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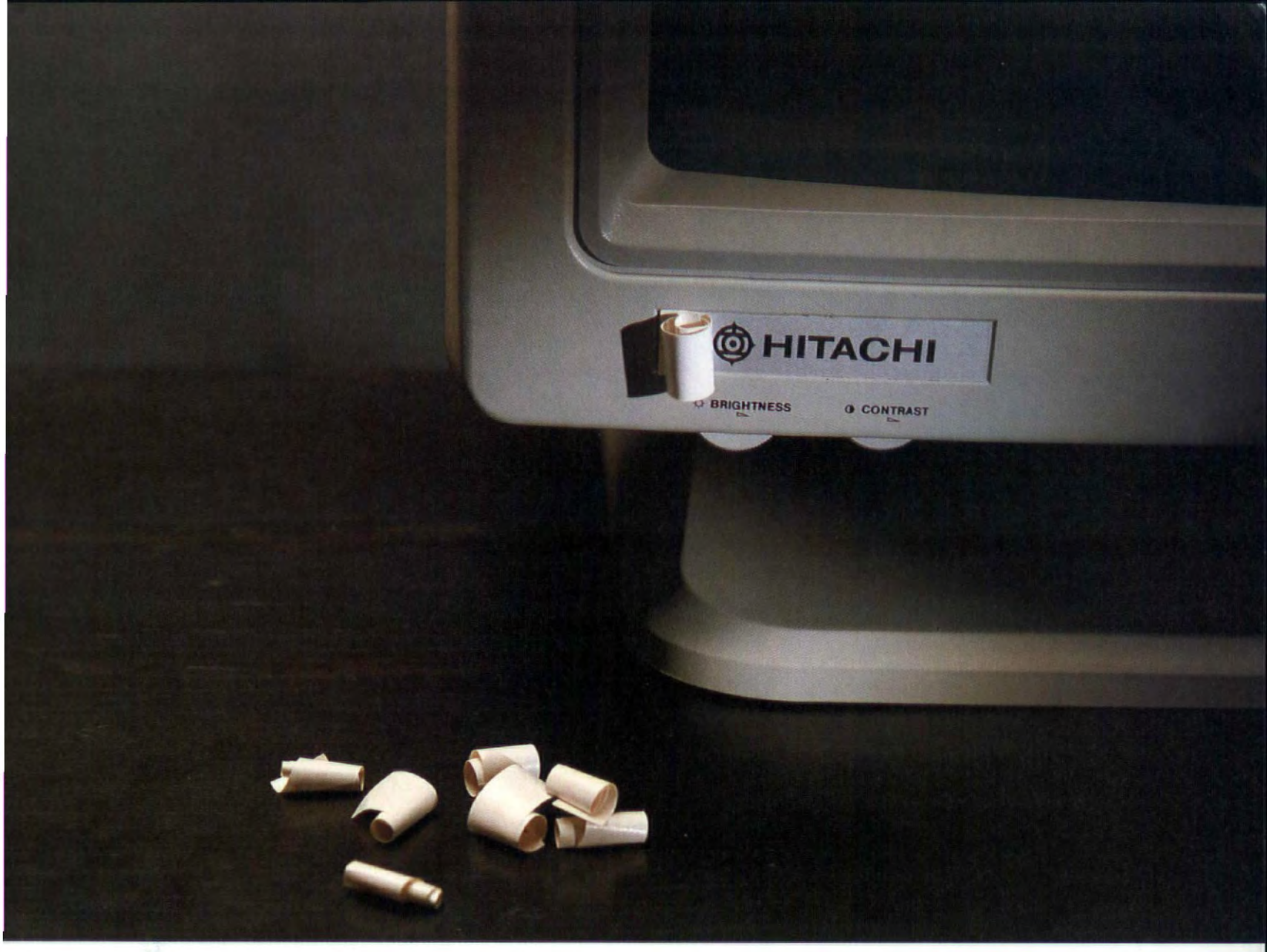

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PLEASE SPECIFY.....

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16) Which is your favourite magazine?

PLEASE SPECIFY .....

17) What is it that makes this your favourite title?

PLEASE SPECIFY.....

18) Which magazine would you say is the most useful to you in your

day to day business .....

and why is this so, ...

19) Do you find the advertising useful

Yes ☐
No ☐

20) Do you feel that there are too many magazines in the market ?

Yes ☐
No ☐

21) Do you feel that the existing publications satisfy your needs as a reader

Yes ☐
No ☐

22) What is your reaction to World Architecture

Like it ☐
Dislike it ☐

23) What do you particularly like or dislike

.....

.....

24) Given the following choices would you say that you would read it

Very often ☐
Regularly ☐
Occasionally ☐
Rarely ☐
Not at all ☐

25) Have you any ideas which would make World Architecture more useful to you

PLEASE SPECIFY.....

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26) Are there any others in your department or company whom you feel should receive their own copy of World Architecture?

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Thank-you and good reading,

Peter Gilbert
Circulation Manager

1) Of the following which would you say is the best description of your firm

- Architectural Practice ☐
- Interior Design Practice ☐
- Retail Design Consultancy ☐
- Exhibition Contractor ☐
- Building Contractor ☐
- Property Developer ☐
- Government ☐
- Local Authority ☐
- Armed Forces ☐

In-house studio ☐
PLEASE SPECIFY Type of Co.....

