards the creative moment is similar to the attitude of the poets who write about love. As such it is a direct reflection of the written art forms of Latin America.

It is also impossible to place him within a specific category as he never has any preconceptions about the space he is about to design, although he always manages to invest the finished product with a high standard of imaginative creation. He does not belong to any particular trend and he is always coherent, but with a coherence which is based on freedom – a freedom which arises from expressing the way he is at any moment or how he experiences that moment.

It was in this way that in the 1960s he created a landmark in American architecture with the head office of the *Banco de Londres*, today Lloyd's Bank. Also, with his paintings and drawings he inspired successive artists and architects who were basically trying to convey the same freedom of creation.

With the project for the government offices of Santa Rosa, the capital of La Pampa, he showed how to move from the geometric order of Le Corbusier (used in the project which won him the first stage of the national competition) to the freedom of a more spontaneous kind of order (developed in the idea for the second stage, in another competition which he won twenty years later). And here it is appropriate to mention, in order to extend comparisons, how Latin American creativity has passed from the geometric order of the Spanish urban grid to the controversial "favelas" or shanty towns produced by the genuine spontaneity of their inhabitants.

Authenticity and creative spontaneity are the two mainstays in Testa's works. Works in which the functional has a place and is a valid response, but in which the imagination always takes over to develop the basic definition of the formal idea. From there, his works take on their monumental feeling, another feature which sets them apart through the strength of the Americanist influence.

It is also worth quoting another well-known example. The *Biblioteca Nacional* (National Library) is enclosed within the social arrogance of a protected landscape where the green of the park and the trees provides stronger relief for the sculptural forms of the spacious building which seems to "float", lightly supported by the huge pillars of the lower level.

With his houses, Clorindo Testa distinguishes himself even more from the traditions of an ambivalent social class which seeks refuge under Spanish or French tiled roofs and within forms ranging from the exotic "Californian" to brick constructions which are not always stylistically coherent. The creator creates a language for his houses. He starts out like a cultured twentieth-century man who recognises the value of memory, and to this inherited memory he adds his own memories. This gives rise to his forms which, sustained by the strength of imagination, he feels to be his own. The combination of memories and imagination is transformed into special places in

which to live.

And so, one after the other, sketch after sketch, project after project, building after building, his path can be discerned. All are chapters of a story written in the cities of Latin America, and we are telling a story to try and relate this analysis more closely to the personality of Testa, because those who have worked with him say that when it is time to take a break, he pulls a chair out from the table and begins to tell a story.

And perhaps this is why we can say: Once upon a time in America, there was an architect . . . □

**Chronology**

Clorindo Manual José Testa, born in Benevento, Naples, 1923. A year later his family returned to Argentina. Testa qualified as an architect at the National University of Buenos Aires in 1947, ending a university career which began in 1942.

1948:
He enters the *Oficina de Plan Regulador* (Planning Control Office), as an employee of the Buenos Aires Town Council.

1949-51:
Travels to Europe with a scholarship from the University of Buenos Aires. He lives in Italy and visits France and Spain.

1952:
First exhibition of paintings. He wins first prize with his plans for the headquarters of the *Cámara Argentina de la Construcción* (the Argentinian Chamber of Construction), in collaboration with Dabinovic, Gaido and Rossi.

1956:
He wins the competition for the first stage of the Civic Centre in Santa Rosa, La Pampa (Government House), which will be fitted out in 1963. Temporary professor of architectural composition in the Faculty of Architecture, University of Buenos Aires, a post which he occupies until 1959.

1957:
Second artistic cycle: abandons all traces of figurativism and, from 1960, all colour.

1959:
Member of the *Consejo Directivo* (Directive Council) of the Buenos Aires *Plan Regulador* (Planning Control) until 1961. Before this, from 1952-1956, he was an architect in the *Dirección de Urbanismo* (Town Planning Department) of Buenos Aires.

1960:
Wins the competition for the headquarters of the Bank of London with the practice of Sánchez Elía. Peralta Ramos and Agostini (the building is fitted out in 1966).

1961:
Wins the *Premio Nacional Di Tella* (Di Tella Award).

1962:
Wins the competition for the new headquarters of the National Library with Bulrich and Cazzaniga (work begun in 1971).

1965:
Third artistic cycle: grooves and folds.
Is awarded the *Premio Arte de América de la Bienal Latinoamericana Kaiser* (Kaiser American Art Award of the Latin-American Biennale).

1968:
Builds his first family dwelling: *Casa Michel*.

1970:
Wins the competitions for the Municipal Hospital of San Carlos in Bariloche and the Hospital Central Naval in Buenos Aires, both with Lacarra (the second building was fitted out in 1981).

1971:
Wins the competitions for the hospitals San Juan Bautista in Catamarca, and Presidente Plaza in La Rioja, with Lacarra.

1972:
Fourth artistic cycle: the *Mediciones* (Measurements) series. Commission for the headquarters of the United Bank of Holland, Buenos Aires, with Cesari and Net (the building was opened in 1976). Commission for the second stage of the Civic Centre in Santa Rosa: the Legislative Building in collaboration with Lacarra and in association with Gaido and Rossi (the building was fitted out in 1976).

1974:
The *Habitar, trabajar, circular, y recrearse* (Living, Working, Travelling and Relaxing) series. With Lacarra, wins the competition for the Hospital de Esquel.

1975:
The *Caperucita Roja* (Red Riding Hood) series. First prize, with CAYC group, in the exhibition "30 Years of the United States" in Zagreb, Yugoslavia. Wins the competition for the headquarters of the *Aerolineas Argentinas* the Argentinian airline, with Lacarra and Rossi.

1976:
The *El caballo* (the Horse) series.
Re-structuring of the Argentinian airlines offices. Péru 22, Buenos Aires, with Lacarra and Rossi, the project for the Central Hospital of Abidjan, Costa de Marfil, with Lacarra and in association with Donaldson and Torcello.

1977:
*La peste en la ciudad* (Plague in the City) series. First prize, with the CAYC group, in the International Biennial of Sao Paulo, Brazil. Becomes a full member of the *Academia National de Bellas Artes* (National Academy of Fine Arts). Invited to the reunion of the grand masters of architecture in Lima, Peru, which produced the *Carta de Macu-Picchu* (Machu-Picchu Map).

1978:
*La peste en Ceppaloni* (Plague in Ceppaloni) series.

1979:
*Tendederos* series. Commission for the Cultural Centre of Buenos Aires, with Bedel and Benedit, for the Town Council. The first part of the project was fitted out in 1980.

1980:
*Anotadores* (Annotators) and *La batalla naval* (Naval Battle) series.

1981:
*Homenaje a los arquitectos eqipcios* (Homage to the Egyptian Architects) and *Reconstrucción de la Acropolis* (Reconstruction of the Acropolis) series. With Lacarra wins the competition for the third stage of the Santa Rosa Centre (Court House, extension of Government House). Death of Lacarra. Exhibition of his works of art and architecture in New York, organised by the author, at the Institute of Architecture and Urban Studies.

1982:
*Retratos de Adán y Eva* (Portraits of Adam and Eve) series. Project for the *Centro Commercial* (Commercial Centre) on the avenue of la Recoleta, in collaboration with the architect Liá Demaría. He represents Argentina at the Venice Biennial. Exhibits his work in Germany at an exhibition of "*Latin American Architecture*", Berlin Festival.

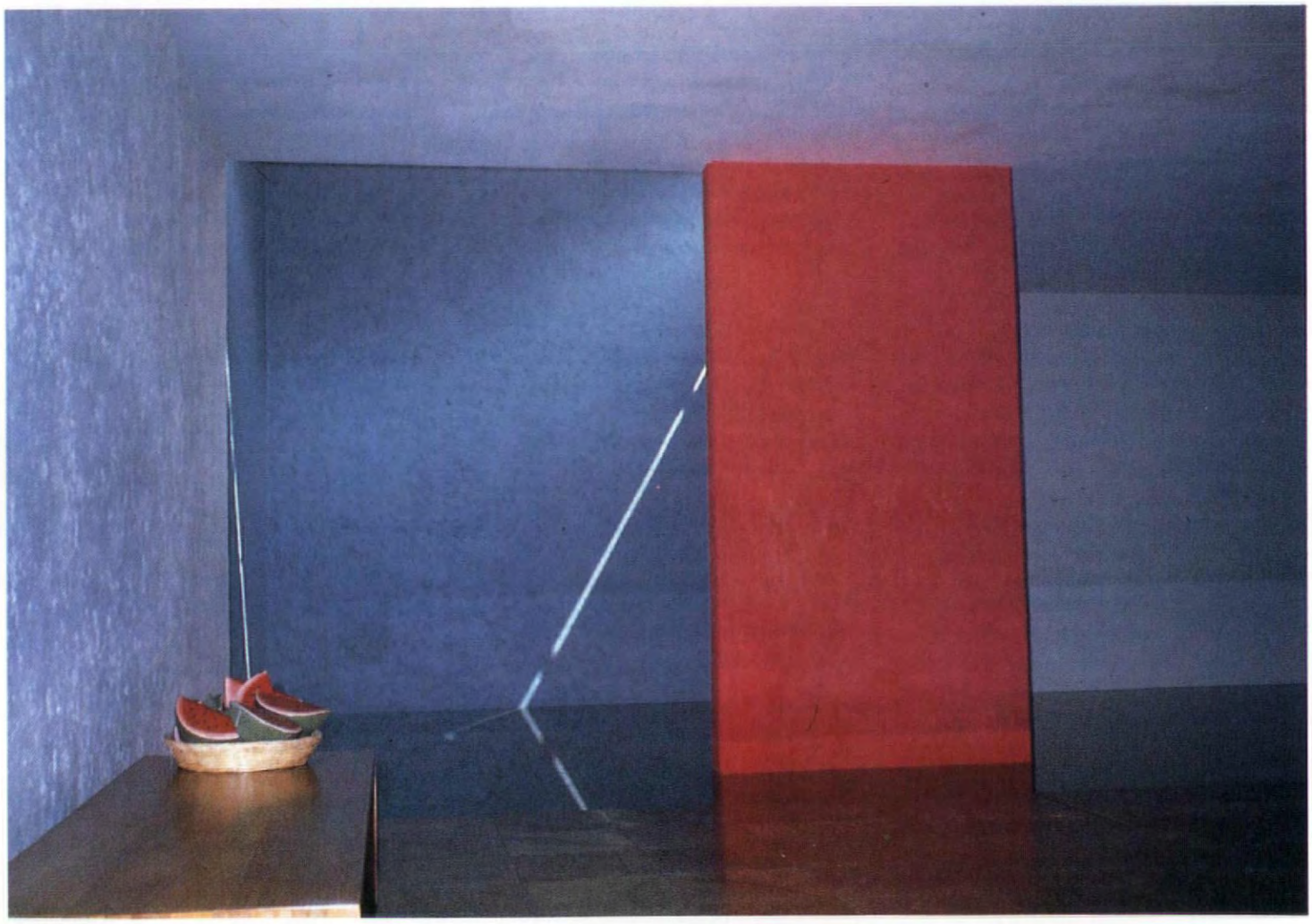
1983:
One of the judges of the International Competition for the *Opera de la Bastille*, Paris.

1984:
Monograph: *Clorindo Testa: Pintar y arquitecto* published by UIA.

1987:
Academician, the International Academy of Architecture.

# THE HUES OF SOLACE

*Louise Noelle Mereles considers contemporary Mexican architecture in the context of Latin American culture.*



Louise Noelle Mereles

Faced with the dilemma of post-modernism, many architects are now turning to regionalism in response to professional demands. This trend seeks to resolve the antagonism between standardized so-called International Architecture and a personal architecture which reflects specific economic, cultural, climatic and other factors of an area. It can be seen as a rebellion against the prevalence in some areas of the perfectionism which favours advanced technology and high-cost industrialized materials. Similarly it opposes both nostalgic historical trends that tend towards purely decorative solutions, and eclectic, populist or even sentimental attitudes dictated by the desire for nationalistic revaluation.

Regionalism is a worldwide movement. It seeks new, creative and sensitive architectural solutions for individual places. This has been achieved by taking into account both prevailing assumptions of contemporary architecture and various local characteristics – economic, technical, cultural and geographical. The climate and local materials are as important as the customs of the inhabitants and their economic means. Naturally, this has led to a wide variety of different forms of expression and trends across the world.

**The Latin American Experience**

Throughout the twentieth century, the position of Latin America in relation to this artistic situation has shown a constant ambivalence. Mexico, as part of this cultural area, is no exception. It is trying, on the one hand, to become integrated into Western culture, emulating the avant-garde movements, and on the other, it has become inward looking in the search for original solutions derived from its cultural past. Art and architecture have reflected this ambiguity which has rarely been resolved successfully, but almost always with conflicting consequences; one tendency or the other has prevailed, presenting alternating periods of openness and introspection, so far neither triumphing completely. Among this confusion, certain stances have emerged as coherent responses to the two trends, successfully combining both the local and the universal. In the Mexican arena, painters such as Diego Rivera, musicians like Carlos Chavez and writers such as Mariano Azuela have made a name for themselves, providing creative solutions within this dichotomy. In the field of architecture, albeit lagging behind the other arts, Luis Barragán was the first exponent of this new wave, and nowadays, thanks to his followers, he has become part of the so-called regionalist movement. A study of his work will enable us to understand better his pioneering position.

*Luis Barragán, Fuente "El Bebedero", 1959, Las Arboledas, México.*

*Luis Barragán, Casa Gilardi, 1976, México D.F.; patio.*

Louise Noelle Mereles

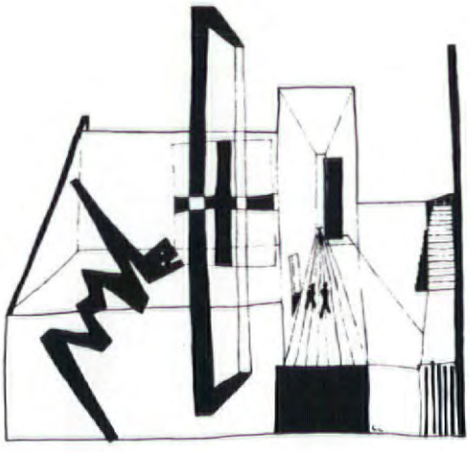
Luis Barragán (1902-1988), winner of the Pritzker Prize for Architecture in 1980, has received much international acclaim, especially after the exhibition of his work at the New York Museum of Modern Art in 1976. The refined architectonic expression for which he is known, however, represents his creative maturity at the end of the forties, when he successfully combined the various professional influences acquired during his life.

After graduating from University, Barragán's first works – and those of a group of other architects from Guadaljara – were trying to give concrete shape to the plastic values of the region, in particular the spirit of the small villages like Mazamitla where he lived during his early

*Opposite: Luis Barragán, Casa Gilardi, 1976, México D.F.; interior.*

*Ricardo Legorreta, IBM factory, 1975, Guadalajara, Jal.; entrance.*

Julius Shulman



*Mathias Goeritz, conceptual drawing of the experimental museum "El Eco", 1953.*

years. He was influenced by what he encountered during two trips to Europe made in 1925 and 1931: the Moorish architecture of southern Spain, Ferdinand Bacy and his gardens, Mediterranean buildings, Frederick Kiesler's architectonic theories and above all, Le Corbusier's lectures in the Paris of the thirties. On returning to Mexico City, the influence of Le Corbusier was prevalent in his work to such an extent that it was only in 1945, with a series of gardens, and in 1947 with his own house, that he achieved a synthesis of his experiences, creating a new architectural style which gained him a following. Two other decisive influences on his work were those of the self-taught Mexican painter Jesus Reyes Ferreira, and his collaboration with the famous sculptor of German origin, Mathias Goeritz.

**Emotional Architecture**

The working relationship between Barragán and Goeritz was of major significance, especially after Goeritz had built the experimental museum El Eco in 1953, the inauguration of which came at the same time as his exhibition *Emotional Architecture*. Goeritz's exhibition proclaimed the supremacy of emotions in architectonic creation as opposed to the indifference of International Architecture.

From this moment on, Luis Barragán adopted the term "Emotional Architecture" to describe his own work, causing the architecture of his mature years – and hence that of his followers – to be known by this name. The essence of Barragán's doctrine, which defines the principles of his works, is provided in the speech he gave on receiving the Pritzker Prize. It is a body of work rooted in the vernacular, while seeking the expression of the spiritual to celebrate beauty and its harmony with nature. This takes the form of massive buildings with solid walls and small openings, and a preference for bold colours of folk origin; likewise the use of artisans' materials is dominant, with the emphasis on textures and finishes, while both light and water play a vitally important part in his compositions. Lastly, his love of nature is expressed in mysterious gardens which complement the homes, spaces and public squares, offering the visitor solace and relaxation. Some of his works have achieved international recognition such as the Prieto (1950), Galvez (1959), Egerstrom (1968) and Gilardi (1976) houses as well as the Capuchinas Sacramentarias del Purismo Corazon de Maria chapel (1955), all built examples of his creativity. Likewise the gates and fountains for residential areas,

Armando Salas Portugal

*Ricardo Legorreta, Renault car factory, 1984, Gómez Palacio, Dgo.; office building exterior.*

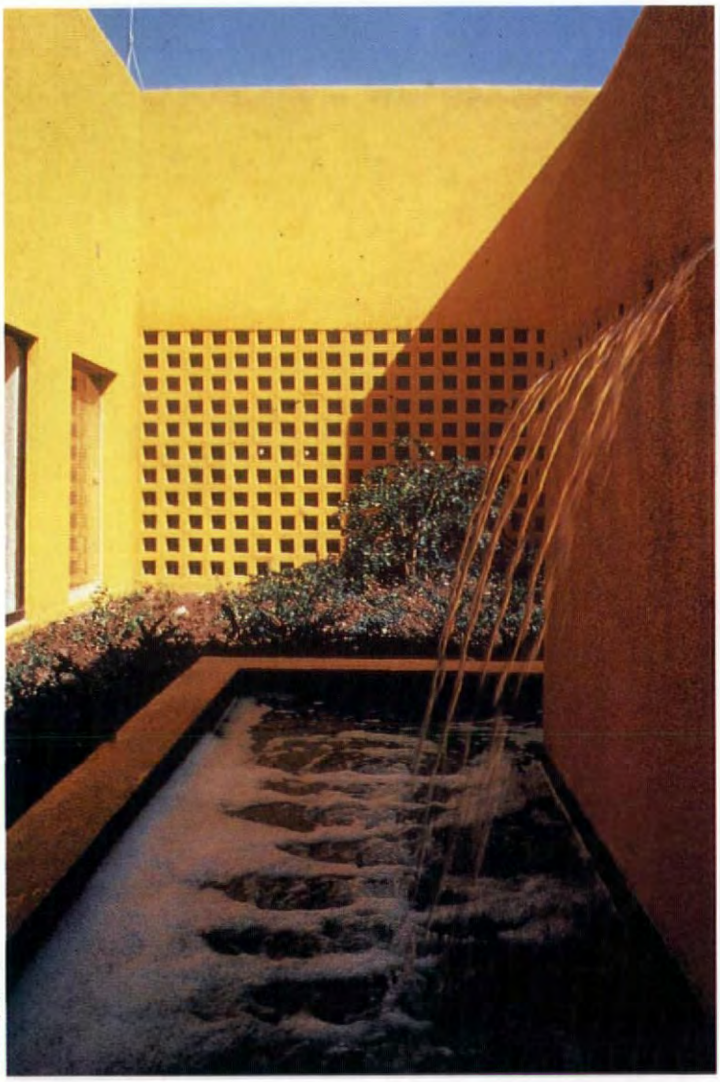
the Gardens of El Pedregal (1950) and Las Arboledas (1959), are part of the legacy he gave to urban improvement and landscaping.

**Current Regionalist**

Ricardo Legorreta (b.1931) distinguishes himself as the main exponent of present regional expression in Mexico. This designer, after receiving a professional training heavily biased towards functionalism, has succeeded in developing a whole new architectural language as a result of his profound friendship with Barragán and a prolific working relationship with Mathias Goeritz. Given that the origin of many plastic solutions is to be found in Barragán's work, Legorreta's can also be defined as Emotional Architecture. However, Legorreta's work has transcended the domestic nature of that of his predecessor and his ideas are applied to large-scale projects of great complexity. He has made a name for himself in certain areas, such as industrial and hotel architecture, in addition to residential buildings.

Legorreta's first structure which can be said to belong to this regionalist trend is the Automex factory (1964) which reflects a preoccupation that will remain with him throughout his work. In executing this type of building, he wants it to be both a promotional symbol of the company and also to fulfill its mechanical functions. But at the same time, his main priority is with the overall effect and dignity of the work. There are several examples of this concern, such as the IBM factory at Guadaljara (1975) and the Renault car factory at Gomez Palacio (1983) whose massive form emphasized by bold colours made it a

*Ricardo Legorreta, Banamex Financial Centre, 1983, Monterrey, N.L.; patio interior.*



Lourdes Legorreta

*Ricardo Legorreta, architectural studio, 1966 and 1980, México D.F.*

Louise Noelle Mereles

landmark, while the IBM technical centre in Mexico City (1977) with its grey finish blends into the urban landscape. In the area of hotel building he uses an innovative concept which rejects the high tower block. He reintroduces the pleasure of wandering through a building, offering agreeable corners for relaxation or meditation, set into a carefully planned environment. The Hotel Camino Real Mexico (1968) was the first hotel of this sort, followed by the Camino Real of Cancun (1975) and that of Ixtapa (1981), all highly attractive and acclaimed buildings. With these hotels, he preserves a language of local recollection, covering his generous spaces with warm textures and colours, with natural materials such as clay, wood and textiles, combining refined aspects of folk craftsmanship.

In a brief study of Legorreta's innovative work, we should mention two other building types which he has executed successfully. The first is the house, where he has managed to combine the functional with the recreational. He has built many homes including his own (1964), in Mexico City and more recently in California, carrying his ideas well beyond the borders of Mexico. Here, both the climate and the culture of the area enabled him to stamp these buildings with his own hallmark.

Lastly, there are many commercial buildings executed with his characteristic style and careful design. The Banamex Financial Centre of Monterrey (1982) is perhaps the most outstanding example among a large number of banking establishments, as is the office and shop complex of Solano, near Dallas, Texas, (1988). Solano displays once again his qualities as a town planner, seeking first and foremost to preserve the site and create an effect of harmony with nature.

### A New Wave

There are many Mexican architects who have been influenced by Luis Barragán's ideas and who seek their own form of expression within this trend. Likewise, it is important to add that the return to the national and local has recently attracted a large number of designers to such an extent

that it constitutes a new wave, and many of them have adopted the theoretical and aesthetic guidelines established by Barragán. However, within this group of professionals, it is worth singling out two for the quality of their contributions and their creativity.

The first is Andres Casillas, who was a disciple and later an associate of Barragán's. Casillas executed some works with his master, and currently excels in house design. In these works he has succeeded in keeping the spirit of Emotional Architecture alive, while reflecting the cultural tradition of the Jalisco region. The use of natural materials and local architectonic elements adapted to the needs of the climate and to regional customs, confer a distinctive stamp on his houses.

On the other hand, Antonio Attolini stands out for the strength of his buildings and the profound conviction of his ideas. Similarly, his works are imbued with an emotive character, as much through the generosity of internal spaces as through the use of polyhedral forms which give his projects a special touch. The abandonment of the rigorous use of the right angle corresponds to a personal quest within spatial development and to a desire to adapt to and harmonize with the terrain. He too employs materials of natural origin, with an emphasis on textures and the use of light, to the extent that it becomes a plastic element. He has built a large number of houses, for that is his speciality. He also designed the Monastery of Jesus Maria at San Luis Potosi (1980), whose austere exterior dominates the landscape, emphasizing its conventual character.

There are countless elements both constructive and decorative which make up this trend and which can currently be found in a large number of buildings. However, it is appropriate to say that the science of Emotional Architecture can be found in various writings by Luis Barragán, whose ideas advocate an architecture where the words "beauty, serenity and silence" provide modern solutions. These ideas have been successfully adopted by various Mexican architects who have succeeded in realizing important examples of recent architecture. □

*Antonio Attolini, Monastery of Jesús María, 1981, San Luis Potosí, S.L.P.; exterior view.*

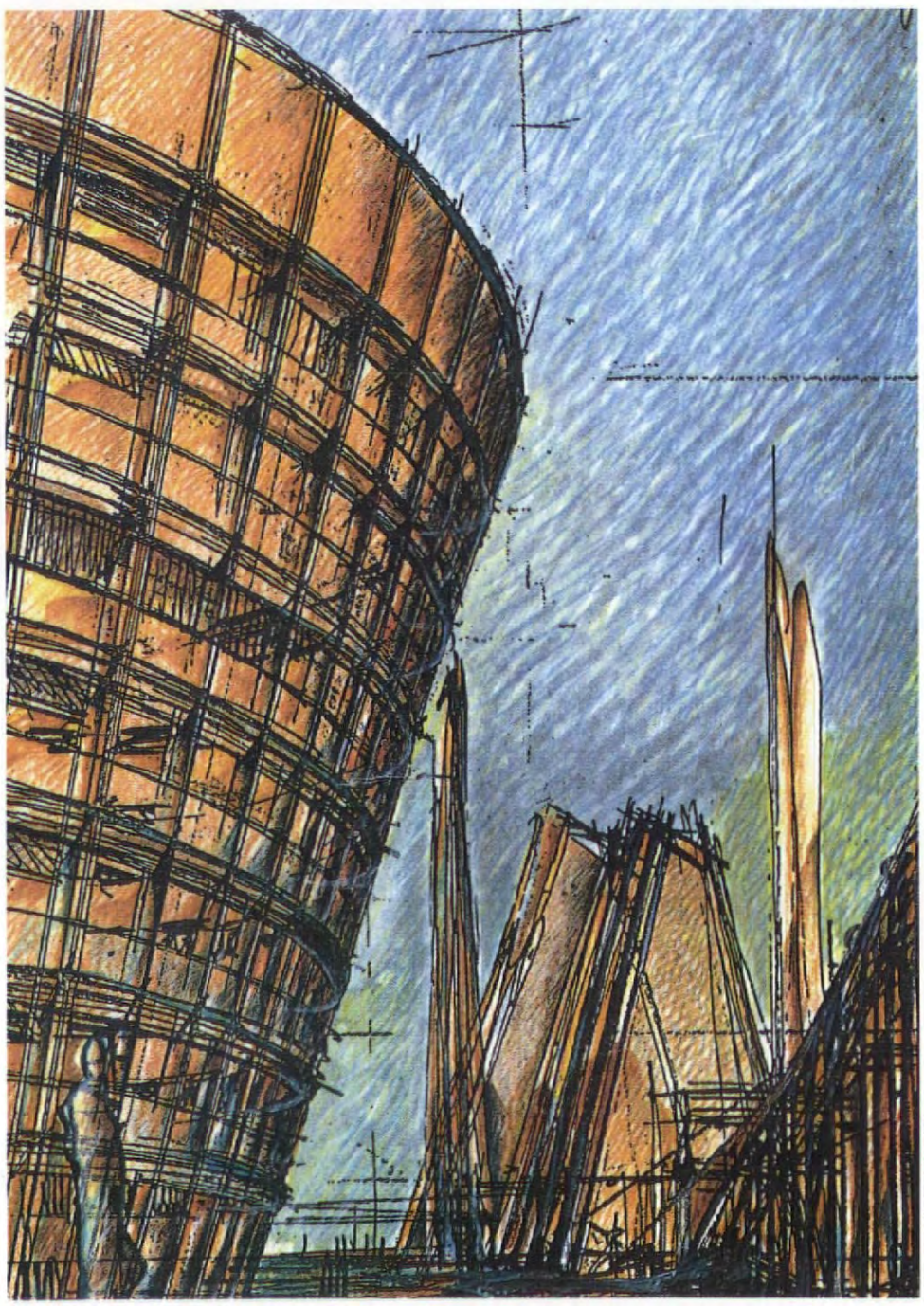
Antonio Attolini

Louise Noelle Mereles

*Antonio Attolini, Casa Méndez, 1983, México D.F.; entrance.*

# HOMAGE TO ALEXANDRIA

*Manfredi Nicoletti explores the imagery of his plans for a new library at Alexandria, Egypt, which won second prize in the UNESCO competition, 1989.*



*General view looking past the Main Library to the Ptolemy Hall.*

All drawings - Manfredi Nicoletti

*Overleaf: Elevations and sections and first level plan.*

*Below: General perspective views and block plan.*

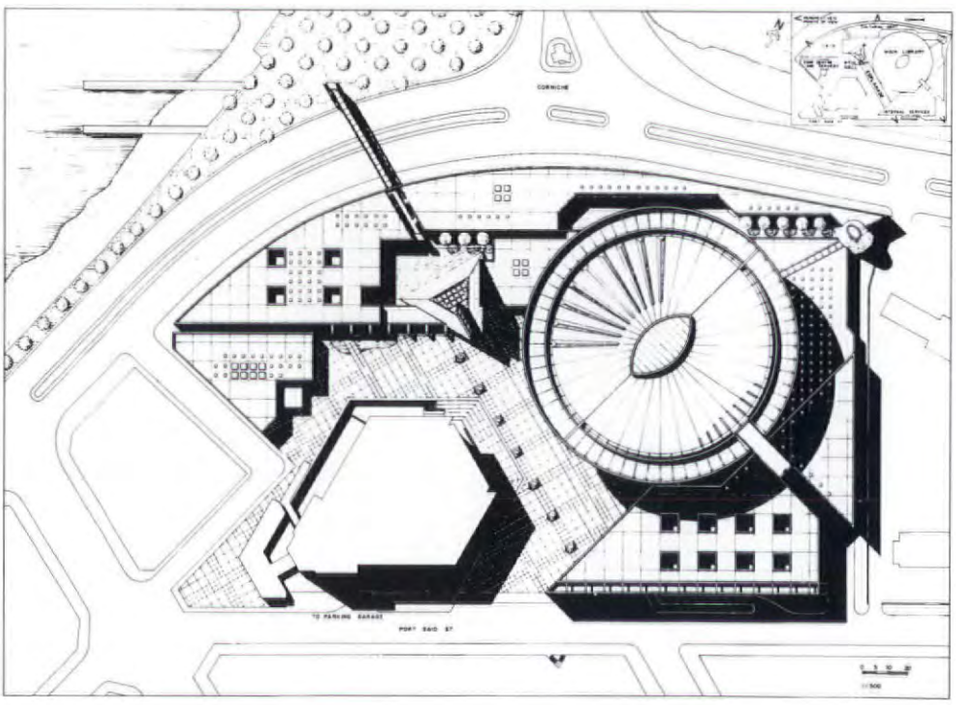
The City of Alexandria is in search of its own identity. It has 3.3 million inhabitants spread along 35 kilometres of seashore, and all physical traces of its illustrious past have disappeared. Not even a fountain stone is left either of its once famous Bibliotheca, or of the Lagides Palaces, or the old Islamic settlement; only a small group of eclectic, art nouveau buildings survive in the centre of the City. With very few exceptions,
the urban scenery is dominated by anonymous, modernistic, International-style buildings. Alexandria today does not seem to be a pluri-millennial city, but rather an enormous, rootless place.

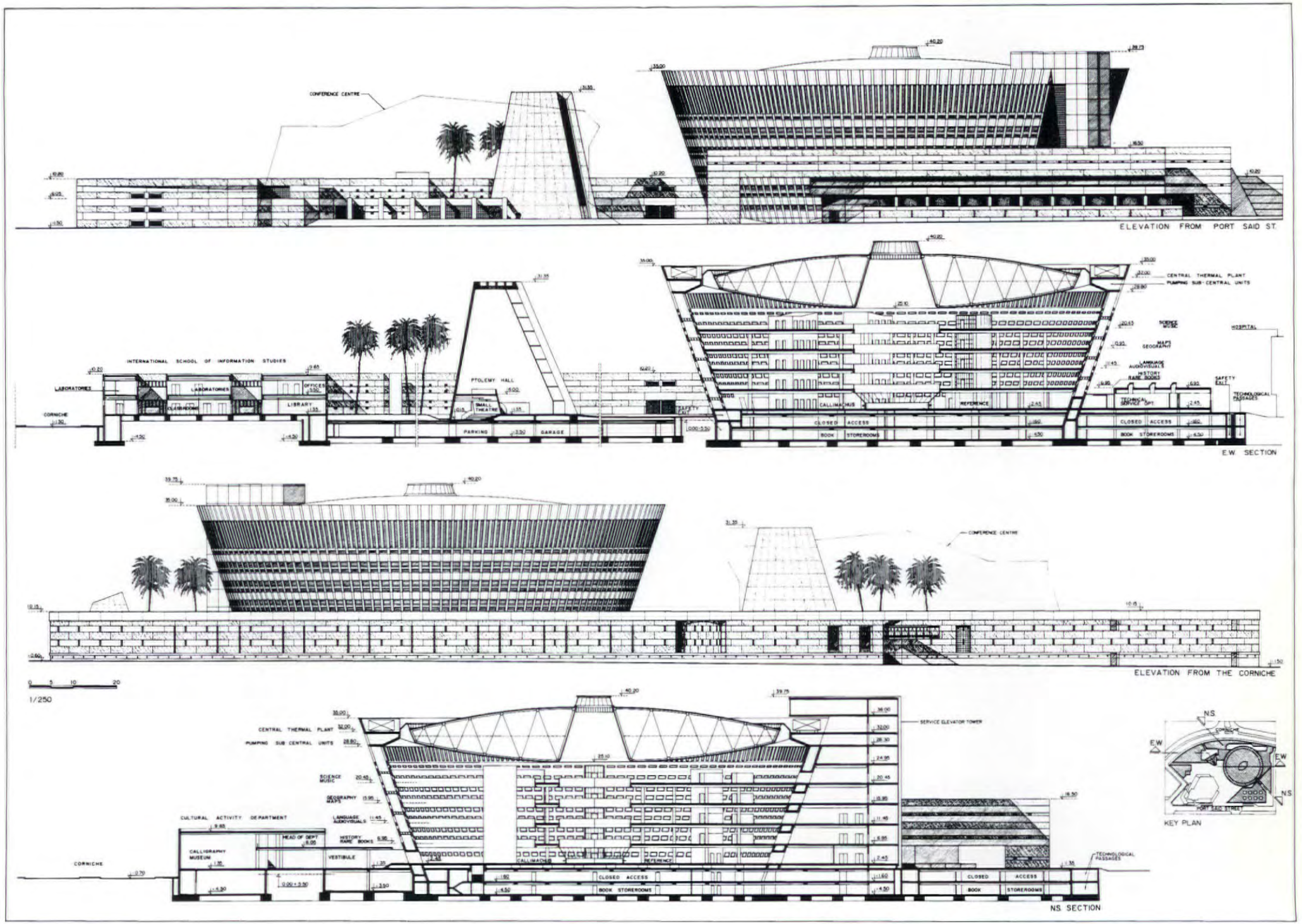
With the design of the new Bibliotheca Alexandria we faced one of the most tantalizing problems of today: our relationship with history and the future.

The rebirth of the Bibliotheca Alexandria provides an opportunity to revive the lost continuity between past and present and to invent a new future for this city. It also creates new bonds with tradition, not through imitation, but by interpreting its spirit. These bonds are most strongly evident in the organisation of the urban and architectural structure and the environmental control of the inner spaces – such features were found at their best during the so-called Egyptian-Islamic Classic period which spans the tenth to thirteenth centuries.

Similar to the al-Azhar mosque of Cairo, all the different elements of the new library such as museums, schools and conference facilities, are assembled in a single structure. A lower section, based on a square grid modular pattern, acts as a podium dominated by two monumental and geometrically perfect volumes: the tetrahedric form of the Ptolemy Hall (the main entrance to the building) and the Library Reading Room which is a truncated inverted cone, 110 metres wide and 35 metres high.

Following an ancient Mediterranean typology, this podium closes itself against the winds of the sea and noise of the corniche, acting as a continuous wall, whilst opening up onto a large inner court, a public esplanade, which is the distributive heart of the whole complex. It opens towards the city in the most inviting




CONFERENCE CENTRE
ELEVATION FROM PORT SAID ST.
INTERNATIONAL SCHOOL OF INFORMATION STUDIES
LABORATORIES
CORNICHE
PTOLEMY HALL
PARKING
GARAGE
CENTRAL THERMAL PLANT
PUMPING SUB-CENTRAL UNITS
HOSPITAL
CALLIMACHUS
REFERENCE
CLOSED ACCESS
BOOK STOREROOMS
E.W. SECTION
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0 5 10 20
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NS. SECTION
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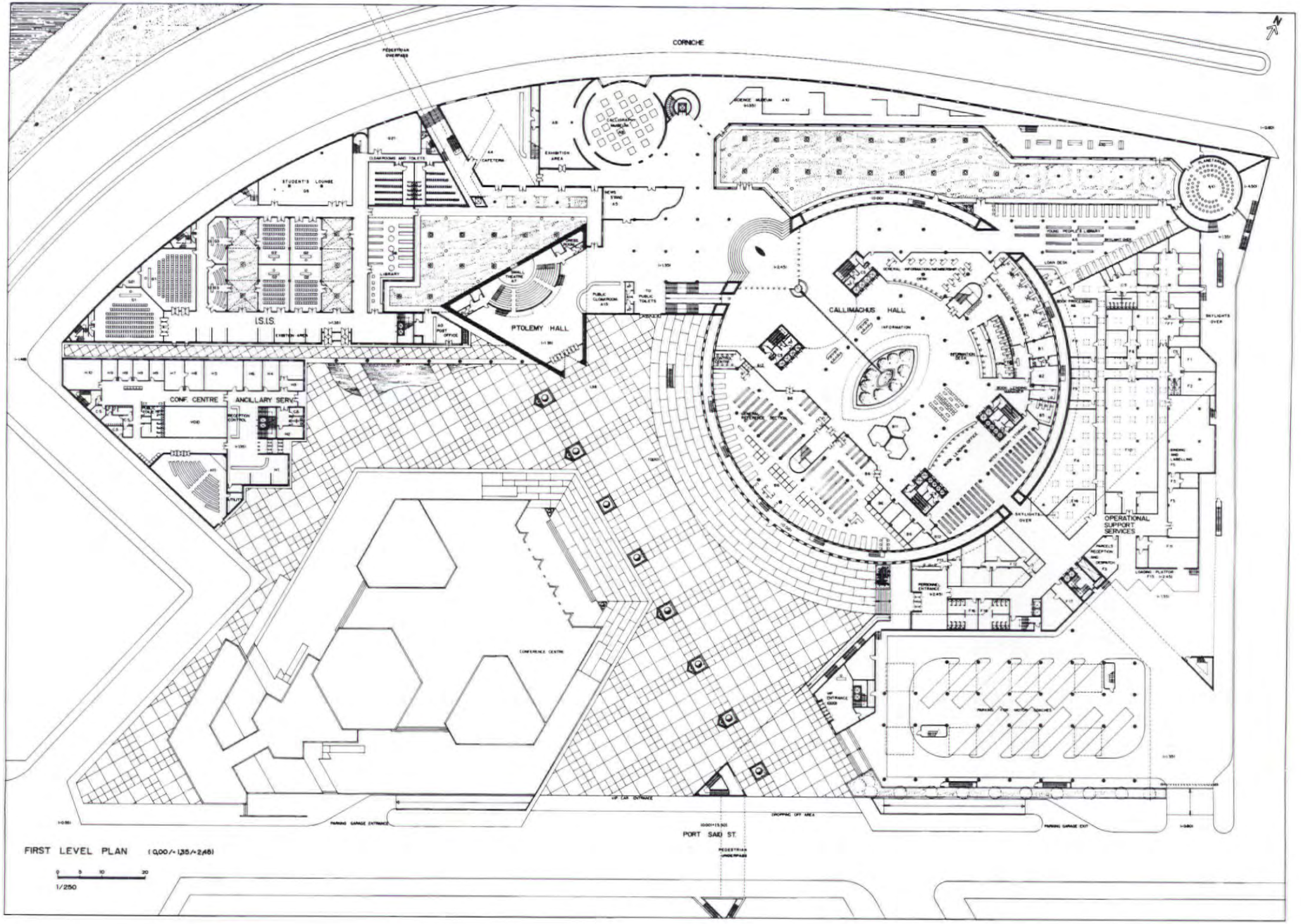
CORNICHE
PEDESTRIAN OVERPASS
STUDENT'S LOUNGE
CLOAKROOMS AND TOILETS
CAFETERIA
EXHIBITION AREA
CALLIGRAPHY MUSEUM
SCIENCE MUSEUM
PLANETARIUM
NEWS STAND
LIBRARY
I.S.I.S.
EXHIBITION AREA
PTOLEMY HALL
PUBLIC CLOAKROOMS
PUBLIC TOILETS
A.U. POST OFFICE
CALLIMACHUS HALL
INFORMATION
RESERVATION DESK
LOAN DESK
BOOK PROCESSING
SKYLIGHTS OVER
CONF. CENTRE ANCILLARY SERV.
VOID
RECEPTION CONTROL
OPERATIONAL SUPPORT SERVICES
PARCELS RECEPTION AND DESPATCH
LOADING PLATFORM
PERSONNEL ENTRANCE
VIP ENTRANCE
CONFERENCE CENTRE
VIP CAR ENTRANCE
DROPPING OFF AREA
PARKING GARAGE ENTRANCE
PARKING GARAGE EXIT
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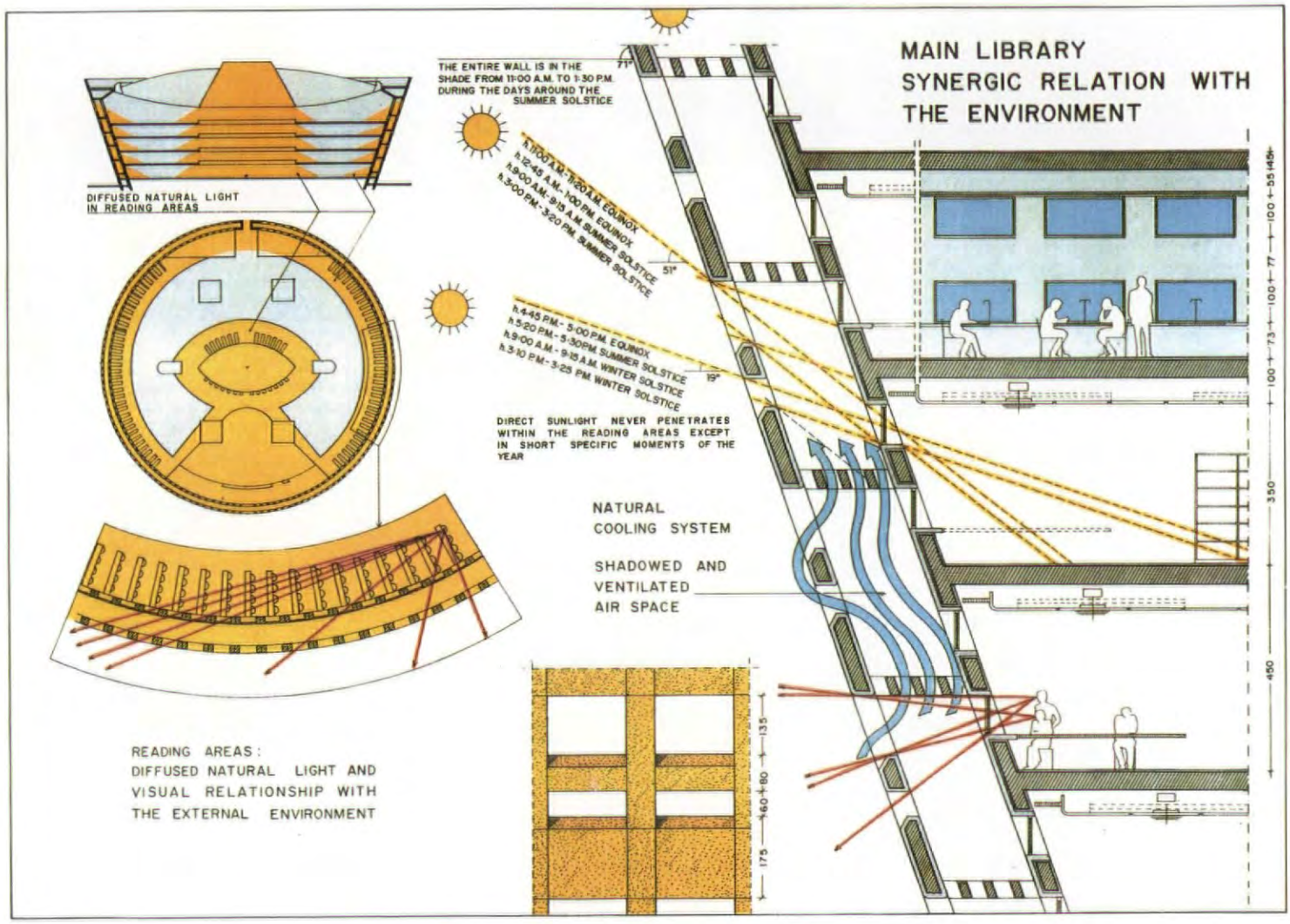



*Scheme illustrating the use of sunlight and natural air-flow to obtain a comfortable working environment in the Main Library.*

manner: through a grandiose portal in Port Said Street, threshold of the esplanade.

In controlling indoor microclimatic conditions, Western culture deals mainly with physical effects, almost disregarding the psychological ones. Such a dichotomy does not exist within local Islamic traditions, where solar radiation, air motion, temperature and the quality of light and views are used to the benefit of both body and mind.

Such a synergic concept has been a constant guide in our design. The conical envelope of the Reading Rooms utilises the sunlight to obtain environmental comfort and energy savings. It is formed of two concentric walls, separated by two metres of air space. Only the openings in the internal wall are glazed; those in the external wall stop the infiltration of direct sunlight while supplying a view of the landscape, natural diffused light for reading, and shadow and ventilation of the internal structure, thus producing a natural cooling effect.

The roof of this space is a lens-like light tensile steel structure with non-conductive thermal and acoustic properties. It is perforated by a central "eye" and numerous fine fissures which allow diffused sunlight to penetrate. The effect thus created evokes the image of a stone sky dotted with stars, as perceived by Hecateus on entering the tomb of Rameses II – believed to be the model for the ancient library at Alexandria.