2) How many of your staff are involved in Architectural design

- 0 - 5 ☐
- 6 - 15 ☐
- 16 - 25 ☐
- 25 - 50 ☐
- 50 - 100 ☐
- over 100 ☐

3) In rough terms how many projects do you undertake per year

- 1 - 10 ☐
- 10- 20 ☐
- 20- 50 ☐
- over 50 ☐

4) What is the typical cost or range of prices for the sort of projects you specialise in?

(lower) .....

(upper) .....

5) What is your annual fee income?

- under $ (US) 50 000 ☐
- $ (US) 50 000 to $ (US) 100 000 ☐
- $ (US) 100 000 to $ (US) 250 000 ☐
- $ (US) 250 000 to $ (US) 500 000 ☐
- $ (US) 500 000 to $ (US) 1m ☐
- $ (US) 1m to $ (US) 2.5m ☐
- $ (US) 2.5m to $ (US) 5m ☐
- $ (US) 5m or over ☐

6) Do you specialise in

- Offices ☐
- Retail ☐
- Hotels & Leisure ☐
- Residential ☐

7) Are you a member of any of the Professional Associations

PLEASE SPECIFY WHICH.....

.....

8) What is your own job title?

- Partner / Director ☐
- Group Manager ☐
- Designer ☐
- Architect ☐

Other PLEASE SPECIFY.....

9) When you are working on a project, how do you choose specific materials and finishes.....

- Alone ☐
- With others in department ☐
- With the client ☐

10) How many people would have a major say in the materials or finishes used in one of your projects

PLEASE SPECIFY .....

11) When you have put a scheme together who has the final say on which materials and finishes are used,

- is it largely left to you, ☐
- OR
- a colleague (Title ?.....) ☐
- OR
- does the client select from your shortlist ☐
- OR
- do you liaise closely throughout the project ☐

12) If you wanted to find a particular product that you knew existed but did not know the supplier, how would be most likely to find it?

- Word of mouth ☐
- Visiting exhibitions ☐
- Trade directories ☐
- Trade magazine advertising ☐
- Editorial reviews of their products/services ☐

Other PLEASE SPECIFY.....

13) When a product you have not previously used is being considered would you be the person who

- Suggests it ☐
- Evaluates it ☐
- Authorises its use ☐

14) Which magazines do you regularly read

PLEASE SPECIFY.....

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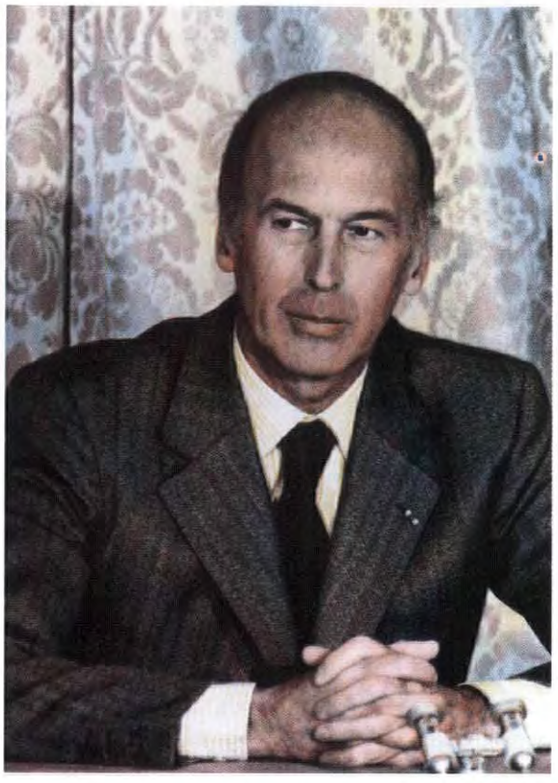