The basement incorporates two important structures, both located at 1.50 metres above the water-table, which corresponds to the average sea-level. A parking garage for 250 cars is beneath the

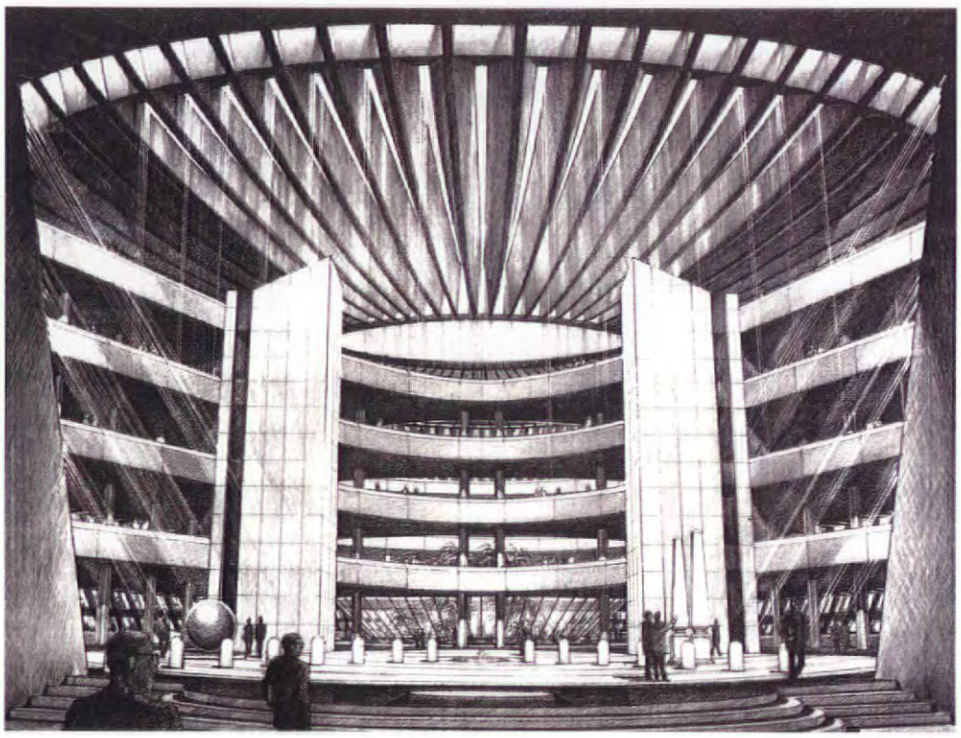
esplanade, and beneath the Main Library are the closed rooms for book storage with a seven million volume capacity. On top of the main library are the plant rooms, and thus the noise and pollution at plaza level is avoided.

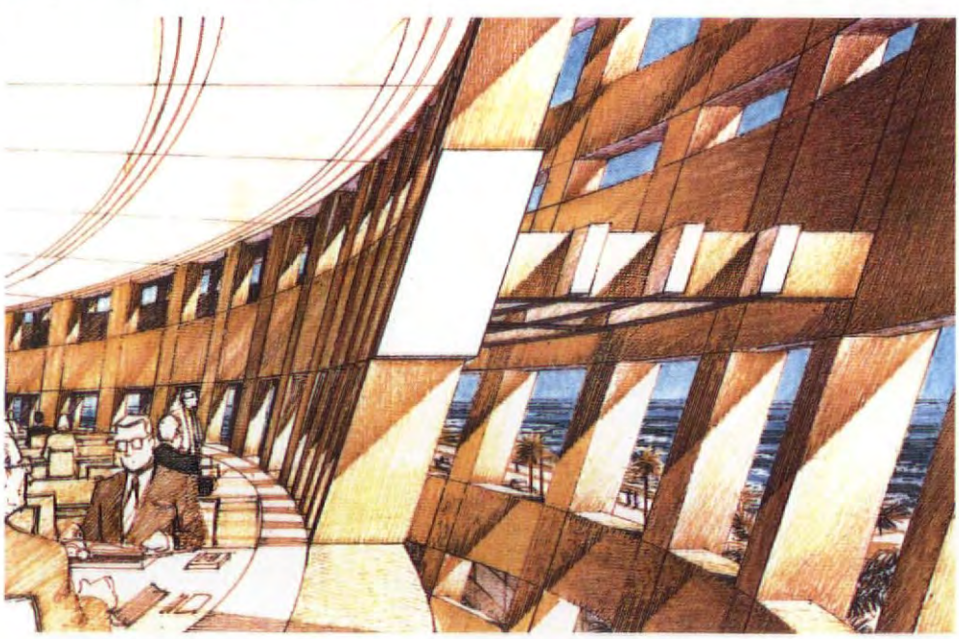
The flexibility and the extensibility of the project are implicit in the constant use of a square pattern structural grid and in the compactness of the design. Both factors allow for change to the internal arrangements, for extending the use of the underground area and for the construction of two additional floors over the low building network that welds together the main emerging volumes.

The design has faced the inherent problems of the low level of local building technology, and the severe environmental conditions principally caused by the proximity to the seashore: strong winds and a high rate of sand and salinity in the air.

In spite of the magnitude of the scheme, the great simplicity of construction will limit the cost of the realization and upkeep. The structure is in reinforced concrete. All the exterior surface finish materials are local: granite from Aswan and, above all, yellow ochre limestone of a light tonality.

*Main Library – interior view.*





*Main Library – detail of double-skin construction.*

**Biography**

Manfredi Nicoletti is an Italian Architect. He holds a Masters Degree in architecture from the MIT, USA and is the author of a number of books on architecture and architectural theory. He is a professor at the University of Rome, Italy, where he holds the chair of Architectural Design.

His vast professional practice deals with urbanism and architecture, and among his major projects are: the new Palaces of Justice of Rome; the University City of Udine; the extension of the University City of Rome; the passengers' air-terminals of Detroit, Catania and Trapani Airports; various hospitals ranging between 600 and 2000 beds; the design for the Satellite Town of the Principality of Monaco; the Parking Terminal of Venice; an extension of Manhattan over the water.

He has conceived well-known innovative structures such as the Helicoidal Skyscraper – a 600 metre-high building typology, integrating the technology of suspended bridges to aerodynamic principles.

Among the designs in progress are: the Subway stations of Rome; the remodelling of the entire sea-front of the city of Reggio Calabria and, for the Italian Government, the urban and architectural studies for the Bridge over the Messina Straits – the longest span ever built to connect Sicily to the Continent.

**INTERNATIONAL FORUM OF YOUNG ARCHITECTS PUBLICATION**

The International Forum of Young Architects is a world-wide organization of young architects for joint professional activities aiming at the stimulation and promotion of avant-garde trends, concepts and projects in the field of architecture.

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*Above and on following pages: I. Chernikhov Architectural miniatures from the series "Architectural Fantasies. 101 compositions" 1928-1933*

*Right: I. Chernikhov Composition from the series "Bases of Contemporary Architecture" 1925-1929*

# CHERNIKHOV

ARCHITECTURAL FANTASIES IFYA/IAA EXHIBITION 1989-1992

# ARCHITEKTURTHEATER:

RUSSIAN AVANT-GARDE OF THE 1920s IN MUNICH FACHHOCHSCHULE

# IAKOV CHERNIKHOV ARCHITECTURAL FANTASIES

**This exhibition is organised by the International Forum of Young Architects and the International Academy of Architecture with the kind sponsorship of Lufthansa German Airlines. It opened in Sofia on June 23 1989, and is now on the move until 1992, visiting the leading cultural centres of Europe, America, Australia and Asia. The exhibition includes over 700 original drawings, models and publications by the master, over half of which are on show for the first time.** □

The centenary of the birth of Iakov Chernikhov, the celebrated Soviet artist and architect, and also student and teacher of architectural composition, coincides with a wave of revived interest in his work on the part of architectural professionals and critics worldwide.

Chernikhov's most widely known sequence of works condenses and expresses, in an almost emblematic way, the aesthetic ideals of Soviet Constructivism. But his work also encompasses a great breadth of architectural thinking, ranging from the mythological folk principles of his "Architectural Tales" to the Classicist magnificence of the "Palaces of Communism" and the Constructivist poetics of "Machine Forms" – a world in close resonance with today's multi-faceted architectural culture.

Maybe the greatest significance of his work lies in the fact that it upholds the tradition within which the architectural image no longer remains a technical means for transmitting the architect's intention, but attains an independent value within architectural culture. It becomes a carrier of professional ideas not found in architectural practice, and significantly overtakes that practice. Whereas Chernikov's books can be defined as research into the artistic ideology of form in architecture, his architectural fantasies are in fact an arsenal of conceptions that have only had the chance of realisation in the works of his successors within the contemporary avant-garde.

These characteristics of Chernikhov's legacy place him in one of the key positions within the tradition of conceptual thinking in twentieth century architecture.

The organisers of the exhibition of Chernikhov's works are joint founders of the *International Chernikhov Foundation*, which aims to stimulate and develop the conceptual tradition in architecture in the work of the world's young architects. □






## ARCHITEKTURTHEATER "RUSSIAN AVANT-GARDE OF THE 1920s" IN MUNICH FACHHOCHSCHULE HALL

**Conceived, written and directed by BARBARA KREIS**

**Soon after graduating from Berlin Technical University, Barbara Kreis went to Moscow for a year of research, and to the United States for six months. In 1984 she completed her doctoral work on the subject: "Moscow 1917-35 – From Housing Construction to Urbanism", at the Academy of Fine Arts in Hamburg. She is the author of numerous publications and has given lectures in Soviet architecture, which has become her specialist field. She spent six years teaching at Munich Technical University, and it was during her lectureship at the Munich Fachhochschule that she conceived the idea of an Architectural Theatre.**

Interview with BARBARA KREIS by Elizabeth Mayer and Jurgen Rauch, Munich.

When we arrived at the Munich Fachhochschule, we had no idea of what "Architecture Theatre" was – whether an institution or the name of a play. Once inside the four-levelled hall, we were faced with several wood and wire frames, which were identifiable as models of post-revolutionary Russian architectural projects. We took our seats. Suddenly, out of the dark, the spotlights fell on a giant model, we heard music, and the model began to tell its story. The lights shifted to a wire frame, whose voice interrupted that of the other model, then a woman spoke . . .

Thus on 7-10 and 25 November 1988 in the domed atrium of the Munich Fachhochschule, the spirit of an extremely creative and stirring period in the history of architecture and culture was revived, when, under the direction of the university lecturer Barbara Kreis, students and young architects performed a play on the subject "The Russian Avant-Garde of the 1920s". This Architecture Theatre delighted audiences and colleagues alike with its surprising presentation of the subject: the buildings themselves were the leading actors. This innovative method of presenting the ideas of that era to the public decided us to ask the author herself about her work.

**INTERVIEWERS: Barbara Kreis, you have been involved with Russian architecture, the avant-garde and the aims of socialist realism for more than ten years. What special characteristics of this period have inspired you to create this Architecture Theatre?**

BARBARA KREIS: Well, the substance and the character of the avant-garde and the post-revolutionary era in the Soviet Union itself was the basis of this idea. I have given a lot of seminars on this subject, and I have always felt the contradictions between the character of this rebellious time and the conventional way of presenting its basic elements which forces the listener to assimilate passively. The young artists at

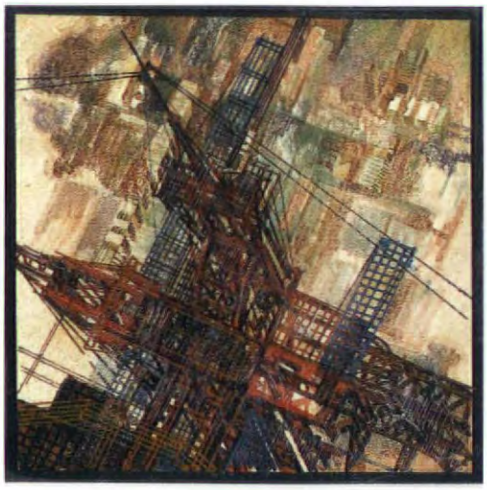
*Above: I. Chernikhov Compositions from the series "Bases of Contemporary Architecture" 1925-1929*

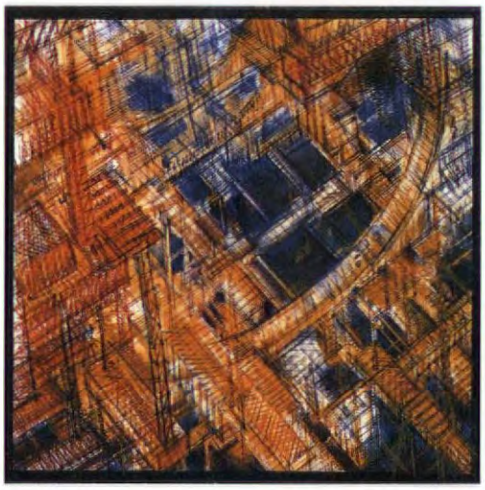
*Below: Architekturtheater Fragment of the Prologue: "People's voice", "Agent Provocateur" and "Announcer" amidst audience and models*

that time wanted to shout out what was new to the world, to provoke, and to challenge the unimpeachability of the fine arts. The fine arts were carried out into the streets, and the revolution unchained the artists' creative forces. The view of new possibilities, the turning away from tradition and traditional construction materials – all this roused an ardent desire, and in the imagination of the young architects fascinating projects were born, which for the most part were to remain unrealised. None of them worked in the direction of a fixed idea of form – the projects were manifestos and the results of experiments. And it was by means of these novel ideas that they brought architecture to the public.

So, during my lectureship in the winter term of 1986/87 at the Fachhochschule, I decided to break with the old approach in my lectures. I felt they had to be presented in such a way as to make the élan and the spirit of the architectural philosophies of those days clear to the students. So I decided, along with the students, to integrate the information and the model constructions into a play, so that these events could be brought "into the streets" for both the students and the public, and also to reopen the discussion on today's architecture, to make architecture the subject of active participation for everyone.

**INT: What gave you the unusual idea of letting the buildings speak for themselves?**





*Above: I. Chernikhov Compositions from the series "Fairy Tales of Industry" 1928-1935*

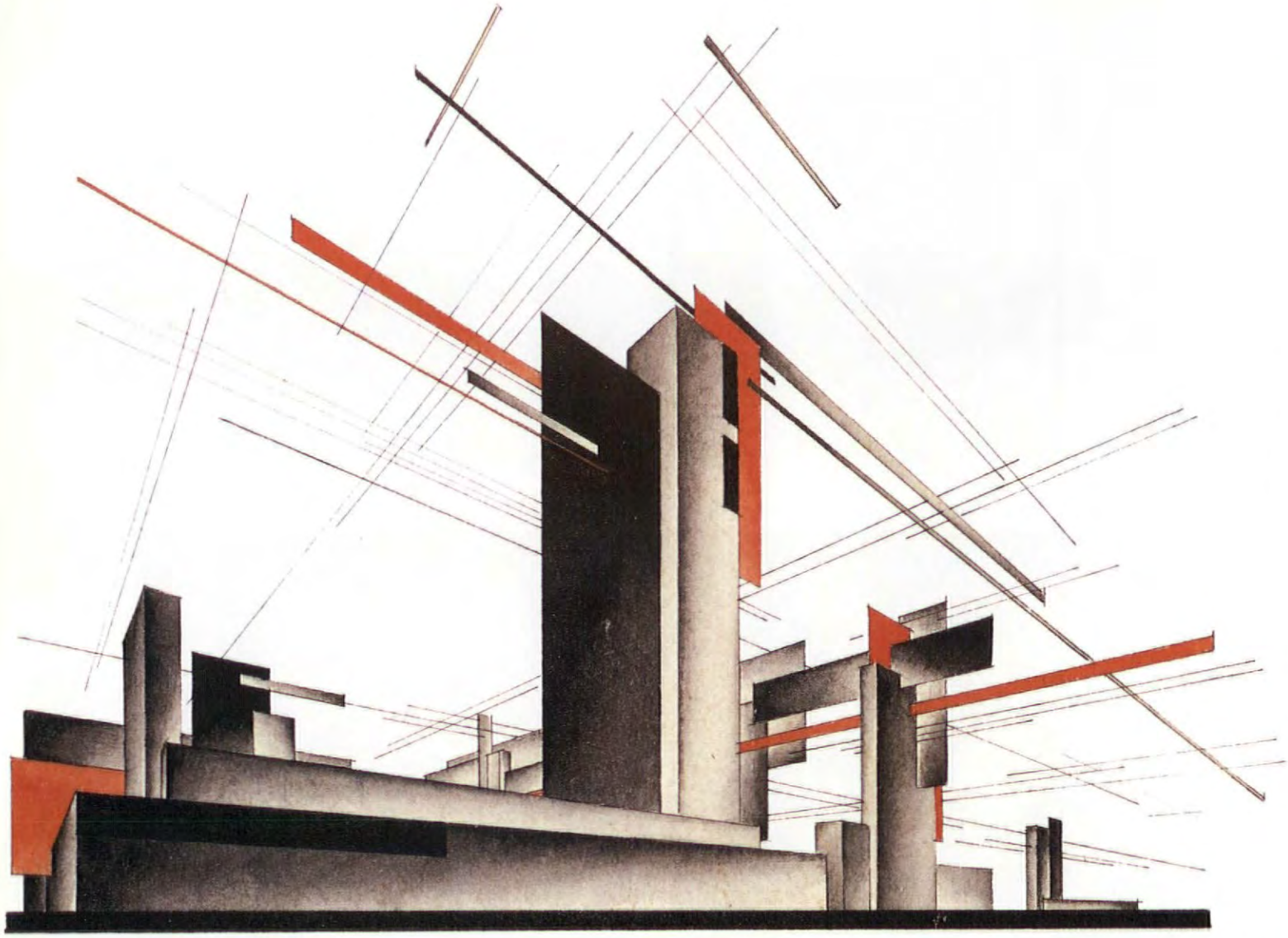
*Below: Architekturtheater Model expressing the spatial concept of Nikolai Ladovsky's Community House*

BK: Well, I kept in mind the aphorism of Phaedrus who asks Socrates whether he has ever come across buildings "that speak", or those that "even sing". And I also remembered the exciting adventure of those "son-et-lumière" presentations, as at the Château of Chambord in France, and for me the most impressive experience of this kind was on the Registan Square in Samarkand, when the buildings of the Qu'ran schools surrounding the square were suddenly illuminated, and began to tell their tale: "Jà Registan – I am Registan".

**INT: Which aspects determined your choice of the projects and buildings making up the verbal antagonism of the play?**

BK: First of all, I'd like to state that for us in

the West, Constructivism is the only known architectural style of those times, because it was its representatives who had the best contacts with the Western countries. The other world of architectural philosophies remains closed to us. The Vesnin brothers' design for the *Moscow Branch of the Leningradskaya Pravda* stands for the Constructivist school of thought. The representatives of ratio-architecture wanted to experience the psychology of space; they emphasised the impact of experiments and intuition on architectural concepts, they intended to intensify the feeling of space, to get to the bottom of the subconscious, with this fundamental idea: "Architecture comes alive through space, not through bricks, wood or concrete" –



*Above: I. Chernikhov Composition from the series "Bases of Contemporary Architecture" 1925-1929*

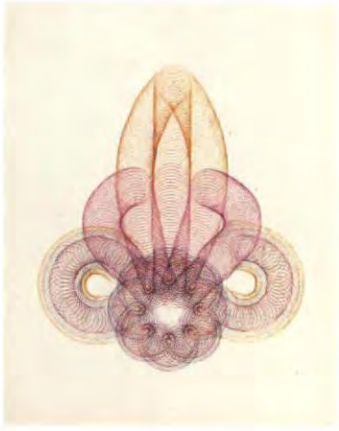
*Below: Architekturtheater Model of the Leningradskaya Pravda building (Scale 1:10) by the Vesnin Brothers*

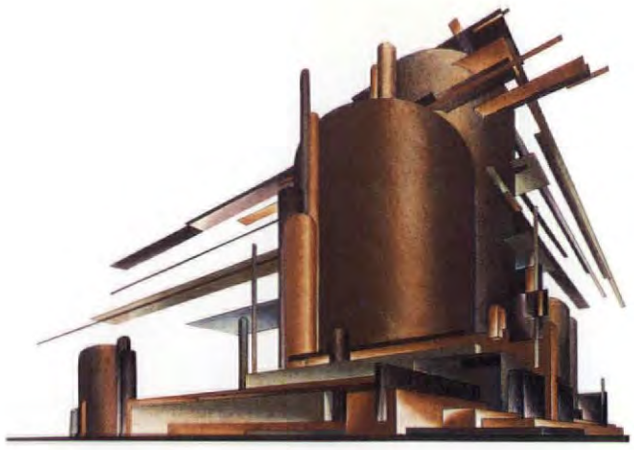
these were the design principles behind the *Community House* by Nicolai Ladovsky. The *Orator's Platform for Lenin* by Lasar Lissitski stands for the fine arts as means of propagating ideas in the hands of the people. The *Commune-House* by Nikolaev embodies the extreme functionalist conception of human life. Grouped according to age, everyone's daily life is to be organised into production-related routines taking place in the different parts of the building. The architect Krutikov went even further with his project of the *Flying City*, symbolising unconditional confidence in the philosophy that everything can be attained by technology and science.

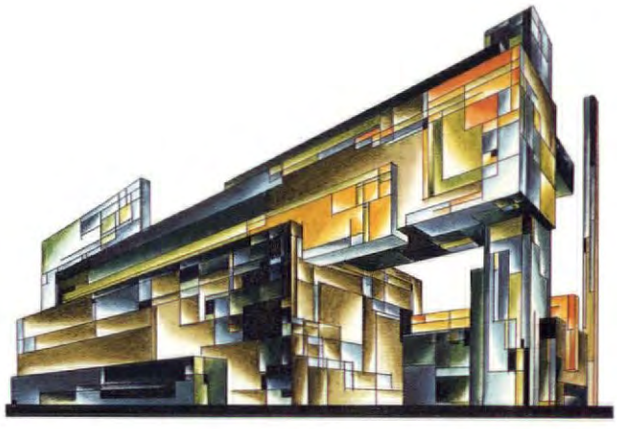
**INT: And how do the buildings express themselves?**

BK: Soon after the start of the play, Tatlin's *Monument to the Third International* is introduced by the melody of the "Internationale", and says: "I am the spiral of life. My secret is the dynamics of progress. My extreme height is not caused solely by functional necessity, it embodies absolute greatness . . ."

Each building presents its design ideas and philosophy, and all of them enter into antagonisms – with each other and with the voice of the people, represented by four actors. The Agent Provocateur takes the role of the inciting element, the Announcer keeps to the background, and the only building which has proved its worth in everyday life keeps calm during the play







*Top left to bottom right: I. Chernikhov Composition from the series "Aristography" 1919-1925; Composition from the series "Geometric Ornament" 1914-1930; Objectless composition from "The Art of Inscription" 1928; Composition from the series "Aristography" 1919-1925*

*Bottom left, top right: Compositions from the series "Bases of Contemporary Architecture" 1925-1929*

and tries to act as a mediator. This is the *Sergei Zuyev House* by Golosov. Speaking of its "harmony of all movements", it claims to be misunderstood by all the architects who have quoted its forms in all the years after its construction: "It's not a question of praising or criticising the form, but of understanding the aim it stands for."