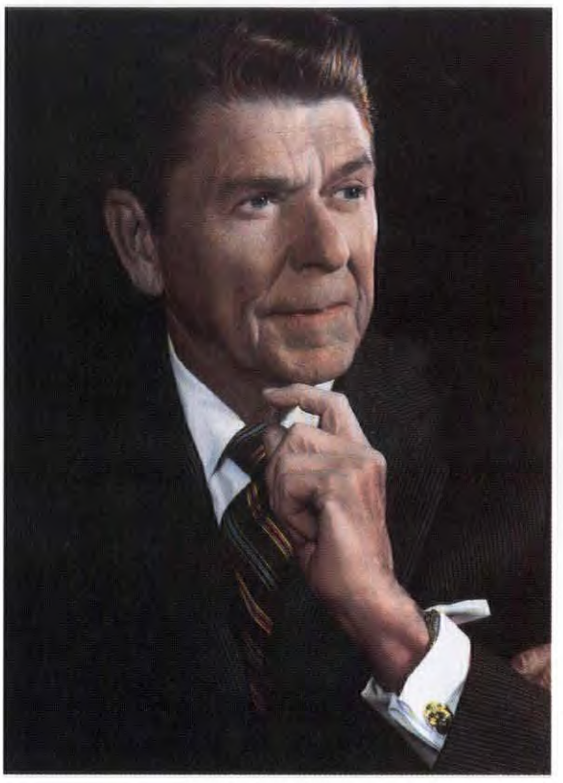

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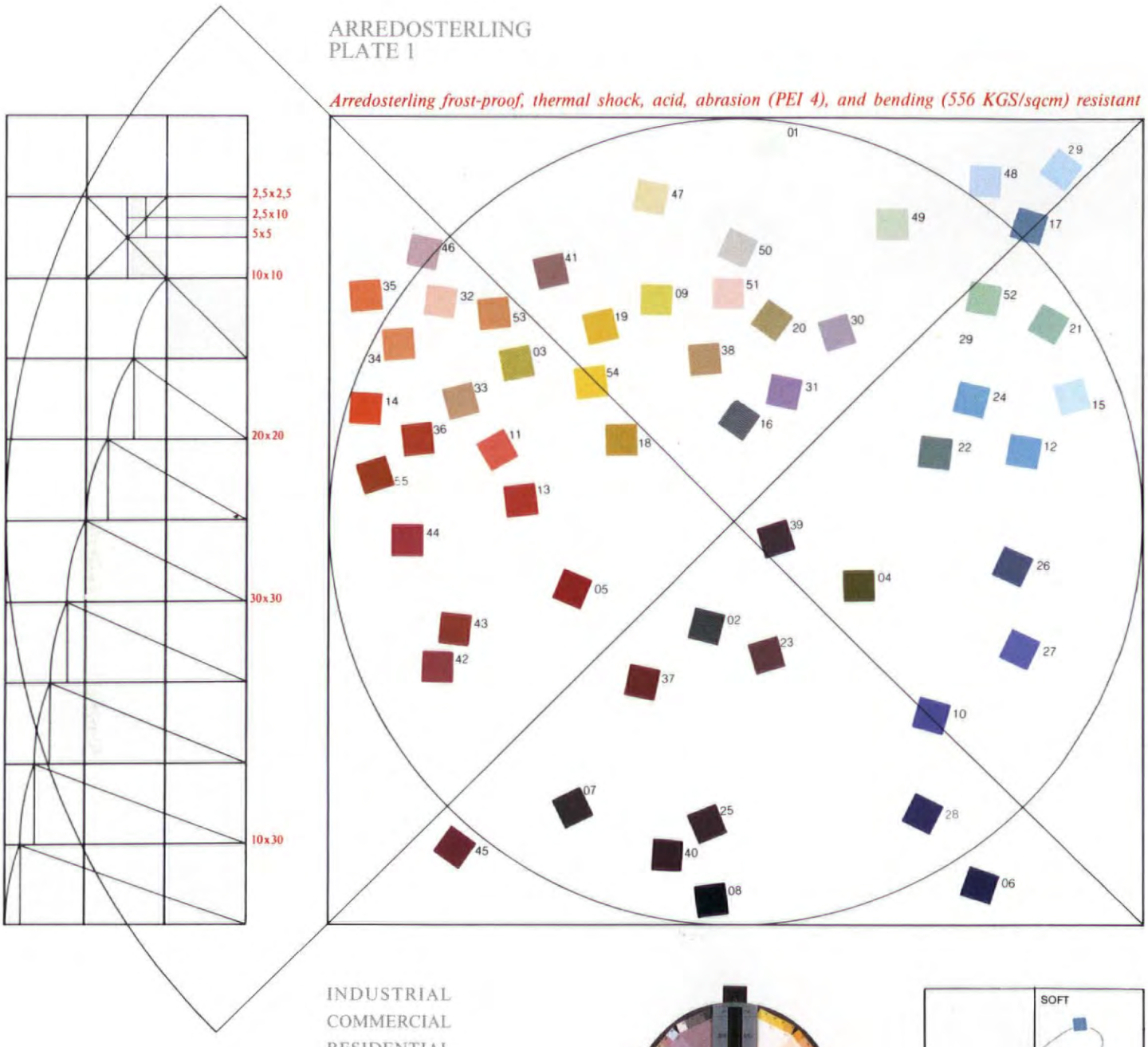

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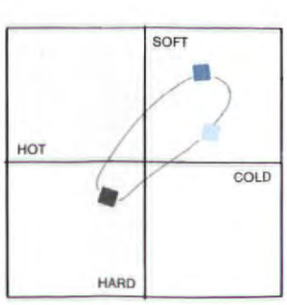

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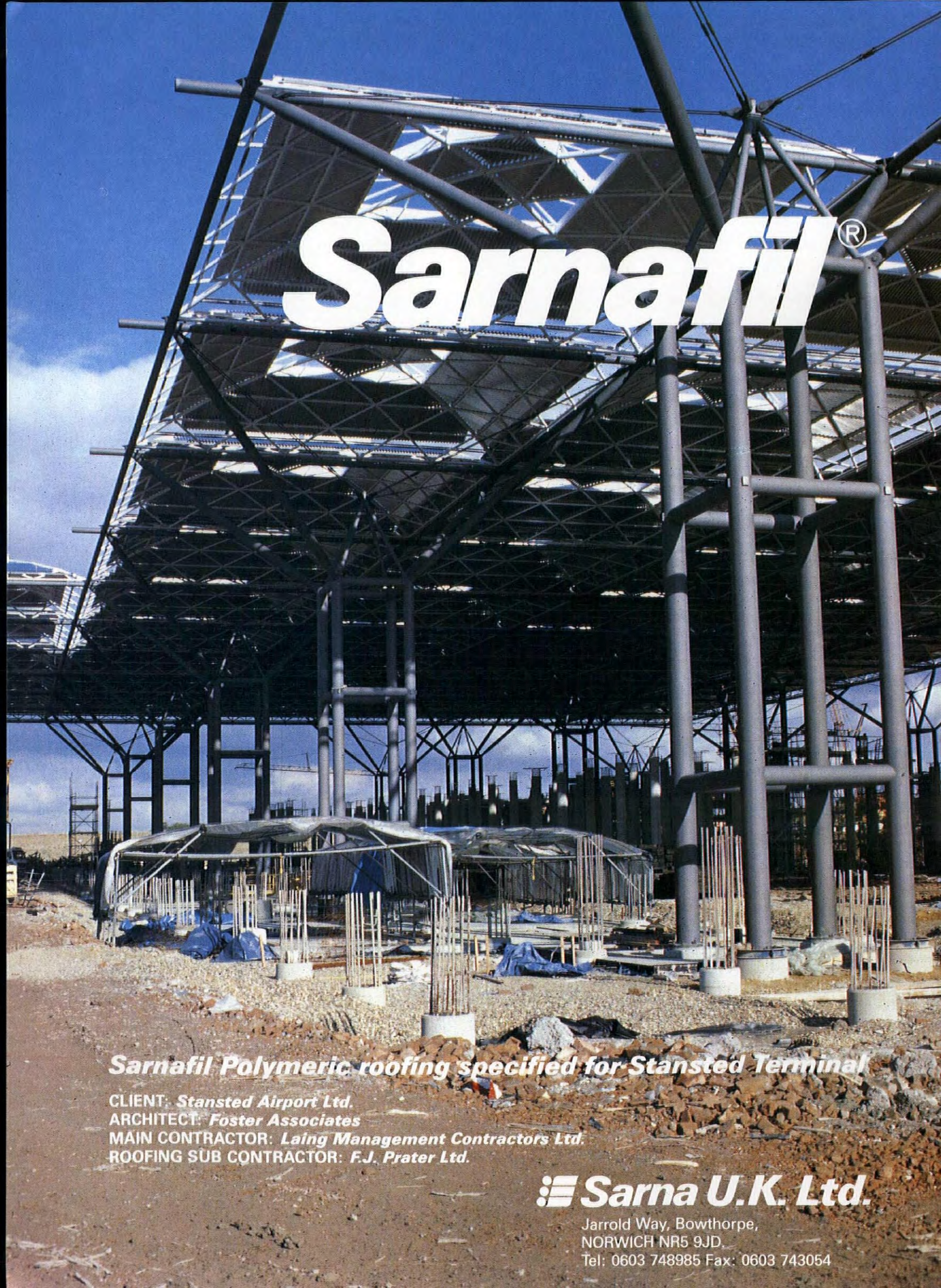