**INT: Not only the statements of architecture itself, but music also is used to characterise the spirit of these projects and their philosophies. How did you choose the particular pieces you use, and who are the composers?**

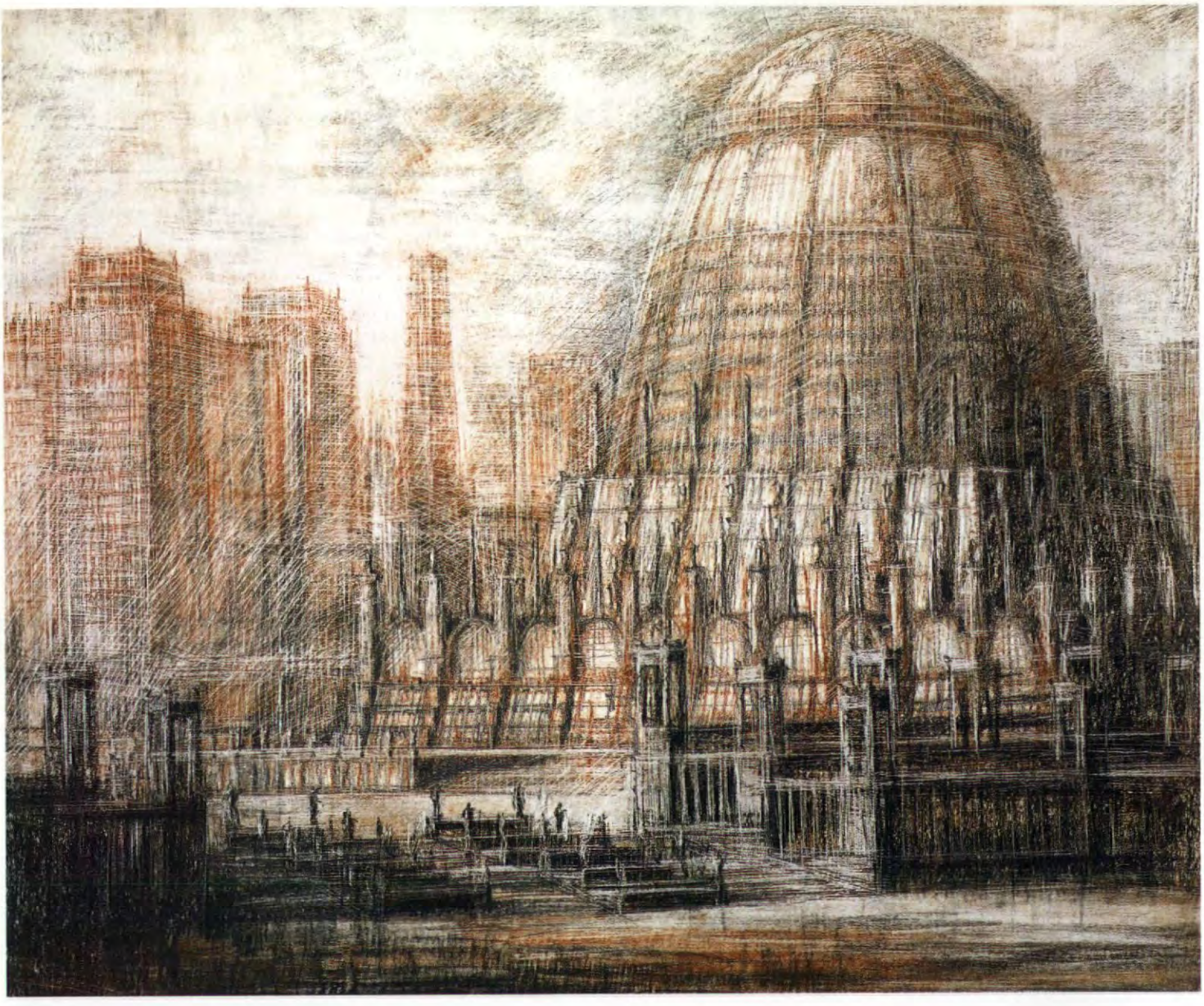
BK: Reflection on the dictum describing "architecture as materialised music" was my inspiration to give expression to the buildings by providing them with a character melody. The pieces are extracts from compositions like "The Bells" by Rachmaninov, and Stravinksy's "Sacre du Printemps".

**INT: How did you come up with the idea of adding the figures of the Announcer, the Agent Provocateur and the Voice of the People, characterised by the figures of Olga Semionova, Ivan Ivanovitch, Ludmilla and Victor?**

BK: The Agent Provocateur was intended as a propagandist in the play, referring to important people of the time like Vladimir Mayakovsky, the Announcer's function was one of a "realist", and he was in fact my mouthpiece, supporting the play and creating a bridge linking that situation with today.

**INT: And what of the role of the People's Voice?**

BK: This represents the people of the time. Their words are an interpretation of the literature of those days, much in the same way that the text I wrote for the buildings came from original texts, and quoted the written material of their architects, but relating to today's period. Ludmilla and Victor, euphoric young people, are prepared to participate uncritically in the process, whereas Olga and Ivan are simple people, farmers. The impact that the famine and the struggle for the revolution had on them did not give them any reason to dream high-flown ideas of progress; they were concerned with urgently needed improvements in their own lives. This



*Above: I. Chernikhov Composition from the series "Pantheons of the Great Patriotic War" 1942-1945*

*Below: Architekturtheater Model of Tatlin's Monument to the Third International during performance*

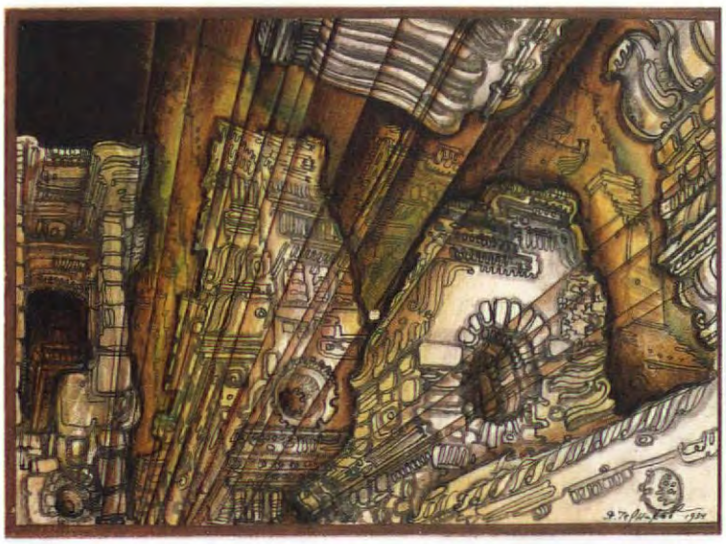
problem of providing for the masses – this was the reason that many intellectuals were not understood, in spite of their self-imposed task of helping the masses. The pattern and the structure of my script was intended to reflect the rise and fall of a dream.

**INT: How did you structure your play?**

BK: In a kind of prologue, the Agent Provocateur calls out to the consumerist and media-spoilt society to pay attention to the ideals of the architecture of that time; following this, the buildings introduce themselves with their melodies and by speaking, crying out enthusiastically their ideas and philosophies; and those are commented on, applauded and criticised by the different representatives of the people. Dissention and disharmony follows on the heels of the enthusiasm: the buildings attack each other. This discord amongst the buildings, and the negative resonance from the people, destroy the dream of these new philosophies of art. The epilogue, seven decades later, creates the bridge to today: the buildings of that time are now demanded by the people of today. In those days, the time was not yet ripe; but today people have developed to such an extent that they want to be inspired by those buildings.

**INT: Would you say that a positive evaluation of the Russian avant-garde should today be adopted?**

BK: Without a doubt. But, please, not by copying their forms. The architecture of



*Above: I. Chernikhov Composition from the series "Architectural Fairy Tales" 1927-1934*

*Below: Architekturtheater The "Announcer" during performance*

that time was supported by a philosophy and by actions that we should somehow try to employ today. The architects of the avant-garde believed the fulfilment of their profession lay in the creation of ideas for a new world, and in bringing these to the people. A lot of architects these days are only after setting up monuments to themselves. Our time has become really poor in this respect.

**INT: Can you see yourself doing something similar with another architectural epoch, another country, other buildings?**

BK: This intention is incorporated in the idea behind the Architecture Theatre. Imagine a quarrel between post-modern copies, and their Renaissance or modern

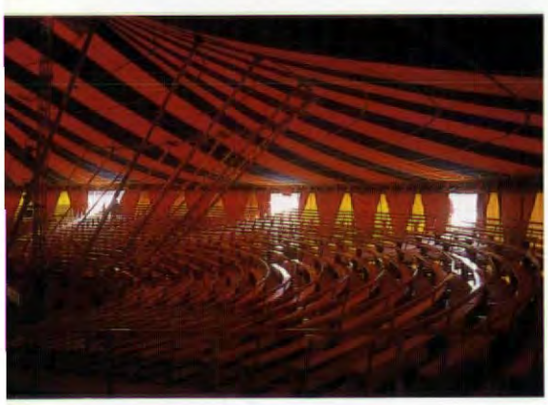
precedents! But I first prefer to show the play about the avant-garde in front of a wider audience.

**INT: So you'd like to perform the play again?**

BK: With pleasure, I'd be delighted to! One problem, however, is that most of the actors have just graduated, and to do so they will have to interrupt their professional lives, which will be very expensive. We would like to go to Moscow, and we are already discussing the possibility of taking part in the planned "International Festival of the Avant-Garde". But first we are planning a tour of Germany in the autumn. I am thinking about performing the play both at home and abroad. □

*The theme of engineering and its architecture began in World Architecture 4 and is continued here. We present an introduction to the logic and design of tension, especially fabric, structures. This is written by John Thornton, a director of Ove Arup and partners. This is followed by a picture essay of the work of IPL, a West German company specialising in the science. In issue 8 of World Architecture we will present a substantial profile of Frei Otto, the modern father of tension structures.*

# SKIN TIGHT



*A traditional circus tent structure.*

*Opposite:*
*Main picture and lower insert: Exhibition hall constructed from framework arches supporting mechanically tensioned membrane panels. Architect, consultant engineer, and implementation: IPL. Area covered: 10,000 m².*
*Upper insert: Schlumberger Research Centre, Cambridge, U.K. Cable supported, mechanically tensioned membrane structure. Architect: Michael Hopkins Associates. Consultant engineer: Anthony Hunt. Implementation: IPL. Area covered: 1,800 m².*

Some of the most dramatic and interesting structures that have been built over the last twenty-five years have been tension structures. A particular characteristic of these is that the influence of the structural engineer on the design is far greater than with conventional buildings. In most buildings, within limits, the architect can incorporate the structure in his design without reference to an engineer. With tension structures, and fabric structures in particular, the technology is too complex to remain within the grasp of all except the most technically sophisticated of architects.

A tension structure can be defined as a structure in which ties, which are members exclusively designed to take tension, are major elements. The tie is the most efficient structural element since the full section can work up to the design strength.

A cable-stayed roof uses ties in combination with struts and beams to create a framework which can support rigid cladding as a secondary element; while fabric roofs and cable roofs take this a stage further by using ties as both the enclosure and a primary structural element. Pneumatic structures are a type of fabric structure in which the shape is maintained by air pressure.

Tents are an ancient form of structure which, until recently, have been made of natural materials and generally had only single curvature, or none at all. Curvature is fundamental to the design of fabric structures. A flat piece of fabric has no resistance to loads applied normally to its surface and can only carry such a load by changing shape so that there is a component of the tension in the fabric which can resist it. The traditional tent or canopy carries load by changing shape. The roof of a ridge tent will sag due to self weight and snow and billow up under the suction of wind. A bell tent, however, can resist the suction, which is the most common load, without changing shape to such an extent because it is already curved in the direction needed to resist this.

The changes in shape and movements of these structures are acceptable. They are temporary structures made of resilient materials and generally not large. Their performance satisfies the expectations we have of them.

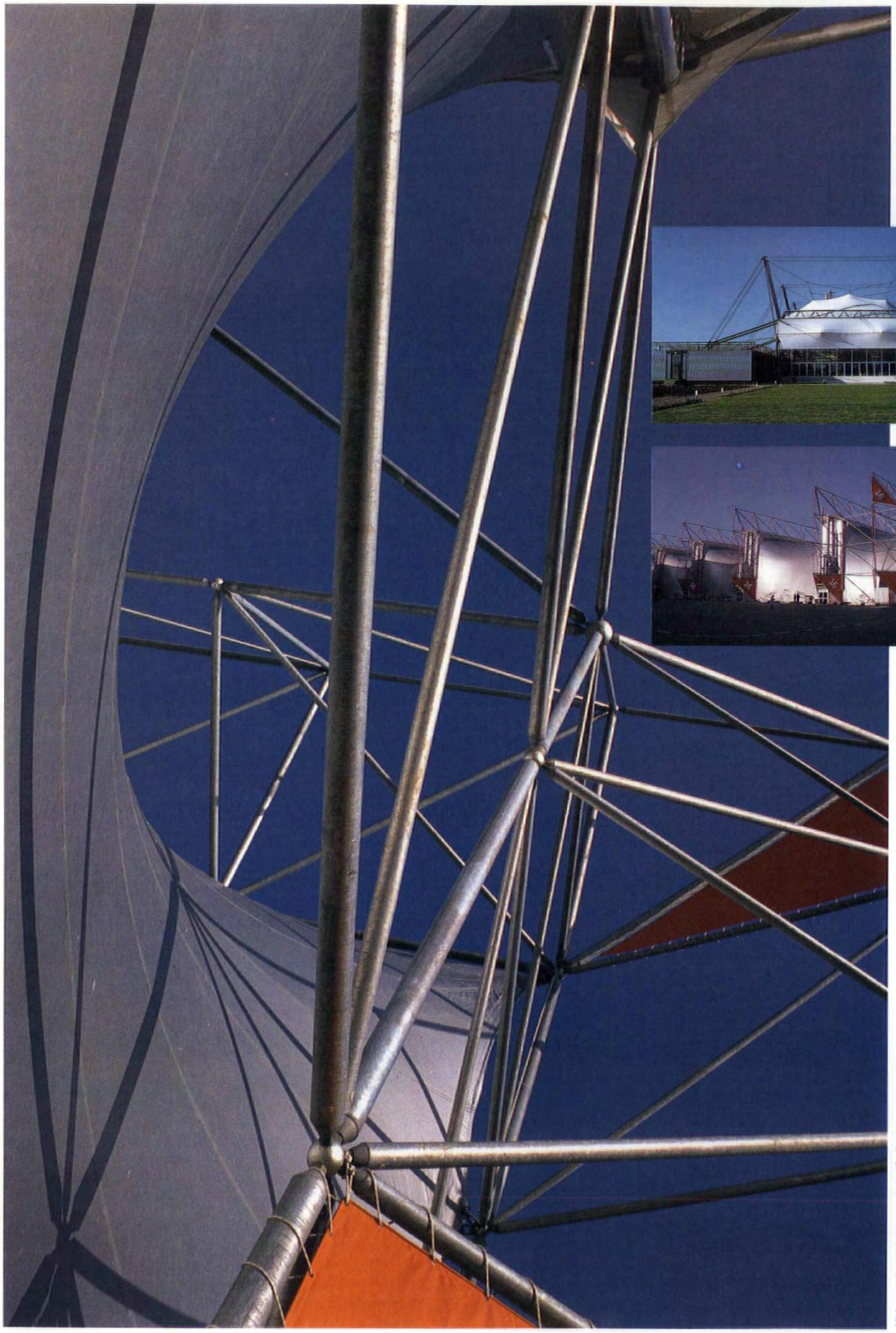
In contrast to these structures, which can be designed by rule of thumb, are the engineered structures which reflect advances in materials and methods of analysis. They differ from the traditional tent in many ways:

- they are usually permanent
- they are often very large
- they cannot be designed using practical experience only
- they use higher strength materials
- they should not have wrinkles
- they should not flap
- they are expected not to fail.

Flapping can be very destructive, especially with some fabrics, but our expectations are also higher than for traditional structures. We do not expect to see wrinkles and flapping; we certainly expect them not to fail or suffer the type of defects which might previously have been accepted.

There are distinct stages in the design process: form finding, analysis and fabric design, pattern making, detail design.

The structures are designed so that the fabric has double curvature, like a saddle. The curvature in one direction resists gravity loads while the curvature in the other resists wind suction. The fabric is tensioned to pull the roof into shape and get rid of wrinkles, to bed down the fibres in the fabric so that the extension under load is predictable, and to preload the



All photographs and drawings supplied by IPL GmbH

*Pneumatic structure model for swimming pool roofing, Weinheim, West Germany. Architect: J & W Lippert. Consultant engineer and implementation: L. Stromeyer & Co. Area covered: 2,000 m².*

*EXPO '64, Lausanne, Switzerland. Mechanically tensioned sails supported by ridge and boundary cables. Architect: Saugey. Consultant engineer and implementation: L. Stromeyer & Co.*

fabric against the external loads to be applied. The fabric will not go slack and flap if the amount of prestress has been chosen correctly.

It is not possible simply to draw the shape of a roof and construct it. An approximate shape can be drawn which satisfies the criteria of double curvature, appears to have reasonable radii of curvature and defines boundaries and supports. The actual shape is determined by the geometry of the boundaries. A soap bubble has a unique shape for a particular boundary and the surface of a fabric roof is usually made to the geometry of the soap film.

When the geometry of the form has been defined, it is analysed for the various load conditions. This analysis is complicated by the fact that these structures are non-linear, which is to say that the response to a change in load is not directly proportional to the change. This is because the geometry and the material properties vary under load. A new geometry must be found if the analysis shows that the form is unsatisfactory because, for example, it overstresses the fabric, or inverts under wind load.

Once a suitable form has been found, patterns must be specified so that the fabric can be tailored to give the correct shape when prestressed. The details of seams and connections can also be worked out at this time.

Models can be used for design but this technique is no longer used for significant structures, except for visualization in the early stages; specialized computer programmes are used instead. This is not to say that design is simply a question of feeding numbers into a machine. The computer is only a tool to help the designer, who must have a thorough understanding of the structural behaviour and the limits of the computer model and programme.

The point of this is to illustrate how fabric structures are technically perhaps the most difficult to design. They have their own internal logic which is unforgiving to those who seek to impose stylistic decisions on the design. The architect, clearly, can contribute to the choice of the overall form and boundary conditions, if he understands the principles. Beyond that point the design is driven by the engineering which is the reason why, with a few exceptions, fabric roofs have been largely designed by engineers.

Fabric roofs can provide economic cover and span large distances, given sufficient space and supporting structure to generate the necessary curvatures. Being light and flexible they can adapt to extreme conditions such as earthquakes. A lot of energy can be locked into the structure, however, and the design must take into account the possibility of failure of the fabric or a cable. The consequences of the failure of one element must be limited: it is unacceptable if a tear in one part of the fabric could cause the collapse of an entire roof. It may be that damage in one part will be self-limiting and that alternative load paths in the fabric will be found, but it might also mean introducing extra structure to provide secondary load paths. Again, this requires a detailed understanding at the engineering level.

Probably, though, the main reasons for choosing to design a fabric structure are the

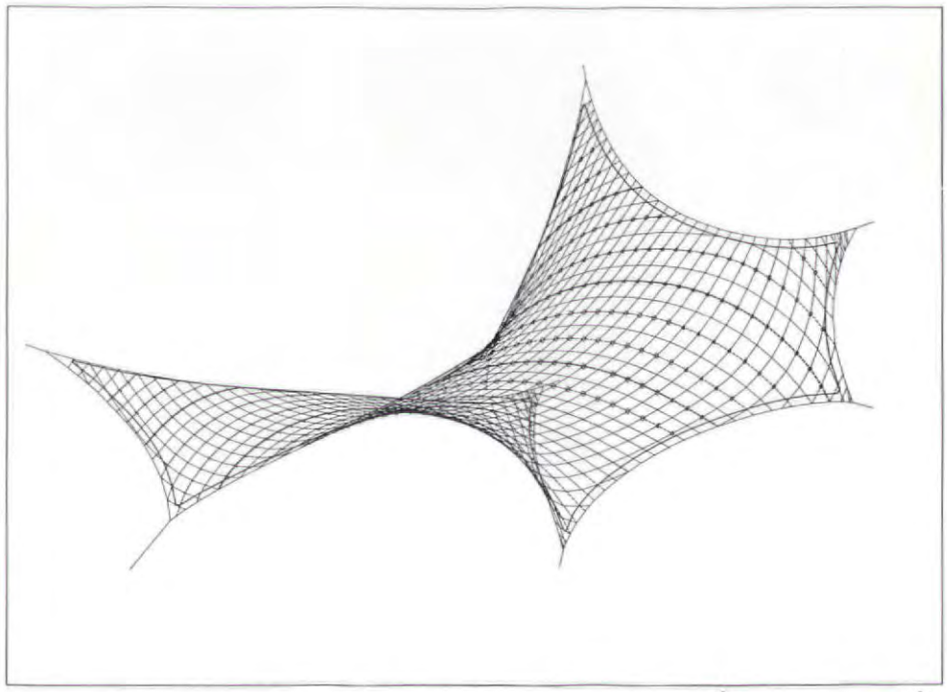
dramatic and beautiful forms which can be achieved and the quality of space and light under them. Unfortunately, many fail to achieve the clarity that the concept suggests. Sometimes the form itself is unattractive but in many cases the root cause is the designers' inability to look beyond the overall concept and recognize the inherent restrictions and contradictions.

The contradictions exist at both the technical and formal level. The main technical contradiction lies in the magnitude and position of the loads delivered to the supporting structure and the failure to achieve in this the same elegance and clarity as in the fabric; in concept, size and detail. Although the roof is itself light, the snow and wind loads are the same as for a conventional structure. These loads are converted into tensions of several tonnes per metre at the edge of the fabric while catenary boundary cables themselves can generate very large forces by virtue of their shape. This usually means large horizontal forces at some distance above the ground, where they may be awkward to deal with without heavy structure. To achieve double curvature, the roof must be held some distance above the ground, which can cause struts and masts to have large diameters. Non-rectilinear structures can generate awkward connection details.

The formal problem is how to deal with the edge. The best roofs have no walls and float above the ground, to link the free form of a fabric roof with the more rigid form of a wall seems clumsy as well as being technically difficult.

The danger of these structures is that the demands of the technology are such that they can overwhelm the design and exclude the non-specialist; those who understand the technology do not always produce the best designs, in the broadest sense. Many of the structures lack the necessary balance between form, detail and context; others are technical tours de force which impress with their virtuosity while lacking the essential feeling of rightness. But, with the right designers and circumstances fabric roofs can achieve an elegance matched by few other structures. □

*Computer plot of a typcial, saddle-like, double curvature fabric structure. IPL.*



# IPL: A SNAPSHOT RÉSUMÉ OF TENSION AT WORK

Ingenieurplanung Leichtbau GmbH. (IPL) of Radolfzell, West Germany, are consultants in specialized lightweight structures, and they have shared in the development of tensile structures having designed and developed 450 such structures since the company's foundation in 1974.

Harald Muhlberger, founder and sole owner of IPL, is a graduate in structural engineering of the University of Stuttgart, and prior to founding IPL he worked with L. Stromeyer, Peter Stromeyer and Frei Otto. He is a member of the West German government's expert commission for the application of plastics in buildings, as well as a member of the German DIN-standards committees – DIN 4112 Flying Structures, and DIN 4134 Pneumatic Structures. IPL also has close relations with City University, London.

The engagement of Muhlberger and his team (IPL has 10 staff) in these structures has given IPL much experience in material developments, structural and erection techniques as well as the design of tension structures. Experience on the job is what IPL has built on during 16 years of existence.

IPL works in the following areas:

**Creative structures**

Space for creativity
Corporate identity
Something new

Recreation space
sports/leisure/multipurpose
music/concert halls
theatres, open-air theatres

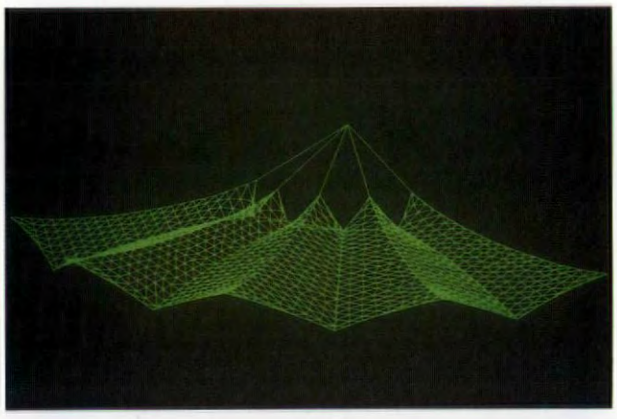
Exhibition space, fairs

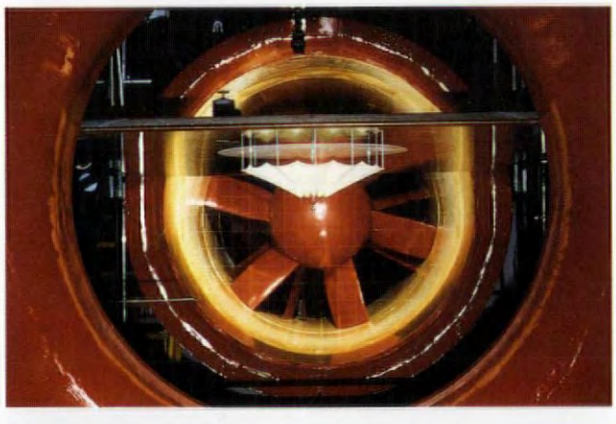
**Technical applications**

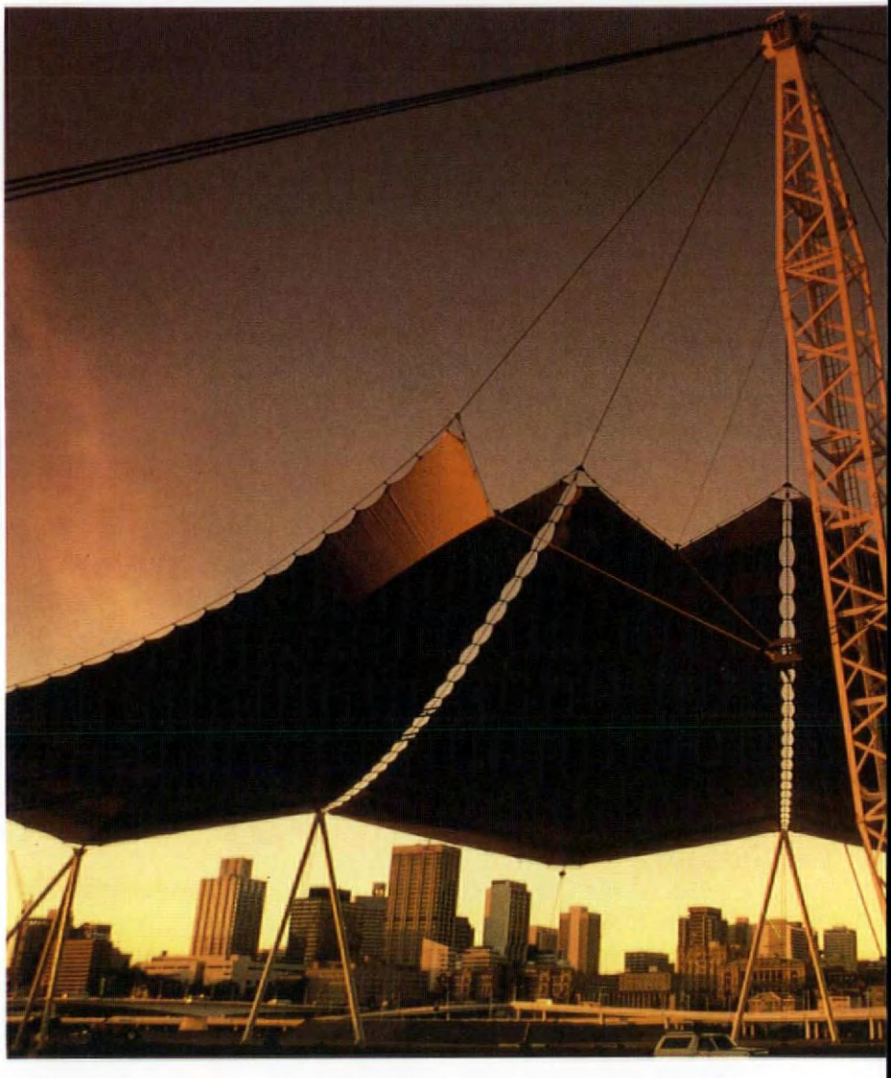
climate control shelter
environmental control shelter
sewage/water/waste treatment

industrial space
storage/protection
pollution protection
aircraft shelters/hangars

agricultural shelters, greenhouses

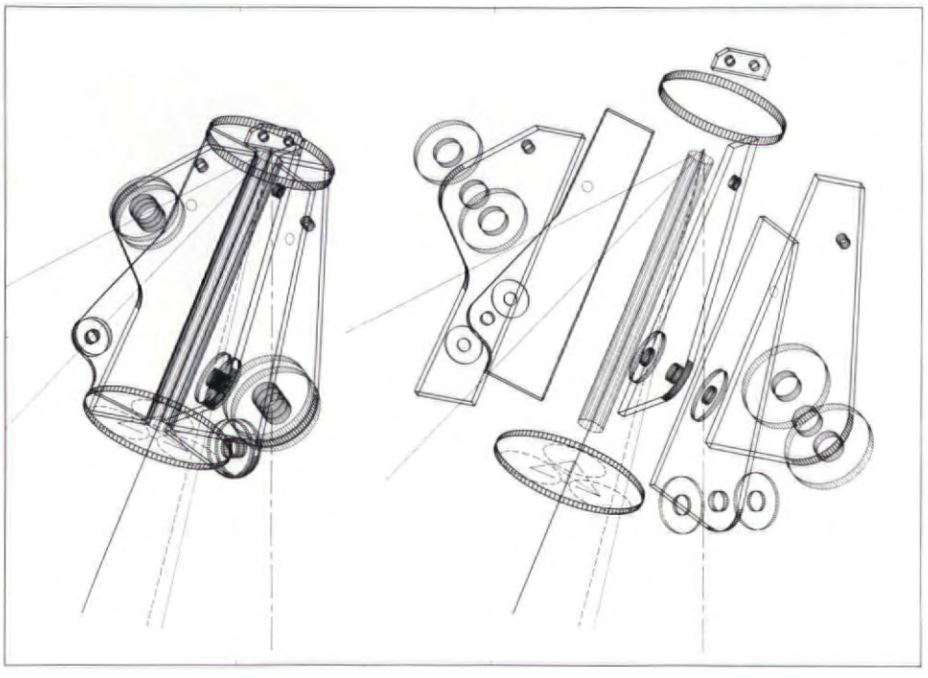


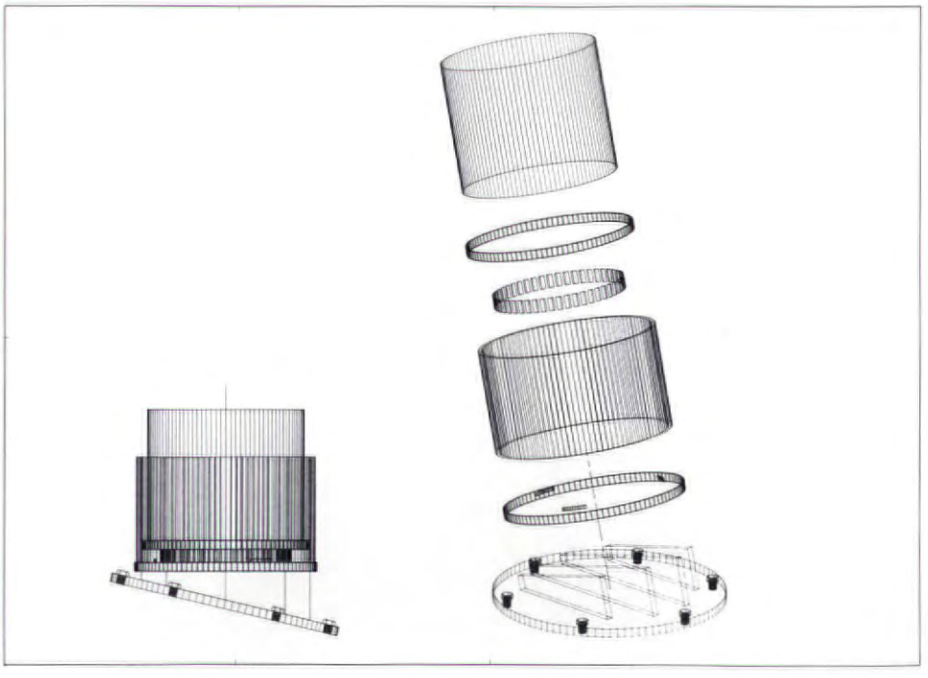




*Roofing for open spaces/shelters, WORLD EXPO '88, Brisbane, Australia. Cable-supported, mechanically tensioned membrane panels. Architect, consultant engineer, and implementation: IPL.*
*Above and bottom right: Typical structures.*
*Left, top to bottom: Initial computer studies; wind tunnel testing of scale model; finished structure.*

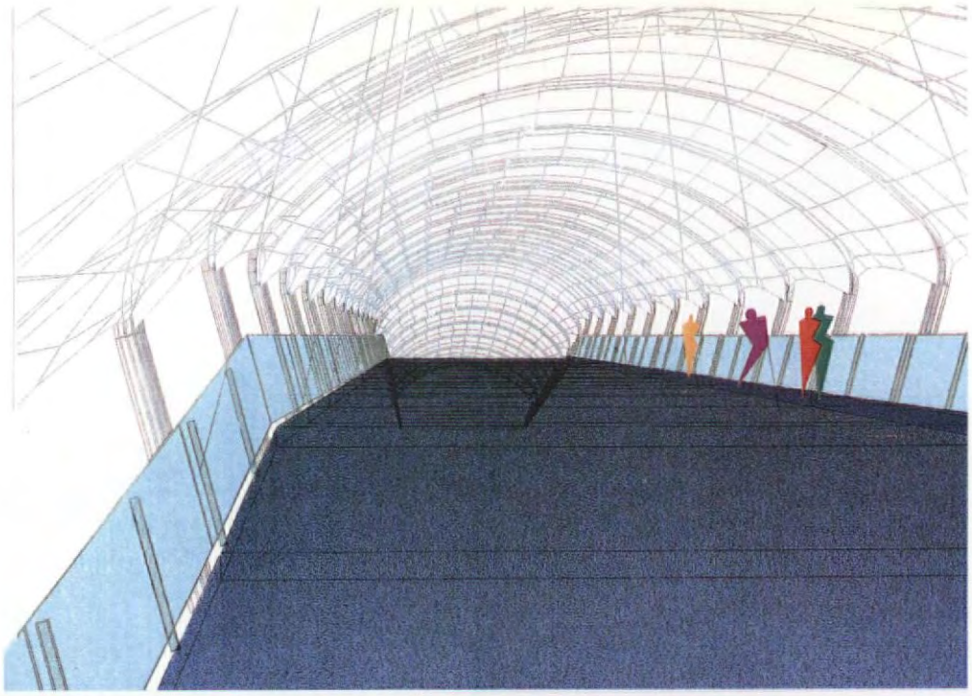
*Isometric view of a typcial mast head. IPL.*



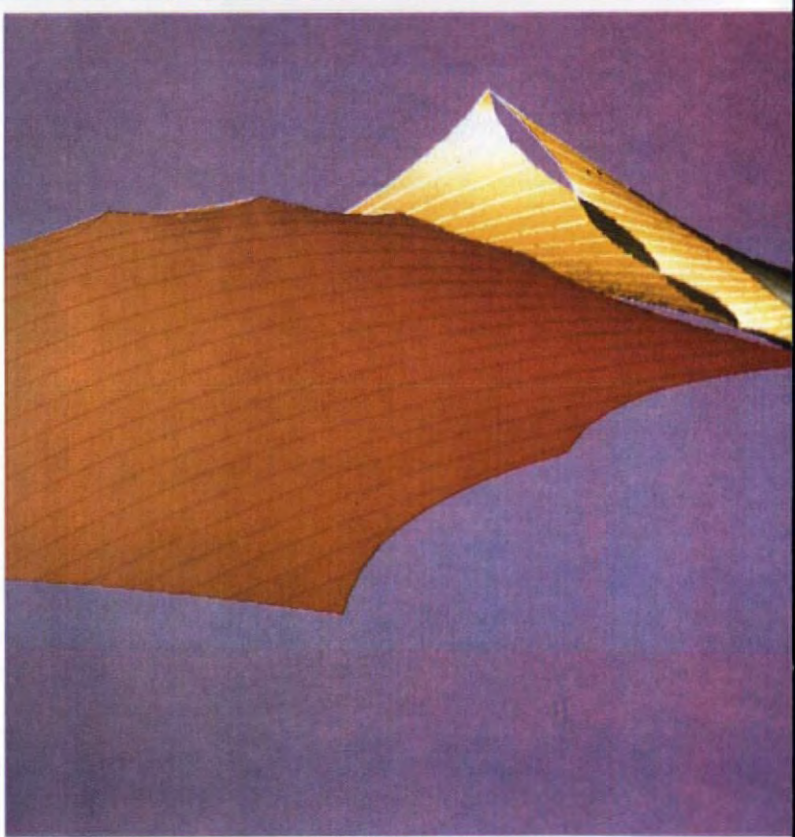


*Isometric view of a typical mast foot. IPL.*

*Right: Computer study for bridge covering. Mechanically tensioned membrane structure supported by bent steel tube arches. IPL.*

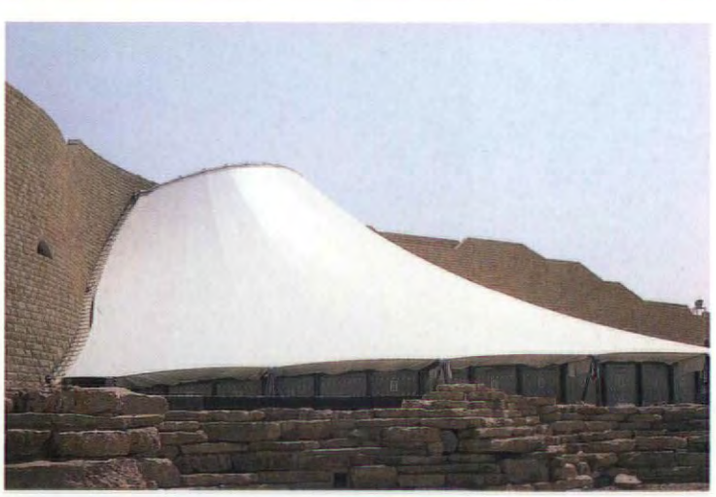


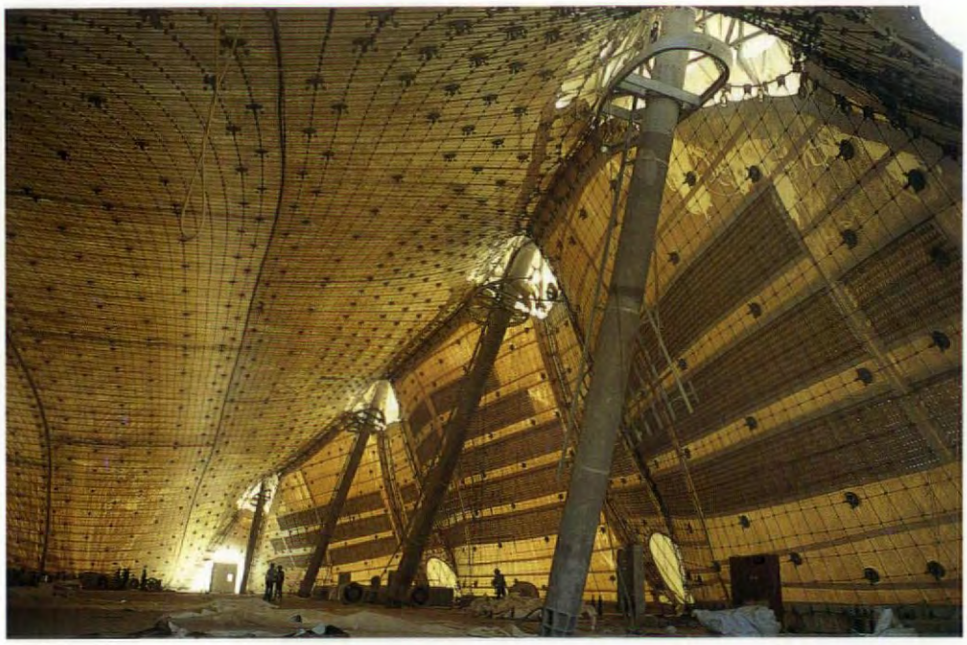
*Below and black and white sequence: PVC retractable roofing over a swimming pool, Düsseldorf, West Germany. Architect: Dyckerhoff & Widmann. Consultant engineer and implementation: IPL. Area covered: 1,900 m².*

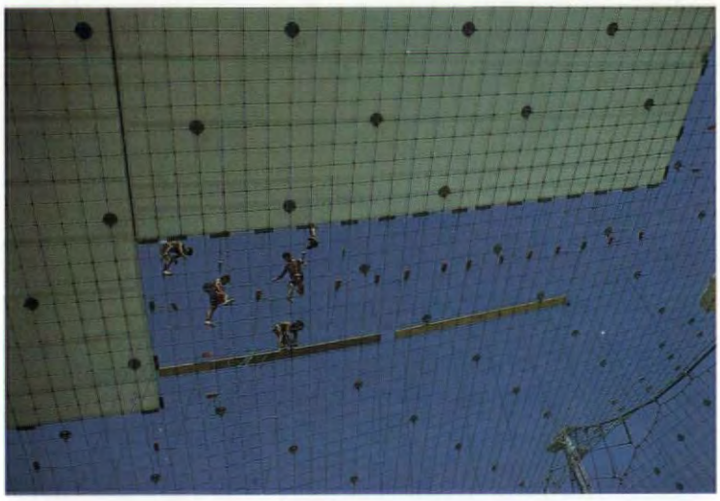


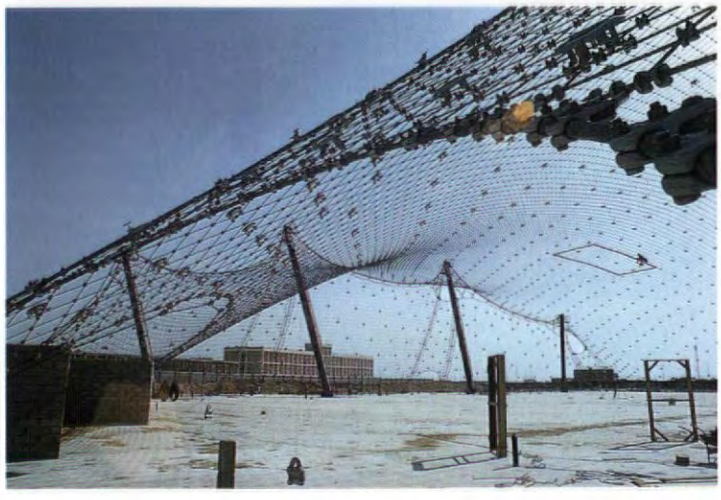
*Above: Computer study showing solid modelling of membrane structure. IPL.*

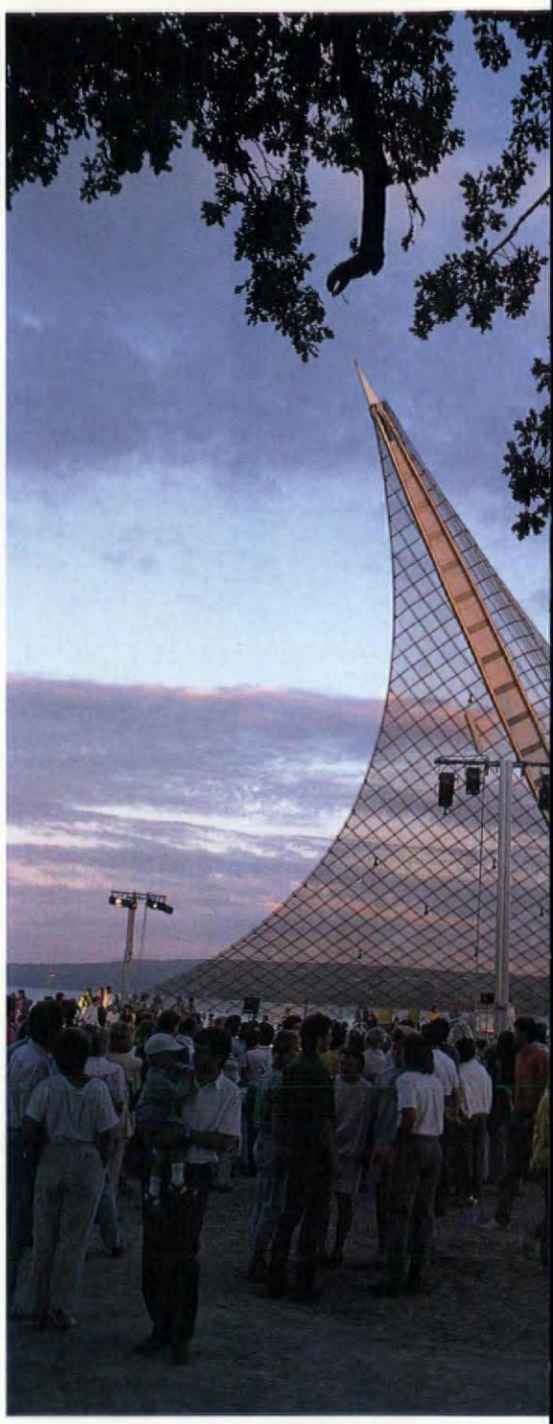
*Above and right: Diplomatic Club, Riyadh, Saudi Arabia. Interior and exterior views of double skin PTFE-Fibreglass structure. Architect: Omrania/Otto. Consultant engineer: Happold Bath. Implementation: IPL.*