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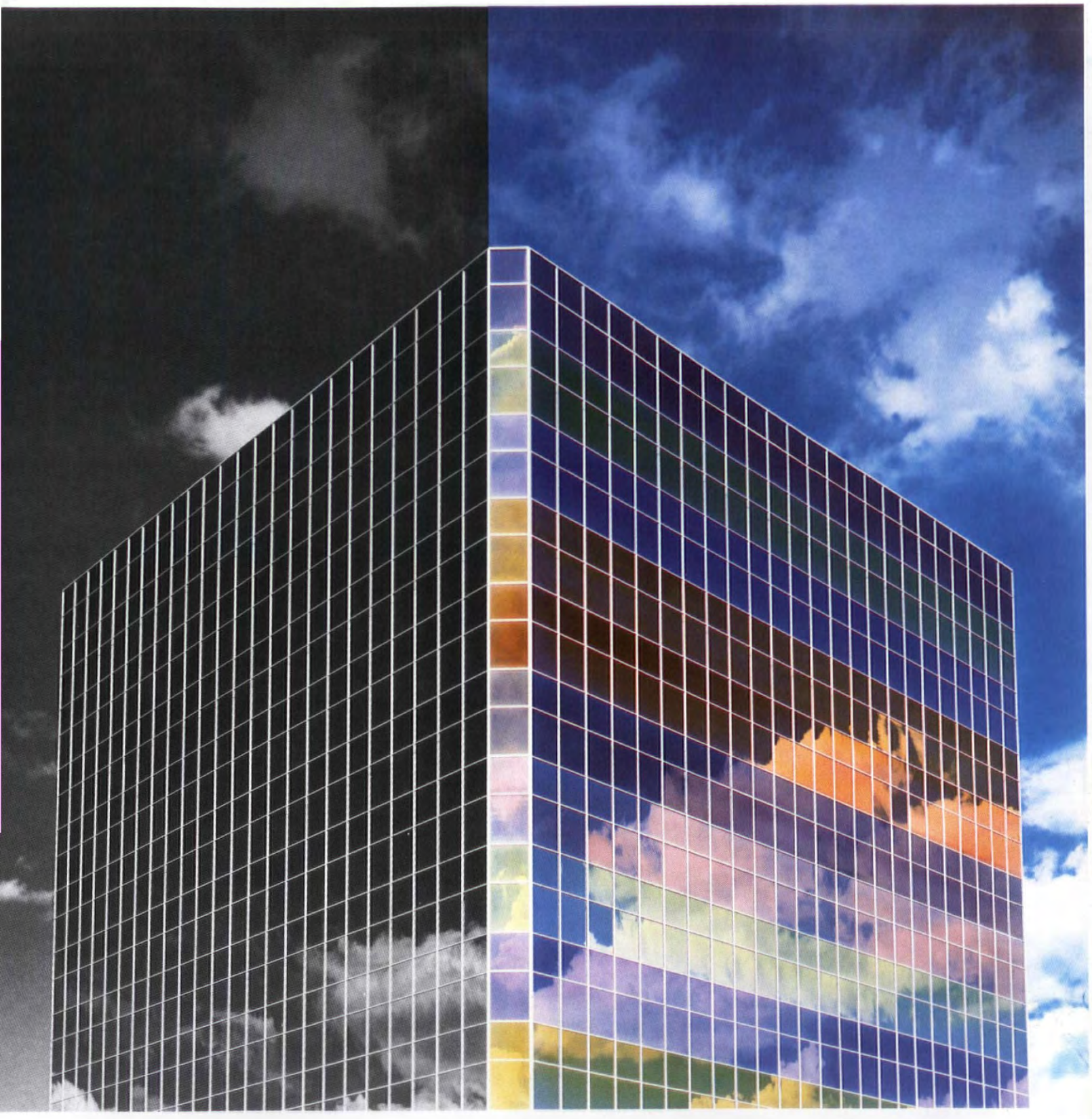