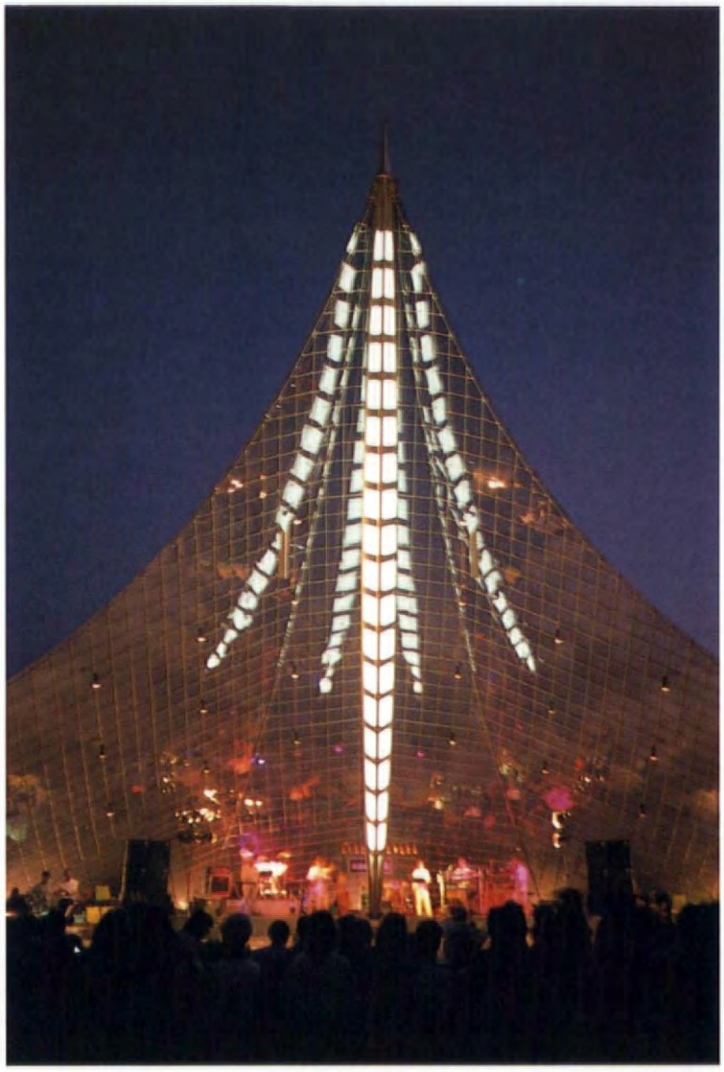




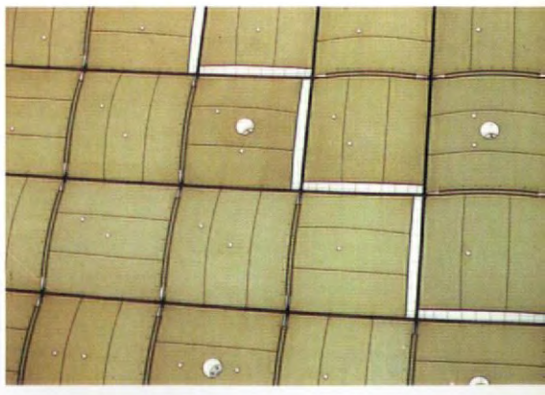


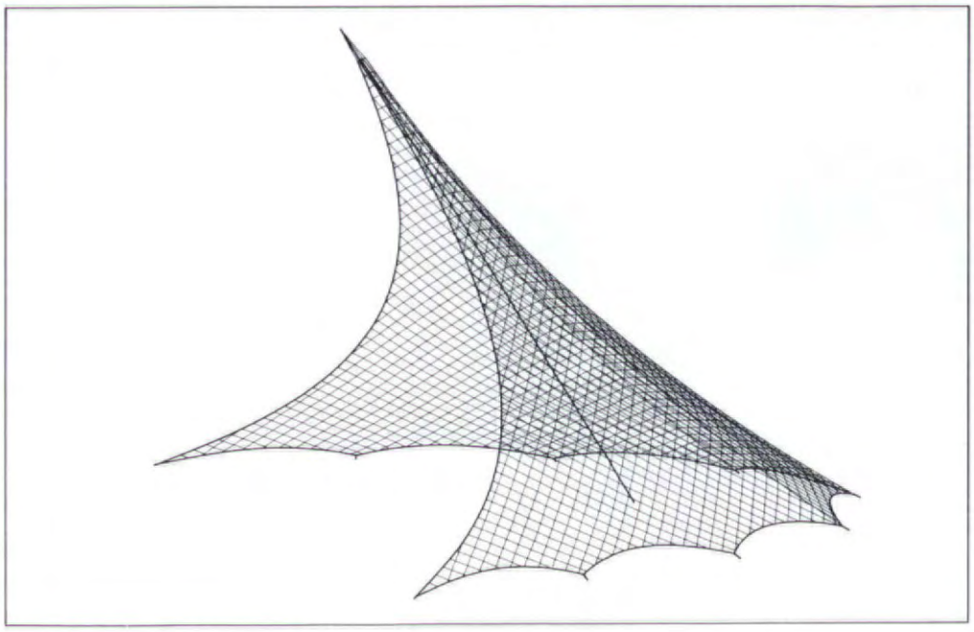
*Above: Lakeside Concert Pavillion, Radolfzell, West Germany. Mechanically tensionsed stainless steel cablenet structure, and stainless steel mast, with 500 mm mesh width, supporting transparent polycarbonate plates. Architect, consultant engineer and implementation: IPL. Area covered: 300 $m^2$.*
*Above right: Night view with illuminated mast.*
*Right: Computer plot of cablenet structure.*

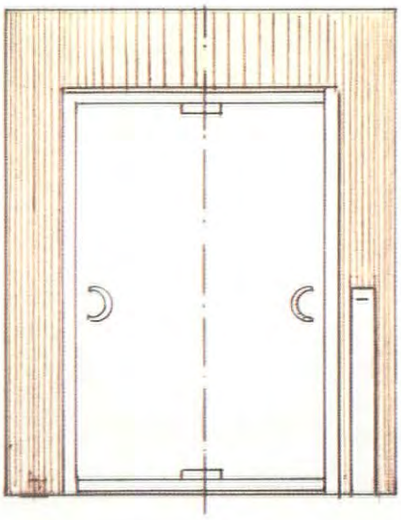
*Left: Sports Complex, King Abdul Aziz University, Jeddah, Saudi Arabia. Mechanically tensioned steel cablenet structure, with 500 mm mesh width, supporting outer and inner PVC coated polyester skins. Architect: Gutbrod/Otto. Consultant engineer: Happold Bath. Implementation: IPL. Area covered: 10,000 $m^2$.*
*Top: Interior view during construction.*
*Middle: Roof construction detail.*
*Bottom: Cablenet structure during construction.*

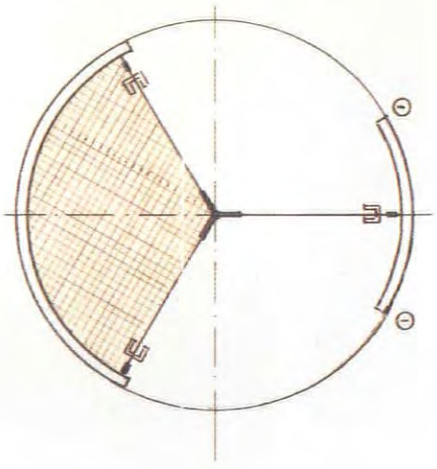


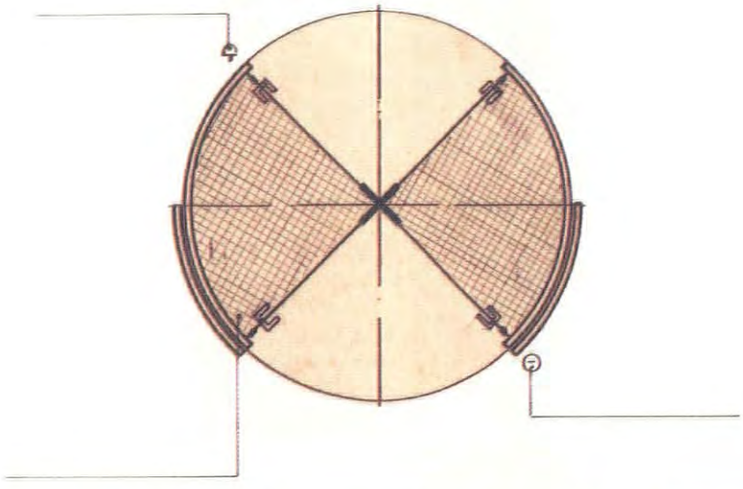
*Below: The translucence of fabric structures can be taken advantage of to achieve beautiful effects of colour and light.*

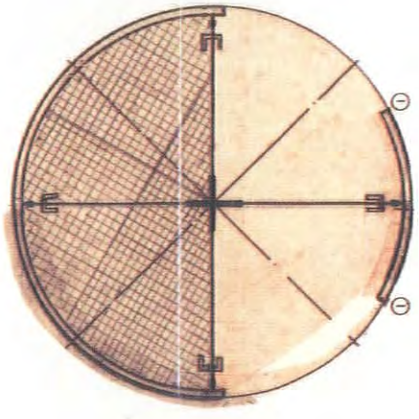




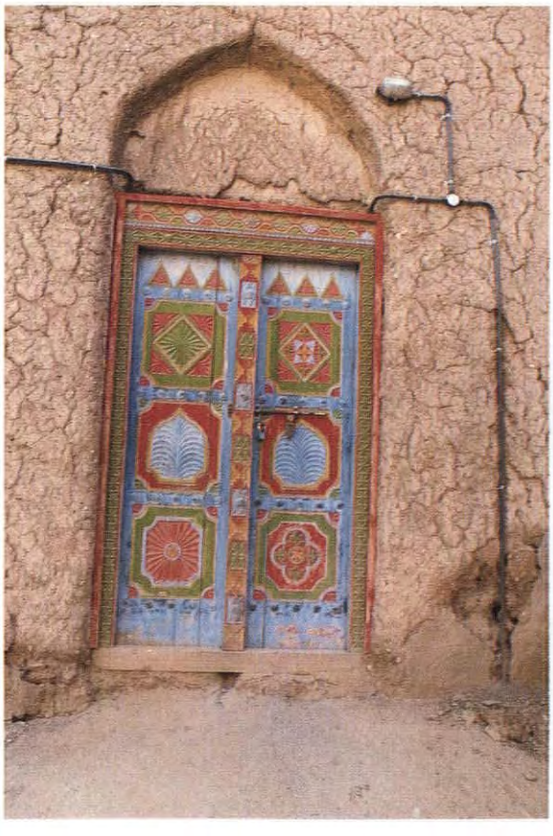




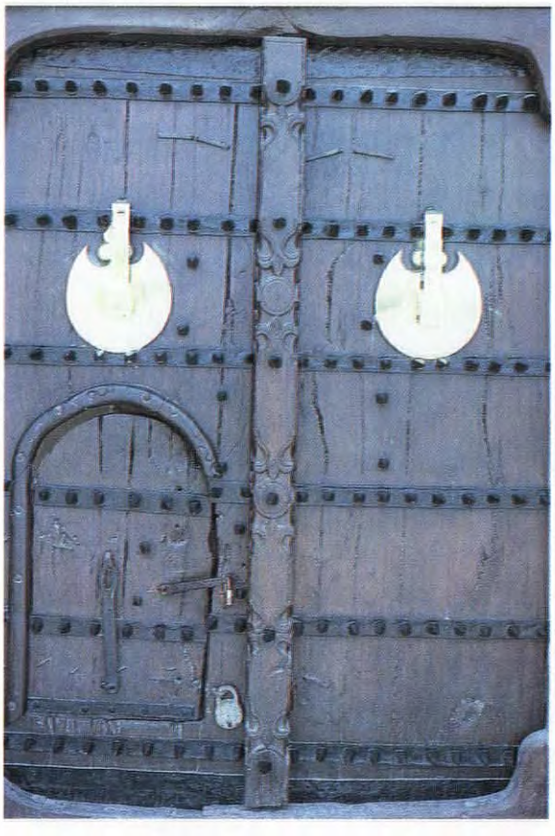




Metallbau Mockmuhl GmbH



Peter Snow



Peter Snow

# THE DEVIL'S THRESHOLD

*Jeremy Myerson and Robert Silver look at the secure threshold.*

The door governs the relationship between a building's users and its visitors. In Japan, the great tea master Sen-no-Rikyn, who lived from 1521 to 1591, designed his teahouse so that visitors had to enter through a *nijiriguchi* (a "kneeling" entrance) which was a space in the wall just 72 centimetres square. This entrance made the space inside appear larger, and it required the person entering to adopt the posture of humility appropriate to the tea ceremony.

Doors mark the transition from one space to another. It could be from public to private (for example, from street to house) or from one function to another. Thus doors have become metaphors for transition in commonplace language as well as the architectural vocabulary: doors of opportunity open in advertisements while in Western Europe grooms carry brides across the threshold at the start of married life.

An account by the nineteenth century traveller Richard Burton in *Architecture of the Islamic World* (edited by George Michell, Thames & Hudson) refers to the practice in Harare of using a man's door as security in litigation. Burton wrote that "when a man rejects a summons, his door is removed to the royal courtyard on the first day; and on the second, it is confiscated". The point of this action is that it removes the barrier between private and public space: it removes the very thing that makes the house secure, and turns private space into public.

Many cultures attach special significance to the door. In Islamic architecture, the building of each new Swahili house begins with its most important element – the door. In many Muslim countries, door frames are decorated in blue to combat the power of evil. Blue is the colour of water which the devil cannot cross. Anthropomorphic decoration found on entrances in dwellings in the Upper Volta of West Africa serve a similar purpose: to ward off malevolent spirits. These spiritual forms of security acknowledge that the entrance is the weak point of any building, but why can't the devil simply come through the walls?

The spiritual dimension of the door is not confined to the third world. Throughout modern industrial Europe and America, Orthodox Judaism uses a *mezzuzzah* or tiny scroll attached to the door of each room to effectively bless the house and people who live in it.

Doorways, then, have rich spiritual and symbolic values. Yet much twentieth-century architecture has ignored these values. Historically too, doors have expressed welcome while denying access, by disguising security in decorative ironwork or glasswork. However, in many contemporary settings the security aspect is paramount, with no aesthetic invitation to the visitor or visual consideration for the passer-by.

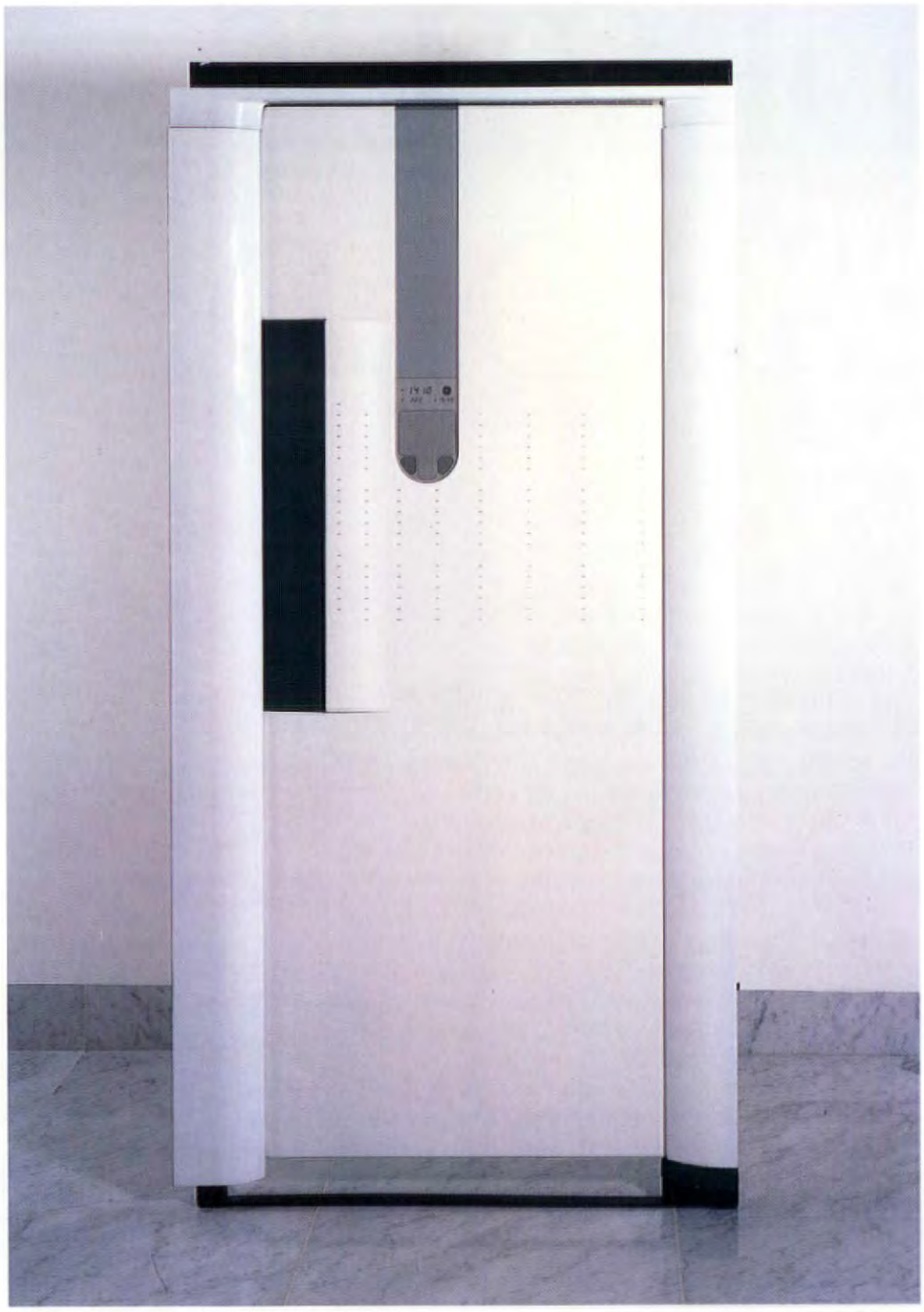
Why this should be can partly be attributed to the unprecedented dangers of the age we live in. There is also the legacy of the modern movement. The writer Tom

*Opposite:*

*Top: The West Germany company, Metallbau Mockmuhl GmbH, is one of the leading manufacturers of high quality doors. Here we are shown the plans and elevation of one of their revolving doors.*

*Bottom left: Highly decorated doors in Oman. Note the predominance of the colour blue, used in some countries to keep out the devil.*

*Bottom right: Traditional doors in the United Arab Emirates showing combined timber and metal decoration.*



*Lovegrove and Brown have created a beautiful and ingenious design. An "intelligent" door which redefines the meaning of threshold, barrier and security.*

Like wrought iron, doors made of glass allow visual but not physical access to protected spaces or buildings. Glass doors were first introduced in the Hague in Holland in the seventeenth and eighteenth centuries as a way of letting more light into the building and as a sign of wealth. Today Wolfe, author of *From Our House to Bauhaus*, argues that Walter Gropius, Mies van der Rohe and the other "white gods" of the modern movement did away with the age-old law that grand buildings need grand entrances. The result of returning to "the year zero" in building design was that architects effectively started doing away with main doors in corporate buildings.

Tom Wolfe has said: "You've probably had the experience I've had. You go to one of these buildings after working hours, and you've got an appointment with someone who is working late, and you can't find the entrance. You start pushing on these slabs of plate glass and they never open. It becomes like one of those casebook dreams where you're desperately trying to make progress and you're getting absolutely nowhere."

Traditionally, the wealth of decoration on the door represented the affluence and status of those who lived behind it. This decoration may have been superfluous to the utilitarian requirements of the door but it was a subtle and sophisticated way of expressing the security that financial success brings.

Decorative wrought iron proved an ideal disguise for the security function of wooden doors and it proved capable of a range of artistic and emotional expressions depending on how it was used. Wrought iron gates and grilles became popular in many parts of the world, especially Europe and America. In the French countryside, baroque gates would stand in front of the château, allowing a view of the house from afar but also acting as a first line of defence against unwanted intruders. In Spanish cathedrals, wrought iron doors screened off the side altars from the main aisles – enabling the faithful to see and pray in front of a particular altar, but preventing the godless from stealing the church furnishings. Wrought iron allows you to look into forbidden places whilst keeping you firmly in your place – without.

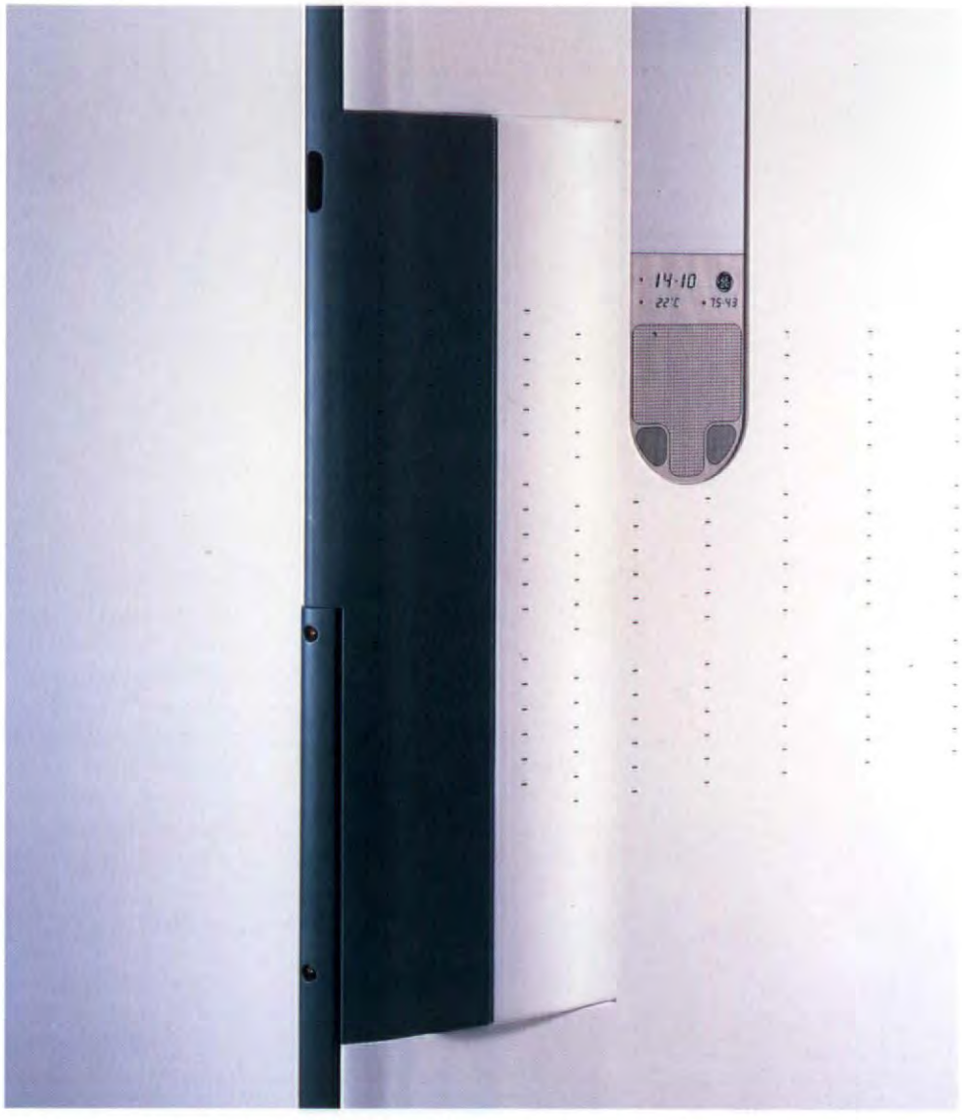
glass is especially used in entrances of public buildings such as department stores or hotels which aim to entice and seduce people inside to spend money. The ability of doors to progressively conceal then reveal the innermost secrets of the buildings they belong to, is part of the armoury of visual strategies open to the architect. And although historically doors have been made of glass, wood, wrought iron or bronze, the twentieth century has added a new material to the repertoire: plastics.

Plastics have not enjoyed sustained success in interior design. Many architects and designers attribute this to the rampant nostalgia within the industry. Classic looks call for classic, natural materials, from woods to marbles. But just as plastics were first introduced to replace valuable natural materials such as tortoiseshell and ivory, so they now have a role in interiors to replace the use of hardwoods currently torn from the fast-disappearing tropical rainforests.

To encourage this trend, US multi-national General Electric recently invested £2.4 million in a Plastics Concept House as part of a "living environment programme". Fifteen industrial design consultancies were selected to take part in the project. Among them, UK designers Lovegrove and Brown chose to tackle the door because "the door is still in the iron age".

Doors, like chairs and light fittings, fall into that crossover area between architecture, furniture and product design. Lovegrove and Brown developed a new product with a high technological content: it is undeniably a door but it could have been a refrigerator or TV set.

Plastics enable the door to have a smooth curved finish: the curved polyurethane frame prevents clothes catching on sharp edges and incorporates a host of additional features. Research revealed that people open doors with their had at chest height but pull them shut with the hand below the waist. So Lovegrove and Brown have set polyurethane handles at different heights to suit the functions. The latch is released electronically by applying slight pressure to the handle: this flexes the door's edge and creates a gap for light to reach a photosensitive cell, which activates the latch.




*Detail of Lovegrove and Brown's all-plastic door.*

There is a glass window in the door with a liquid crystal display showing time, date and temperature. The glass is opaque but heat-sensitive: touch it and you can peer into the room to check a sleeping child, for example. A sprinkler system on the top of the frame provides fire resistance, and a wide range of finishes and textures are intended. Brown and Lovegrove say their plastics door can be transformed by removing panels and by photographic surface transfers, to look like anything designers want. The transformation they dread is a simulation of natural wood.

Lovegrove and Brown's high-tech door has fixed attention on the function and symbolism of one of the most under-utilised elements in modern architecture. □

# Balmy buildings aloft on the cumulus of Princely Principles

**A vision of Britain**
*by HRH the Prince of Wales, London, New York, Toronto, Doubleday, 1989, £16.95*
So this it it? The book of the BBC television film that caused the furore with the Prince's views on architecture, especially in historic cities and in the countryside. He excludes, quite specifically new towns where indeed he says (p 85): "Perhaps we should give the best contemporary designs a sporting chance?" Of course he has views about "the best".

But what about the book itself? Well it's handsome: horizontal format, lots of colour pictures, large type, much of it italic. Occasionally one is torn between reading on or stopping to peruse extended captions.

And the contents? A bold introduction on personal likes and dislikes; 24 pages of these applied to various towns and cities, to individual buildings. There's the famous trip down the Thames from the film, including Docklands; schemes by Foster, Farrell, Wilson, Stirling; the Paternoster Square Competition; the Prince's "Ten Principles" (or "Ten Commandments") and a community-induced conservation scheme in London.

There are the Prince's views on the architecture of his ancestors and their patronage of Inigo Jones, William Chambers, John Nash and Henry Cole. There's a further catalogue of likes and dislikes, a section on Glasgow, then the Prince's views on drawing. There's Léon Krier's scheme for the Prince at Dorchester, in the context of Saltaire, Blaize Castle Hamlet, Letchworth, Bedford Park and Seaside.

There's fighting talk for those architects who want to muzzle the Prince on "their" subject; comments on the charge of "pastiche" against those who do classical designs; the need for a revival of the crafts. There's a plea for the "reappraisal of our values" – especially spiritual values – and the importance of architecture as the "outward expression of an inner inspiration" best summed up in the Prince's own words: "We must concentrate on creating environments in which people can prosper psychologically as human beings, not merely as cogs in a mechanical process."

So it's not the most tightly structured of books but what are the findings? That the Prince *dislikes* large lumpen masses of building looming in any environment: rural, small town or historic city; but he *does* like large buildings with intricate skylines and intricate detail such as the Houses of Parliament. He dislikes brutalist concrete, the anonymity of large, unrelieved scaleless surfaces especially if they be in horizontal bands. But he likes the small scale, the intimate, the decorated, be it the indigenous vernacular of the Cotswolds, the gothic, the classical, the arts and crafts and, though he denies it, the post-modern (Dorchester Hospital, offices in Cornhill, housing by Jeremy Dixon).

I agree with some but not all of his assessments and with his view that *all* great urban design – he ranges from Sienna to Seaside – has been based on formal, articulated planning codes or rules.

Like so many others who think something is wrong he defames architectural education. His advisors have told him that the schools do not teach measured drawing, the orders, classical design, that they ridicule students who try to do these things. But one school (Portsmouth Polytechnic) has been teaching them, by student demand, since 1979 as part of a commitment to pluralism!

So what's new, or ostensibly so, in the Prince's "Vision"?

The Ten Principles are at least new, in the way he sets them out: 1) a sense of Place; 2) a sense of Hierarchy by the marking of entrances and so on; 3) Scale; 4) Harmony; 5) Enclosure by building around courtyards and squares; 6) Materials – especially local materials; 7) Decoration – especially if it be arts and crafts; 8) Art embodied in rather than stuck next to architecture; 9) Signs and Lights enhancing rather than defacing buildings; 10) Community, not only in the process of designing but in the later lives of buildings and those who live there.

The Prince lays no claim to originality. So it would be strange indeed if there were no echoes of the classical tradition from Vitruvius onwards; the Picturesque of Humphrey Repton and many others; the "Good and Bad Manners" of Tristan Edwards. But the mood of the Prince's "Vision" seems presaged most clearly by Christian Norberg-Schultz and Christopher Alexander. I can't think the Prince will have read "Genius Loci" – I find it almost impenetrable – but the Spirit of the Place is there alright.

He is closer to Alexander's "Pattern Language" but the latter has 253 "Patterns" and the Prince has ten "Principles". Some of them are the same, or similar and some of the Principles embody several Patterns. Such as Alexander's 7) The countryside; 45) Necklace of Community Projects; 61) Small Public Squares; 102) Family of Entrances; 114) Hierarchy of Open Spaces; 115) Courtyards Which Live; 122) Building Fronts and so on. And the Prince's favoured examples consistently include several other "Patterns" such as: 21) Four-Storey Limit; 95) (Intricacy of) Building Complex; 116) Cascade of Roofs; 117) Sheltering Roof; and 119) Arcades. I'm surprised that "Four-storey limit" does not figure as a Principle!

So if what the Prince says is so familiar, why the angry response from much of the British architectural profession? Clearly because he doesn't like their buildings, but nor do many of the public! We should remember that in 1984, when Prince Charles fired his first broadsides, he announced his interest in two causes: for alternative medicine and against modern architecture. He would see which caught public attention. There was a fairly resounding silence on alternative medicine. "All a bit cranky" the public seemed to say. So he can't be accused of forming, or even manipulating public taste. But, say his opponents, he interferes with the process of planning. His devastating one-liners, such as "glass stump" of a Mies tower commissioned for London by Peter Palumbo or "montrous carbuncle" of ABK's Extension to the National Gallery, caused planning permissions to be refused! But in each case there was an intensive Public Inquiry, in each case the Inspector heard a mass of evidence, analysed it and produced a closely argued Report. In each case permission was refused.

I spoke against the Mies on grounds of building performance and despite a last minute "corridors of power" attempt to intervene by Mrs Thatcher we, the opposition, won. (Which would you rather have: an outspoken Prince or a manipulating Prime Minister?) After which Palumbo bravely commissioned James Stirling. The Prince likened the latter's design to a "1930s wireless" which – like his "glass stump" remark – had not the slightest effect on the Inspector's decision: the "wireless" is to be built!

No, his opponents are stuck in that historic, early twentieth-century mode; the avant-garde in which you had to be unloved and even shocking to be modern. That avant-garde had an historic course to run which it's run. The day-follows-night reaction is the "we want to be loved" of post-modernism and not just in architecture either. Like anyone attuned to the spirit of this age the Prince wants paintings which look like actual things, music with tunes, poems that rhyme, and architecture that people can love; you can't get more post-modernist than that!

Modern/post-modern? The acid test for me is building performance; the fit of space to activities, environmental filtering; symbolism; economic performance, environmental impact and so on. That's why I opposed the Mies but not the Stirling! For according to my criteria some modern buildings are superb and others quite dreadful. Some of the Prince's likes are splendid too; and some are not. The slanging match is absurd. We need sounder bases than slogans: the Prince has his Principles, I have my "functions" and if others don't like them they should write their own. Not vague platitudes about the spirit of the age – by which they seem to mean the brave new world of the 1930s – but actual criteria for judging the good, the bad and the indifferent. Then we can have a proper debate to the agenda so splendidly suggested by the Prince. □

Geoffrey Broadbent

**The Prince of Wales: Right or Wrong? An Architect Replies**
*by Maxwell Hutchinson, London & Boston, Faber, 1989, £4.99 (US$8.95).*

In 1939, when the war started, I was in England as a student of the Architectural Association. I was in England again in 1943 during the V-1 period (I missed the V-2s by returning to Italy to take part in the Resistance). Nowadays, should a Royal architectural V-3 be falling on the United Kingdom, I am quite prepared to leave for London, Glasgow, Edinburgh or wherever and fight for creative freedom and democratic conduct.

This does not seem to be necessary, however. Maxwell Hutchinson's book *The Prince of Wales: Right or Wrong? – an Architect Replies* testifies that foreign help is not essential. British architects know only too well who are their enemies: academicians, blind conservatives, eclectics, post-modernists and pathetic lovers of the vernacular and picturesque. They are also perfectly aware of an insidious, vicious "fifth column" made up of a few cynical critics willing to support simultaneously pre-modern, post-modern, late-modern, neo- modern, together with what His Royal Highness approves and what he does not like.

Hutchinson is not simply an apologist for the modern movement. He recognizes its negative aspects and sometimes comes down rather hard on fundamental experiences of the welfare state, specifically on the London County Council work and on the Festival of Britain. What he refuses to accept is the indiscriminate waste of the splendid patrimony, both linguistic and social, of the last

fifty years. "Community architecture" cannot be achieved by preposterous mixtures of Parthenon and Siena, authoritarian order and futile permissiveness. Our built environment will not be improved by using those superficial, retinal attitudes which evaluate architecture only for what it looks like, and not for the way it is lived in. The vague and confused desires of the heir to the throne have long since been intelligently expressed in Ian Nairn's *Outrage*, Gordon Cullen's *Townscape* and particularly in the concept of the neighbourhood unit. The Prince's "Vision" is really innocent of ideas.

In Italy we had some trouble with the monarchy (in 1899 we had to kill King Umberto I, in 1943 we kicked out King Vittorio Emanuele III and, immediately after, his son Umberto II). As a consequence, our architecture can draw no benefit from Royal tastes and feelings, nor from unconstitutional interventions on artistic problems. We lack the equivalent of Prince Charles' ten platitudes, or "commandments", a cocktail of Romanesque and Neo-Classical quotations, and we lack a "Vision of Italy" full of clichés, nostalgia, pseudo-historic memories and rhetorical mythologies.

In the foreword to Hutchinson's book, Richard Rogers summarizes the arguments of the anti-anti-moderns: "Departure from tradition has always provoked ferocious controversy . . . The defence of modern architecture is a daring thesis in the present climate in which the architect is blamed for many of society's ills . . . Architecture mirrors society, its civility and its barbarism . . . Ours is an age of business giants and cultural pygmies . . . The danger we face is not of being too modern but, rather, of not being modern enough. For the first time we have the knowledge and the means to create a paradise or a rubbish tip on earth. The choice is ours." With His Highness' blessing or not. □

Bruno Zevi

**Henry van de Velde**

*by Klaus-Jurgen Sembach*
*London: Thames & Hudson, 1989*
*£30.00*

Henry van de Velde was born in Antwerp in 1863; he died, still working, 94 years later in Switzerland – a formidable lifespan in formidable times for a self-taught architect inspired by nineteenth century ideals of social commitment. Van de Velde, according to Klaus-Jurgen Sembach, was "a representative of that contradictory type, the bourgeois revolutionary . . . whose mission foundered on the conflict between ideal concepts and material reality."

Van de Velde's "ideal concepts" were inspired by the example of William Morris. He had trained as a painter and was beginning to make a name for himself in France, when, prompted by social conscience, he decided to devote his life to design and architecture. He designed and built houses, theatres, exhibition halls and art galleries; dedicated to the ideal of the *Gesamtkunstwerk*, as well as beauty for all, he designed his projects down to the last details – from furniture to door handles; and as well as designing dresses for his wife and daughters, he designed books, typefaces, posters, and packaging – a "bourgeois revolutionary" whose income and independence was sustained by a bourgeois revolution of wealth and enterprise. For most of van de Velde's clients and supporters in the years leading up to the First World War formed part of that growing network of wealthy European intelligentsia who were prepared to spend either their own money or that of their patrons on museums, theatres and art galleries, as well as on the lavish private houses that bourgeoned in the suburbs of European cities: the Kroller-Mullers in Holland, for example, Karl Ernst Osthaus and Count Harry Kessler in Germany. So the early vision of "regenerating the appearance of things" by designing only those forms which could "be easily manufactured or repeated by modern machinery" had to be tempered by the experience of matching his ideals to those of sophisticated and demanding clients.

Van de Velde was 51 when the First World War broke out. He was by then well established in Germany, and was working in Weimar, where he had built a delightful house for himself, as well as the now famous Art School with its adjacent Craft School. Other projects were planned, but the war shattered van de Velde's career in Germany. He had to leave the country, and since he was determined to continue working as an architect, he had to adapt his ideals to changing ideologies. He slowly re-established himself, first in Holland (mainly through the patronage of the Kroller-Mullers), and then in his native Belgium where he was involved in a scheme of Stalinist monumentality for the Left Bank of the Schede in his native Antwerp in 1926. He continued to work throughout the "Modern Movement" years, adopting a more formalistic approach which culminated in the design of Rijksmuseum Kroller-Muller in Otterlo.

The section of the book dealing with the post-1920 projects held the most surprises, at least for this reader. Van de Velde has been celebrated as an "Art Nouveau" architect and designer, and his later work has been largely ingored. Several of his houses, however (including the Wolfers house in Brussels (1930), *La Nouvelle Maison*, a house for himself in Tervuren (1927) and work for Dr. Martens), assume the formal language of modernism as competently as his early work demonstrated the individuality of the craft ideal.

This book, therefore, provides an impressive photographic survey of van de Velde's achievements . . . perhaps confirming the architect's conviction that his work in design and architecture involved an *art parlant*. The text, however, is less penetrable. Klaus- Jurgen Sembach did not set out to provide a biography, or a monograph; his aim was "to detach the most important of the many facets presented by the artist van de Velde, the architectural *oeuvre*, and to present it in sharp focus, and without distractions". With an architect as complex (and as active) as van de Velde, however, any consistency of focus is difficult to achieve, mainly because of the problem of relating theory to practice over so long a period. The larger part of the book contains photographs and descriptions of the major buildings; the text is a series of thematic essays relating to van de Velde's

activities and ideals. These essays are interesting but they fail as an assessment of van de Velde's achievements, either within his own, his contemporaries', or any other terms of reference.

The author has assembled an impressive and comprehensive selection of photographs and plans of van de Velde's work, and the book is the first in English to attempt to convey the whole range of the architect's achievements. (One minor, but vital point: someone should have informed the blurb writer that van de Velde's "new School of Applied Art" is in Weimar, not Dessau, as stated on the bookjacket. Walter Gropius will be turning in his grave, and Sembach will be none too pleased!) □
Gillian Naylor

**Iakov Chernikhov's Architectural Fantasies**
*Catherine Cooke and Andrei Chernikhov (Eds), London, Architectural Design Profile 80, 1989 paper, £7.95*

The retrospective exhibition of Iakov Chernikhov's Architectural Fantasies which opened at the time of the Sofia Biennale last year showed a staggering volume of work. This fully documented issue of *AD Profiles* forms the exhibition's catalogue. Many of us were excited at the prospect of seeing the drawings of this inspirational teacher and artist, but few of us, I imagine, expected to see so much and so many different techniques. Chernikhov's prodigious output is represented in the exhibition (now on tour), by drawings, models, photos, sketches and paintings that seemed to touch – even collide with – all the chief artistic movements of the first half of the twentieth century.

Early drawings indicated Chernikhov's ability as a natural draughtsman. Sparse landscape settings, beautiful life drawings and student architectural drawings provide a salient starting point for an artist whose work displayed all the bubbling enthusiasm of an initiate teacher. These drawings are little known. The "Fantasies", of course, are well known in the text books such as his *Fundamentals of Contemporary Architecture* published in 1930 but were drawn in 1927. Certainly it was *Architectural Fantasies: 101 Compositions in Colour* published in 1933 that people of my generation responded to when it was rediscovered in the 1950s.

In this book the various periods of architecture expressed are depicted in the form of Architectural Fantasies. These fantastic drawings have a remarkable dynamism unconstrained by the conventions of the time. They constitute, as Dr Cooke points out in her lucid introduction, the most fully developed architectural images of Chernikhov's "modernist period". Their importance today will surely be further enhanced when the fantastical world of Iakov Chernikhov is positively connected to the current interest in Neo-Constructivism and Deconstruction in architecture. Side-by-side with this will be the sheer enjoyment that anyone has in viewing the inspirational work of modern architecture's Piranesi at the exhibition and through the pages of this well presented and colourful catalogue book. □
Dennis Sharp

**Shorter Notices**

Following the success and format of their earlier book on Sigurd Lewerentz, the enterprising Swedish publishers "Byggforlaget" have issued a volume on the IAA academician Ralph Erskine. This Swedish language publication comprehensively covers Erskine's career from his training in London during the 1930s, through the familiar Swedish, British, Finnish and Arctic Circle projects to recent schemes such as the elegant and original low scale *Matsal* at St Goran's Hospital in Stockholm (1985-86). An English language version of this book compiled by Mats Egelius will appear shortly.
Among a plethora of new architectural biographies are books on the Dutch Master H. P. Berlage (1856-1934) compiled by Sergio Pulano with contributions from Fanelli and van Rossum (London 1989). The eccentric, idiosyncratic and all-American architect Bruce Goff (1904-82) by David G de Long (Cambridge, Mass. 1989) and a detailed study of the buildings and life of Lois Welzenbacher (1889-1955) an important, if somewhat overlooked modernist, by August Sarnitz (Salzburg, 1989).

A welcome addition to the gradually expanding area of architectural criticism is the third volume in the Aga Khan Award for Architecture Seminar series edited by Robert Powell entitled *Criticism in Architecture* (Geneva/Singapore 1989). □

# ARCHITECT OF THE POOR

## Hasan Fathy (1900-1989)

For many people Egyptian IAA Academician Hasan Fathy had become a legend in his own lifetime. He was acclaimed throughout the world for his vernacular and passive public housing project built between 1946-53 in Western Luxor. This scheme, with its revival of Nubian forms, formed the bedrock of his career. Prior to this work at New Gourna, which he had carried out as a public authority architect, he had taught a lot but built very little.

In the late 1930s Fathy had drawn up and exhibited his first mud-brick house design for Lower Egypt at Mansourah. A prototype soon followed in 1940 at Bahtim. Two years later he built the first phase of a mud-brick studio house for artist Hamid Said with a dome and vaulted *Iwan*. It was extended in 1945 with additional vaulted and domed chambers and a courtyard. Other more ambitious houses followed in this first active period of his career, during which he sought out the framework for a new Islamic vernacular architectural style. His ideas for vaulting developed from Pharonic precedents whilst the domes came from native examples of Mosques and Mausolea. Both could be found referenced in Nubian rural buildings. From about 1952 he became interested in the details of thick walls and small openings, and also in the interrelated courts, domes and arched vaults to be found in Turkish houses. Simple building technologies, natural materials and craftsmanship were also to be incorporated into his own interpretative designs. His work during the next two decades was important. He wrestled with the spatial concepts inherent in Arab architecture: "Arab architecture begins with the interior and goes to the exterior. The function of space is primary", he said in an interview on his 75th birthday.

His early designs for the village of New Gourna, a settlement for 9000 to rehouse a local community (which included notorious grave and monument robbers), had established the beginnings of a new architectural vocabulary based on the asymmetrical "harmony and beauty" of Arab house forms but with spatially determined interiors and logical planning. The public buildings were finished first but nevertheless the new estate was not popular with villagers who were familiar with the domes of the mausolea and disinclined to want to live in one. Anyhow, they preferred modern concrete rather than mud-brick.

*El Gourna* represented, in fact, that kind of gap so often identified in Utopian social projects and which emerges between the good, in this case brilliant, concept and a half-baked social programme. Fathy was ahead of his time and peasant psychology was against him. New Gourna has not proved successful on the ground but the lessons to be learned from it were enormous. Twenty years after its design Fathy produced the first edition of what has now become a classic work, *The Architecture of the Poor: An Experiment in Rural Egypt* issued by Chicago University Press in 1973. His other celebrated study, *Natural Energy and Vernacular Architecture*, also published by Chicago in 1985, was partly the result of years of work with the International Institute of Alternative Technology which he founded in Egypt in 1977.

During the 1950s Fathy again turned to teaching, holding a professorship in architecture at Cairo University before becoming Dean and Head of the School of Architecture between 1954-57. He had a profound influence on his students at the time, some of whom have carried his ideas to places far outside Egypt.

Around the age of sixty, at the age most architects would be thinking of retirement, Fathy's own career began to take off. He became adviser to the Egyptian Government on housing and schools, he worked as a Consultant with Doxiades at the Ekistics Centre in Athens and, among other international appointments, advised the United Nations on refugee issues. His own work flourished with community planning and architectural projects in and around Cairo, he built houses for the poor as far away as New Mexico, and villas and palaces for the world's richest men in the Gulf States.

After serving as a member of the Steering Committee of the newly founded "Aga Khan Award for Architecture" between 1976-80, he received the Chairman's Award. Some four years later architecture's world body, the International Union of Architects, awarded him a Gold Medal. In 1987 he was awarded the Louis Sullivan Medal for Craftsmanship. All this of course acknowledges the enormous significance of Fathy's unerring pursuit of architectural tradition, harmony, truth, beauty and the natural place of architecture within society and culture. The tradition lives. □

*Dennis Sharp*

(Reprinted courtesy The Editor, *The Independent* newspaper, London.)

### BOKHARA: PAST AND FUTURE
### IAA Workshop

The next International Workshop organised by the International Academy of Architecture will take place from April 14 to May 3 1990, in the prestigious town of Bokhara, Uzbekistan, USSR.

Participants – young architects between 25-40 years old – will work in teams on one of two themes: The rehabilitation of a section of the historical centre, or the design of a new extension, in the spirit of the local tradition.

The IAA Workshop will be led by Pierre Vago, and lectures will be given by Raymond Lemaire, El-Wakil, Mustapha Aoun, Louise de Mereles and leading architects from Uzbekistan.