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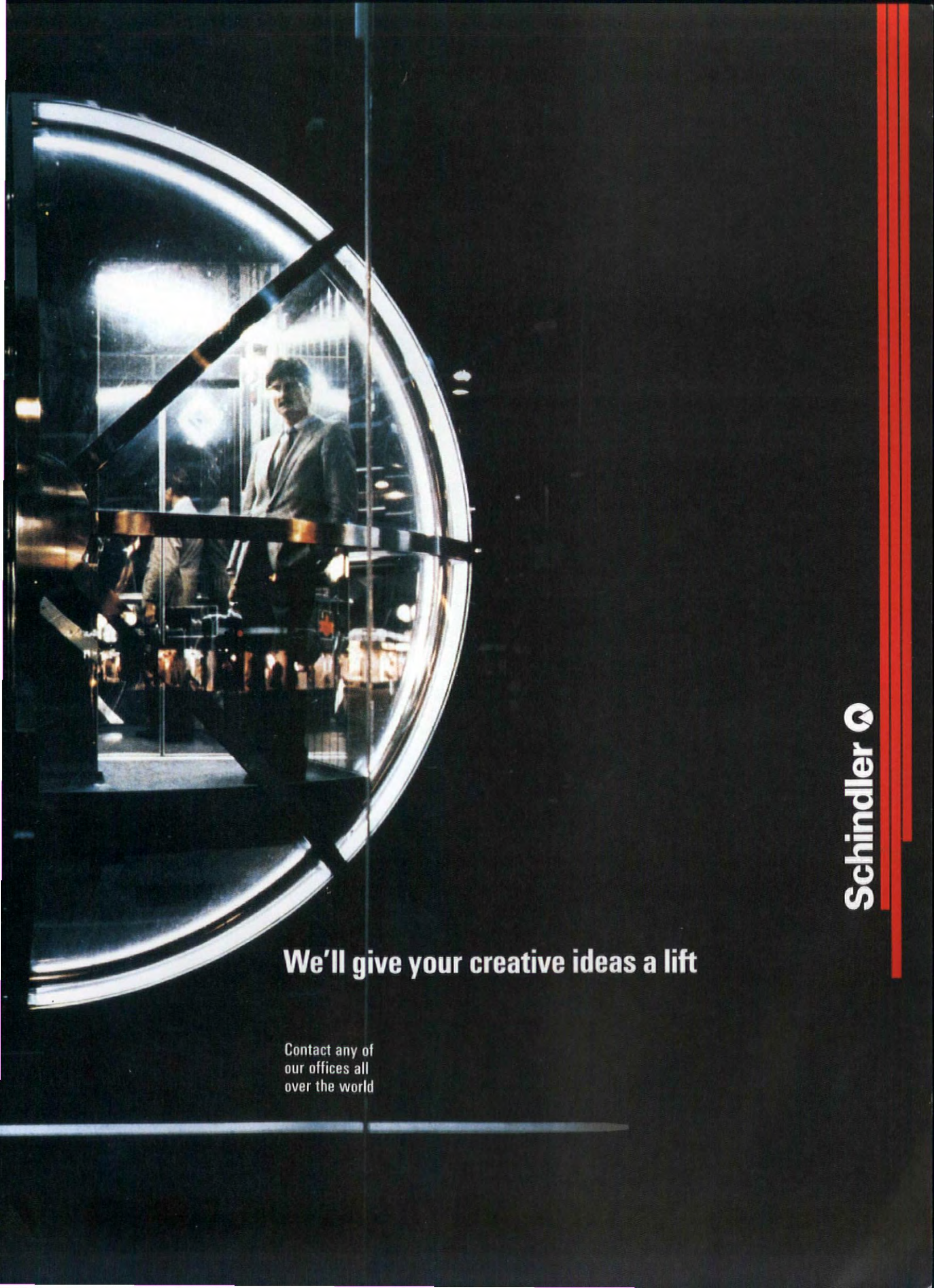
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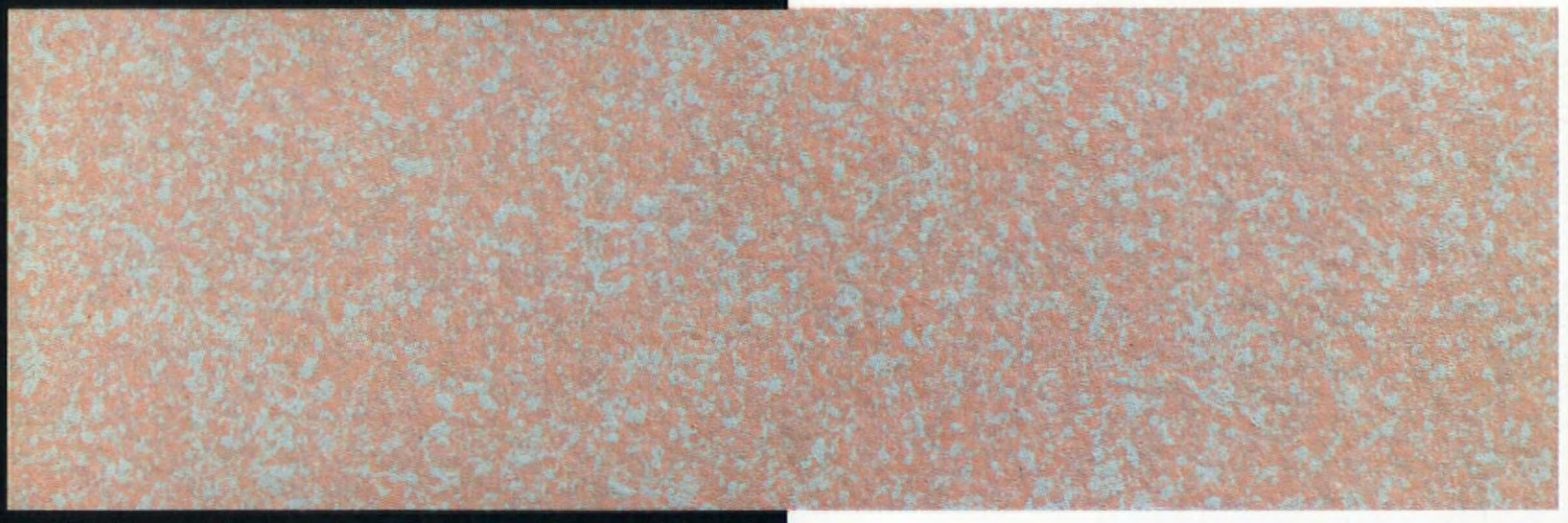

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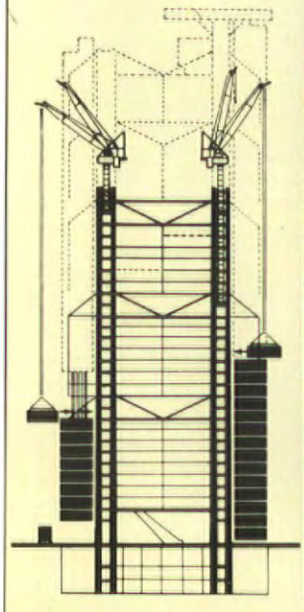

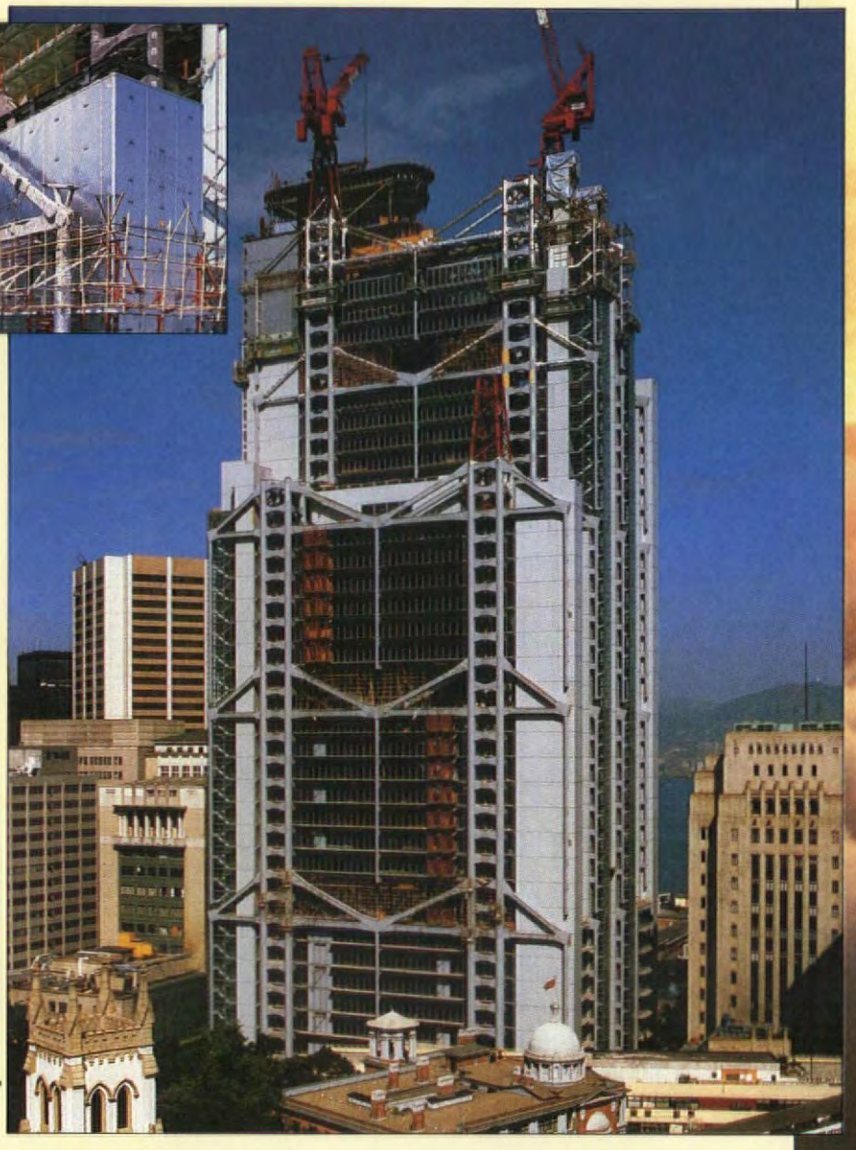

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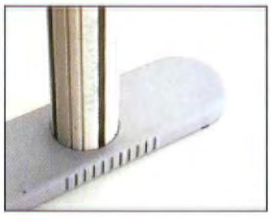

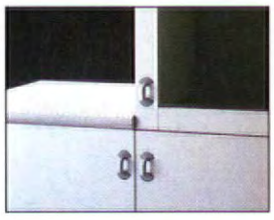

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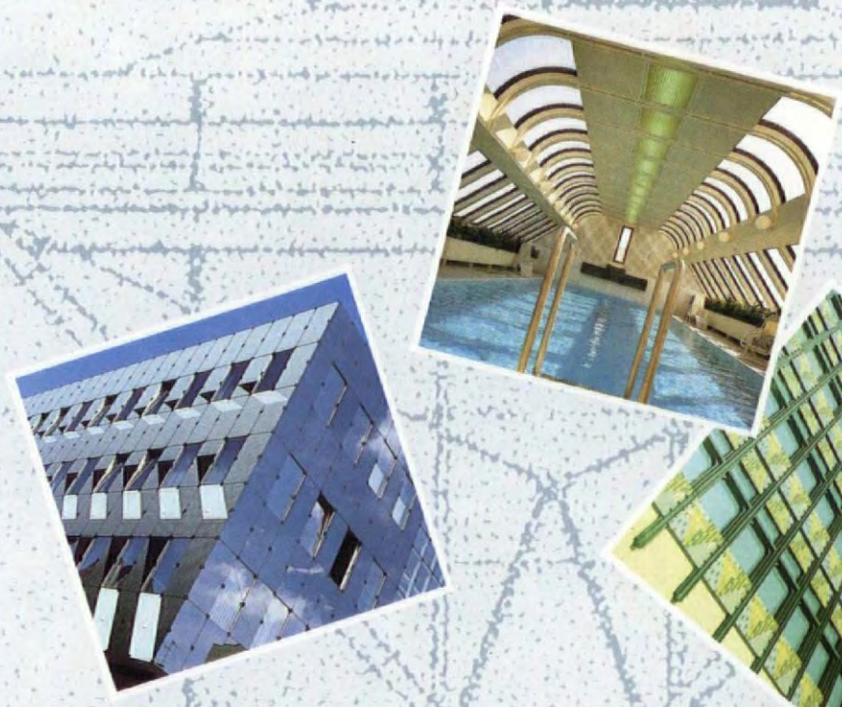