As usual, there is no charge for participation, and all expenses, from arrival in Moscow (or Tashkent) to departure and including a visit to Samakand etc, will be covered by the organizers.

The number of participants is limited to 40 (plus 5 architects from Uzbekistan). Those willing to take part in this exceptional workshop should apply, with a short CV, through the national sections of the UIA or directly to the International Academy of Architecture, 2, Bld. Rouski, Sofia 1000, Bulgaria. A good knowledge of English, French or Russian is essential.

# LES SEXE DES ANGE

*Pierre Vago's polemic deals with the curse of self righteous vanity.*

*Notre-Dame de la Paix, at Yamoussoukro, Ivory Coast.*

May I be forgiven, but I couldn't help thinking of Byzantium when, at the last Biennial in Sofia, a fierce verbal battle raged between the partisans of so-called post-modernism and those of the newly emerged Deconstructivism.

Thousands of kilometres away, another Biennial had just taken place in Buenos Aires at which an impressive assortment of celebrities presented their ideas and achievements to a large and interested audience. The success of these two forms of expression is living proof that architects are not averse to discussing ideas and that they are interested in meetings where architects can discuss architecture, whereas they have an increasing tendency to avoid "official" conferences.

What the two Biennials, in Sofia and Buenos Aires, appear to have had in common was the inevitable "prize giving". As far as I am concerned, I always find the endless litany of "awards" both boring and unpleasant. To a large extent, the prizes are devalued by their sheer number, and the way in which they are presented often gives rise to serious objections. But it would appear that the beneficiaries of these awards are pleased to receive them, if the annoyance shown by the forgotten few is anything to go by!

In Buenos Aires, a prize awarded to one of the stars of the day caused quite a stir. The beneficiary (who, I hasten to add, had nothing to do with this fuss!) is one of those responsible for the project for the cathedral at Evry, a "new town" which has sprung up on the outskirts of Paris. It is a building of modest dimensions, considering that it has over 900 places, but important because it is the first cathedral (with the exception of Marseille – a mediocre nineteenth-century construction) to be built for centuries in the country which is the home of such cathedrals as Notre Dame de Paris, Chartres, Reims, Amiens and Albi.

The building is fairly tall and takes the form of a truncated cylinder, but the architect had the somewhat ludicrous idea of crowning the outer edge with a row of identical trees. The perfect symmetry of this arrangement runs the risk of being somewhat modified by the laws – and the moods – of Nature. Unless of course the trees are made of plastic!

Was he thinking of the Hanging Gardens of Babylon? Or perhaps Lourdes, where the flagstones are covered with turf? But there the architects buried the basilica, which houses 25,000 worshippers, out of respect for the exceptional site. For the moment, it is a matter of finding funds. The estimate is rather high for a building of that capacity and intended for a community with a fairly low level of income. It is hoped to find "sponsors", another trend which the Church has not escaped.

But the opinion of those who confuse beauty and cost would appear to be that "nothing is too good for God!". An opinion which seems to be shared by those who, in a tiny Black African country in the throes of economic difficulty, have just built a huge basilica with 18,000 places. The village of Yamoussoukro where it is situated and which has been promoted to the status of capital as a result, does not appear in my atlas.

The central part of the building has a diameter of 100 metres. It is supported by a triple colonnade of 48 Doric columns and 12 Ionic columns, 31 metres high and containing 4 lifts and 6 staircases. It is crowned by a dome 60 metres high and a 40-metre lantern. This certainly outdoes the cupola of Michelangelo which is a mere 42 metres in diameter, and Saint Paul's which is only 132 metres high compared with the 156 metres of Yamoussoukro, if I'm not mistaken. The esplanade in front of the basilica which measures 275 × 160 metres, has been surrounded by 128 columns, 21 metres high. The materials, techniques and construction companies were mainly European, but the architect and the "foreman" who chose him were from the Ivory Coast.

I thought of this grandiose structure when a collection was being made in my small home town for the poor little African children dying of hunger and as a result of lack of medical care and proper education. I thought of it as I looked at the many publications issued by welfare organisations, at pictures of poverty and at statistics calculated to bring tears to your eyes and make you put your hand in your pocket.

I also thought about the discussions that took place in Malta in December 1987 under the auspices of the Aga Khan Foundation and which revolved around tradition, cultural identity, use of local materials and techniques and the refusal to "import" culture.

And I thought of the discussions at the recent seminar organised in San Kyriko by the French International Academy of Architecture and Habitat, the United Nations centre for welfare organisations for the third world. Eighteen countries were represented at the seminar of which I was privileged to be chairman, and it would have been an ideal opportunity to present the monument of Yamoussoukro as a blatant example of precisely what should not be done.

Allow me, for once, not to speak as an architect, or not *only* as an architect.

Faced with this montrous self-righteous vanity. I could not help thinking of a passage from the Gospel in which Jesus said to his disciples: When thou prayest, enter into thy closet, and when thou hast shut the door, pray to thy Father which is in secret; and thy Father which seeth in secret shall reward thee openly. (Matthew 6.6.) □

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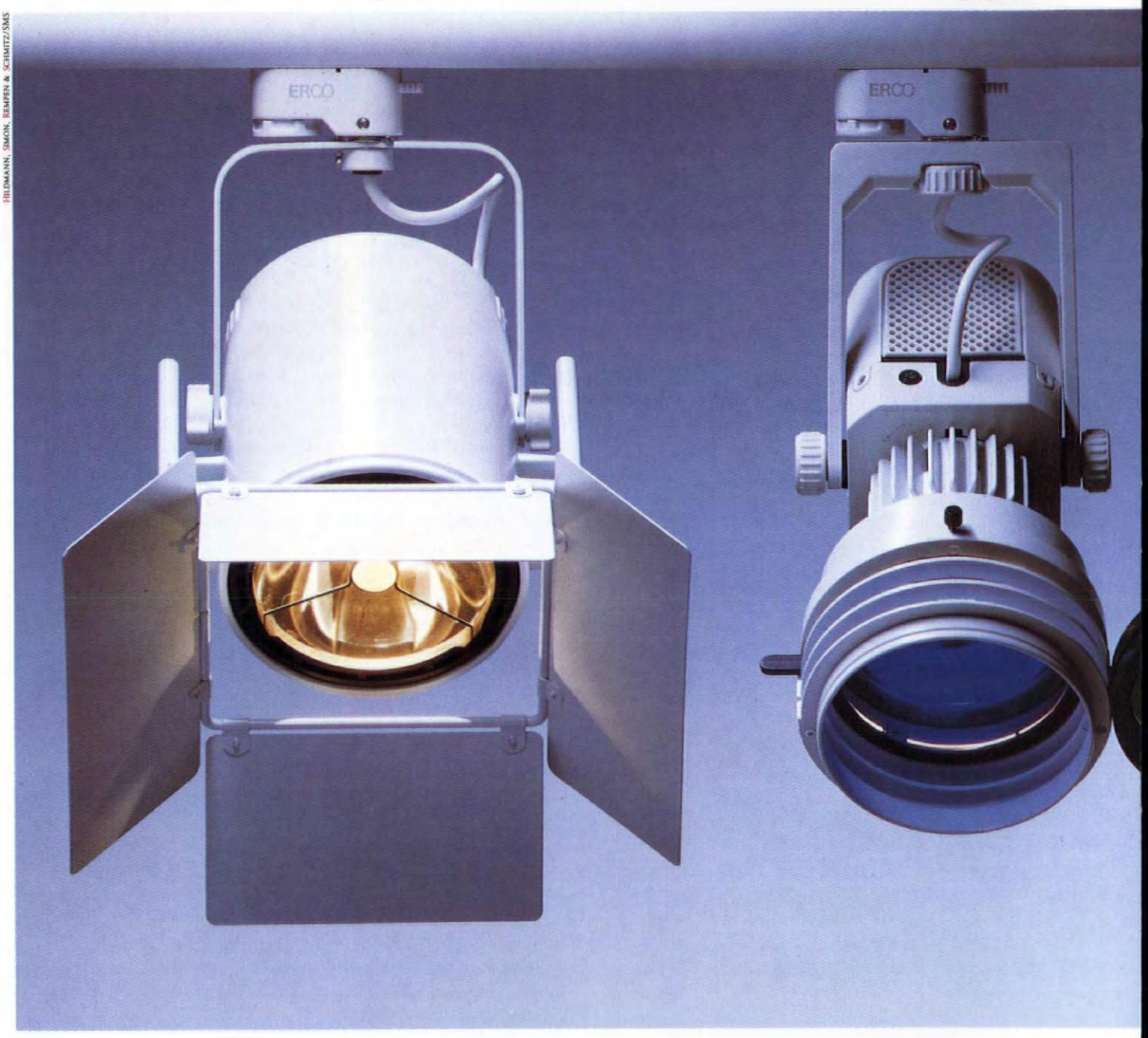


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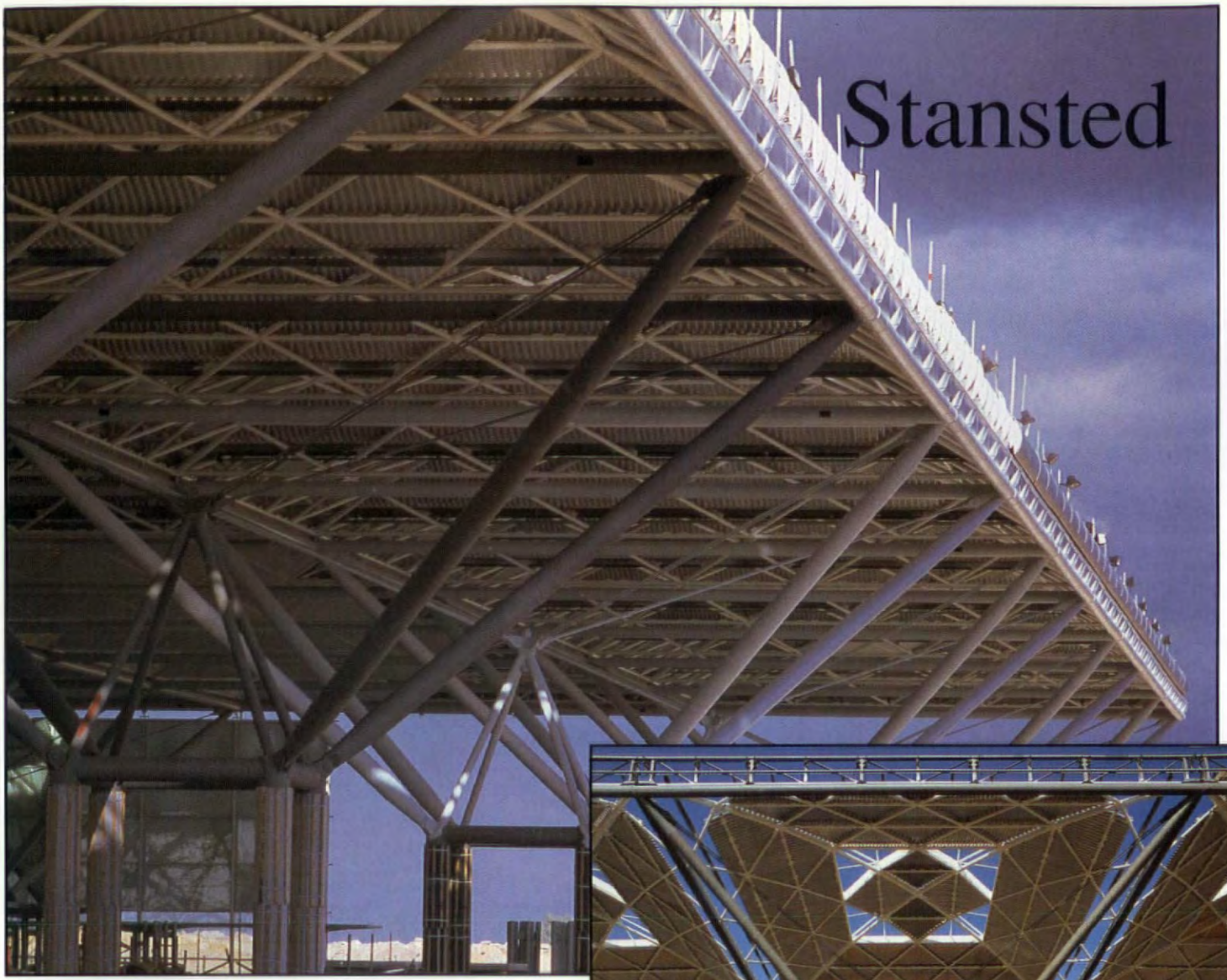


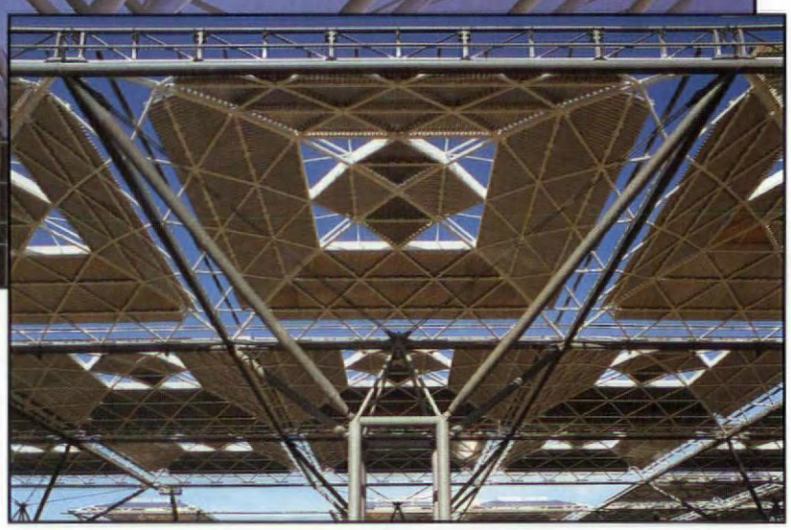

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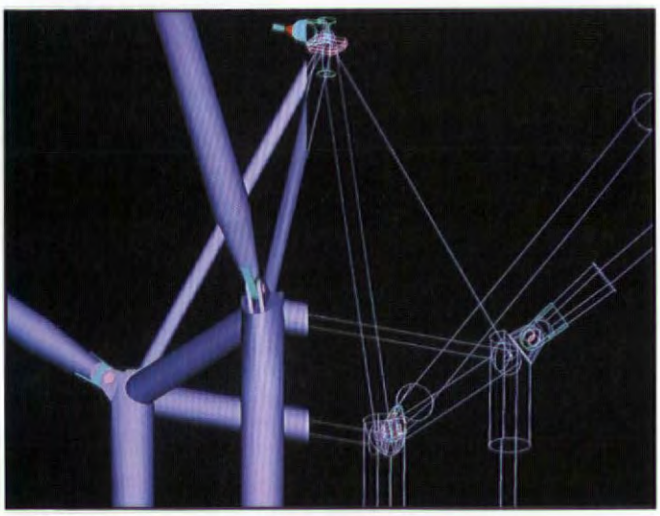

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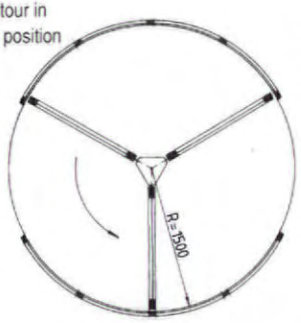


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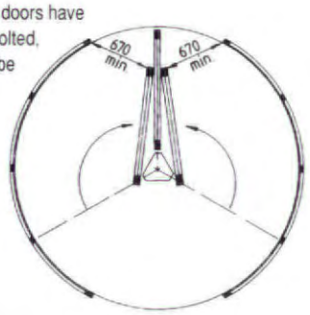


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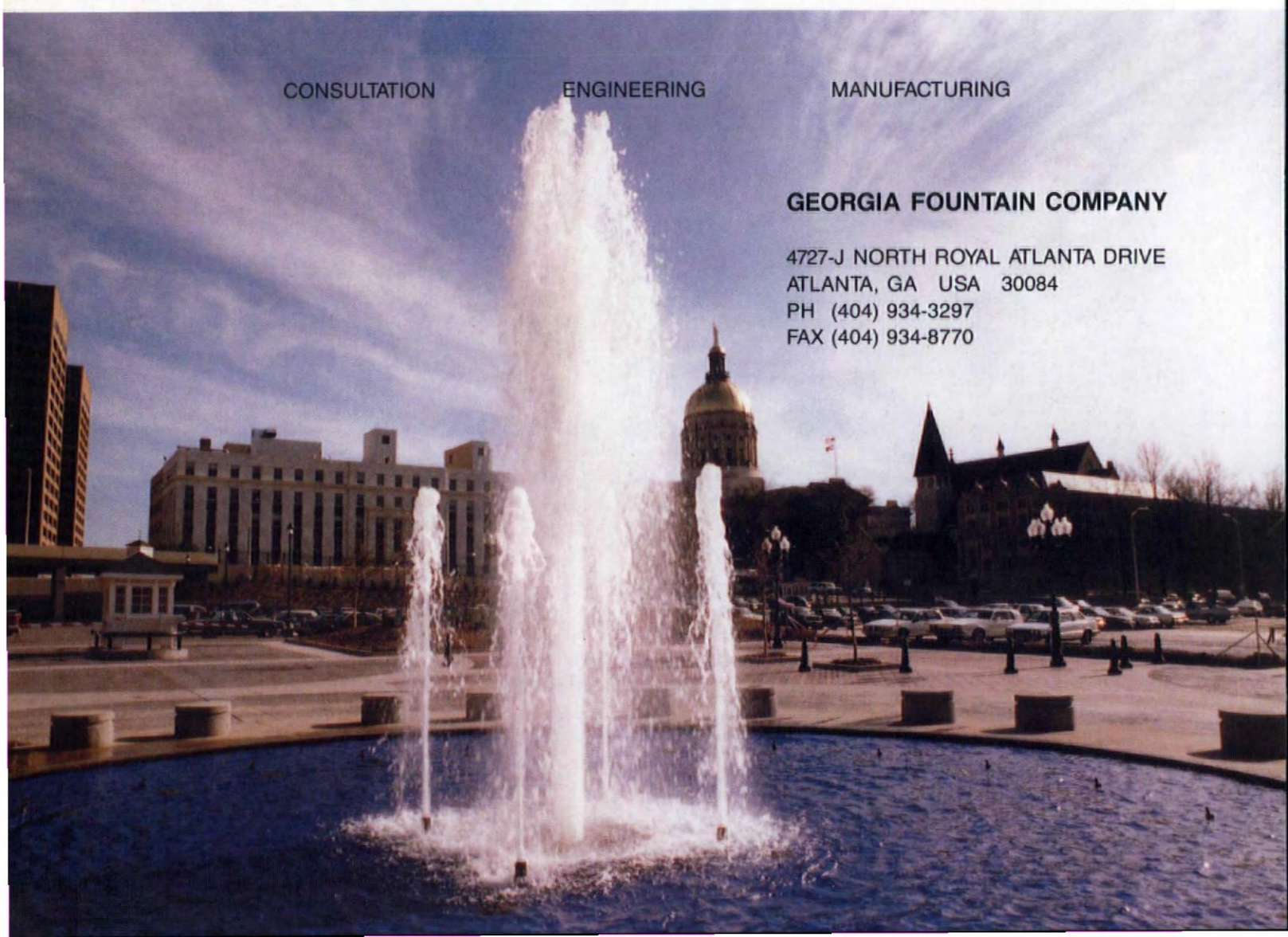

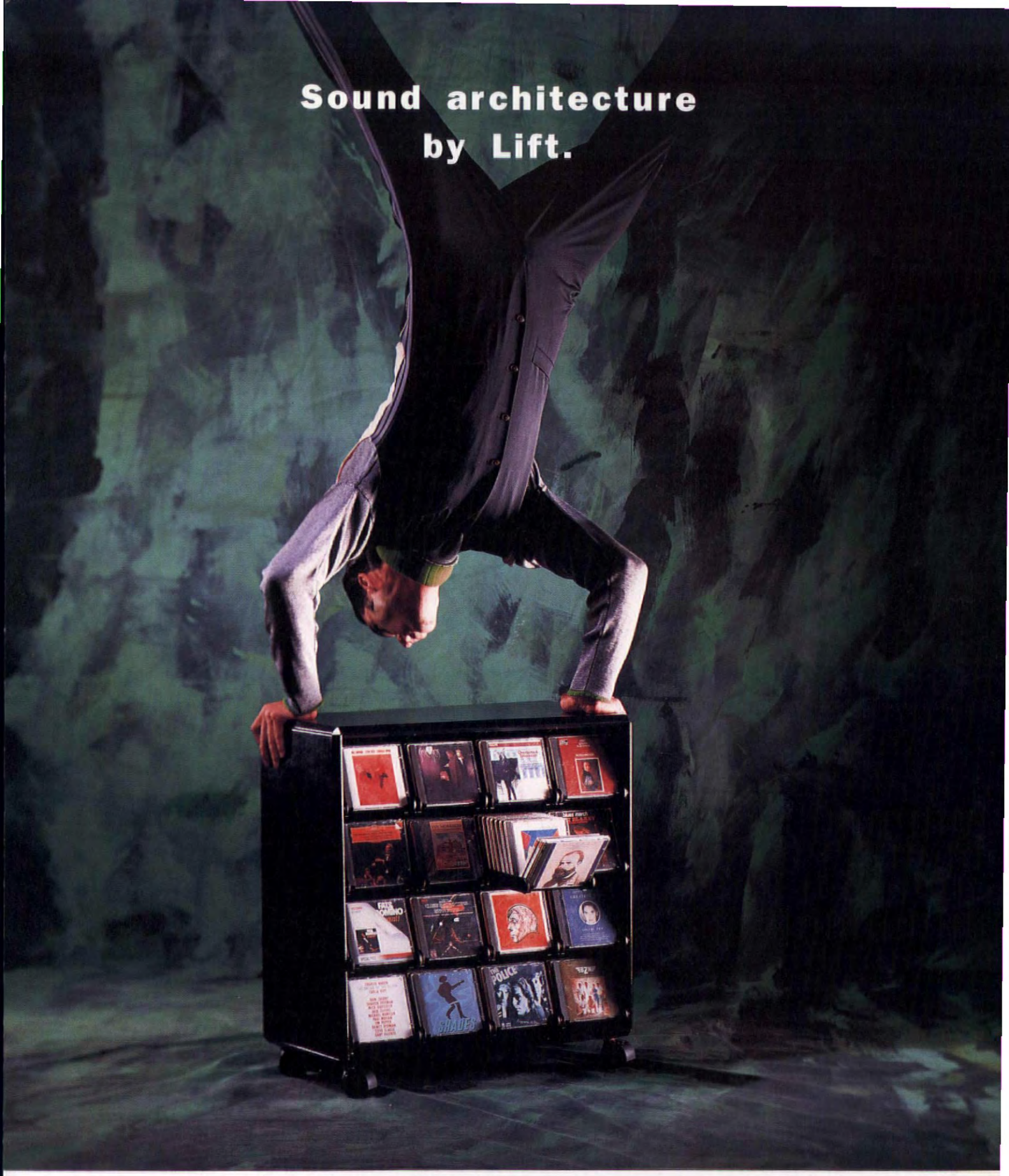


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