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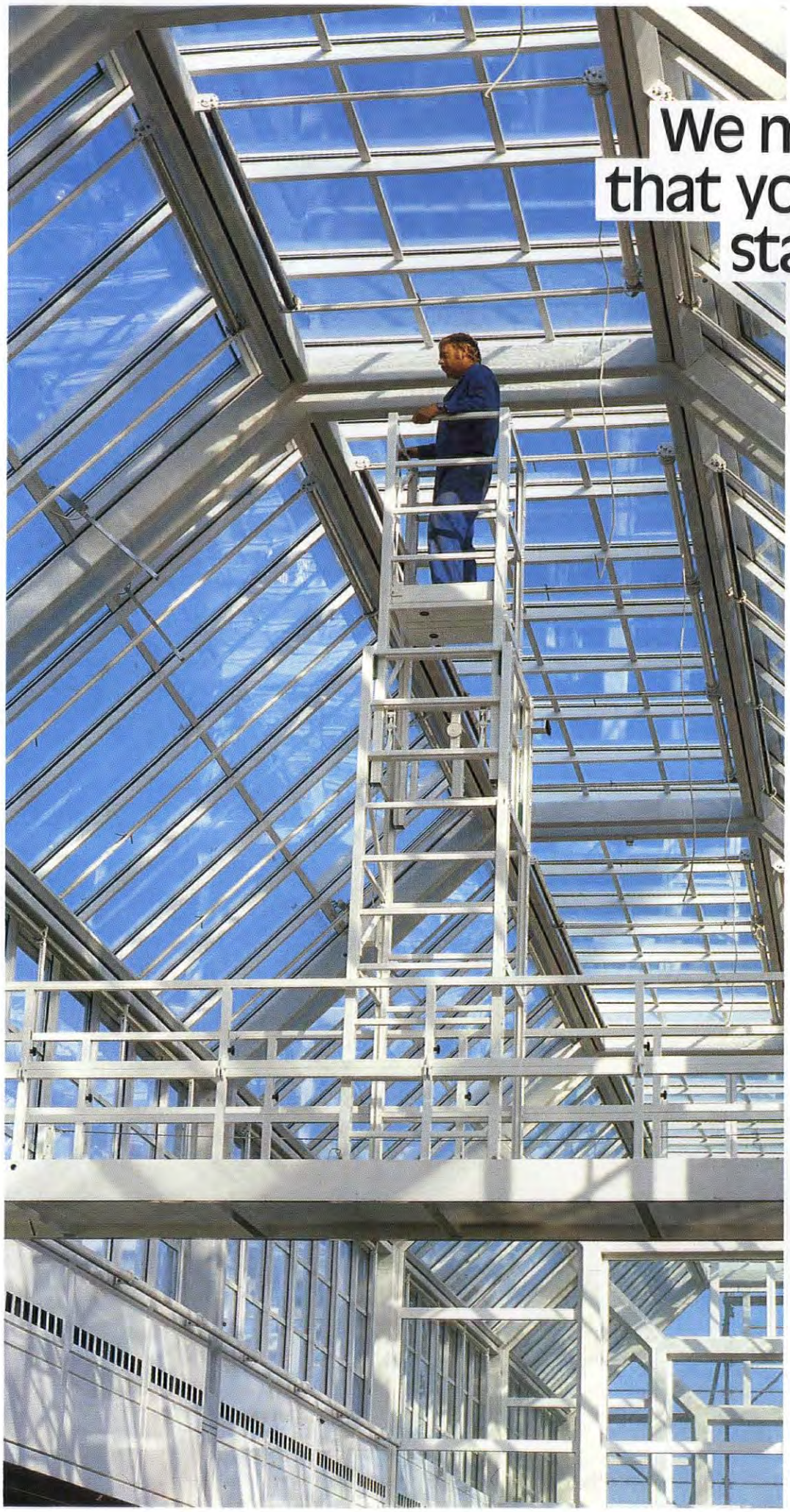

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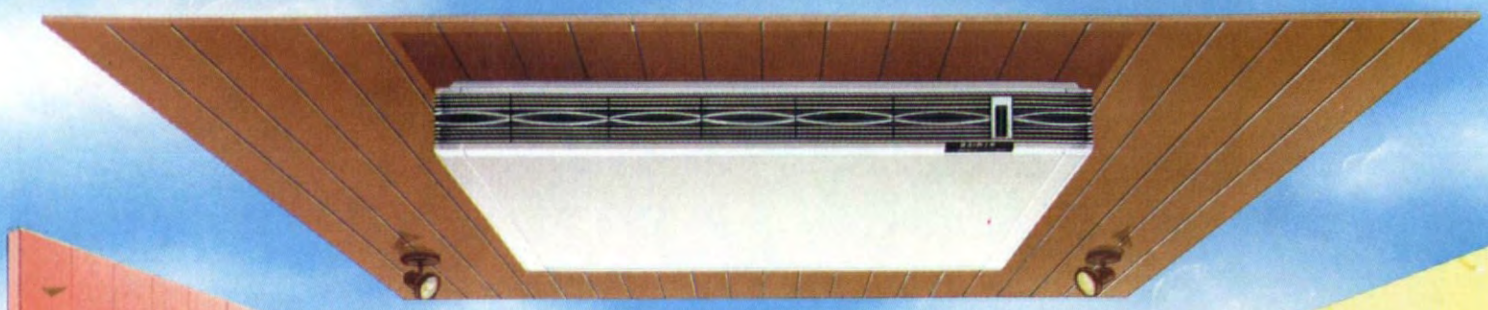

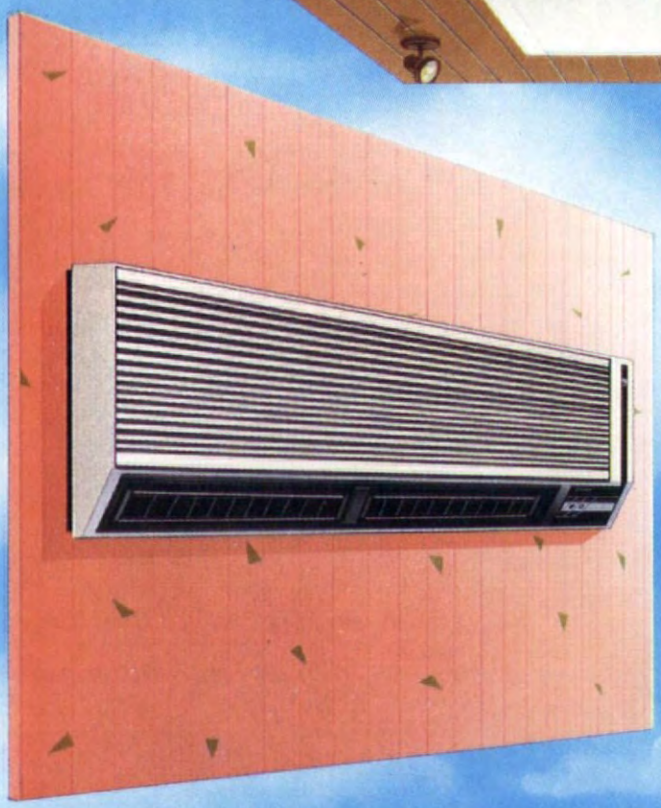

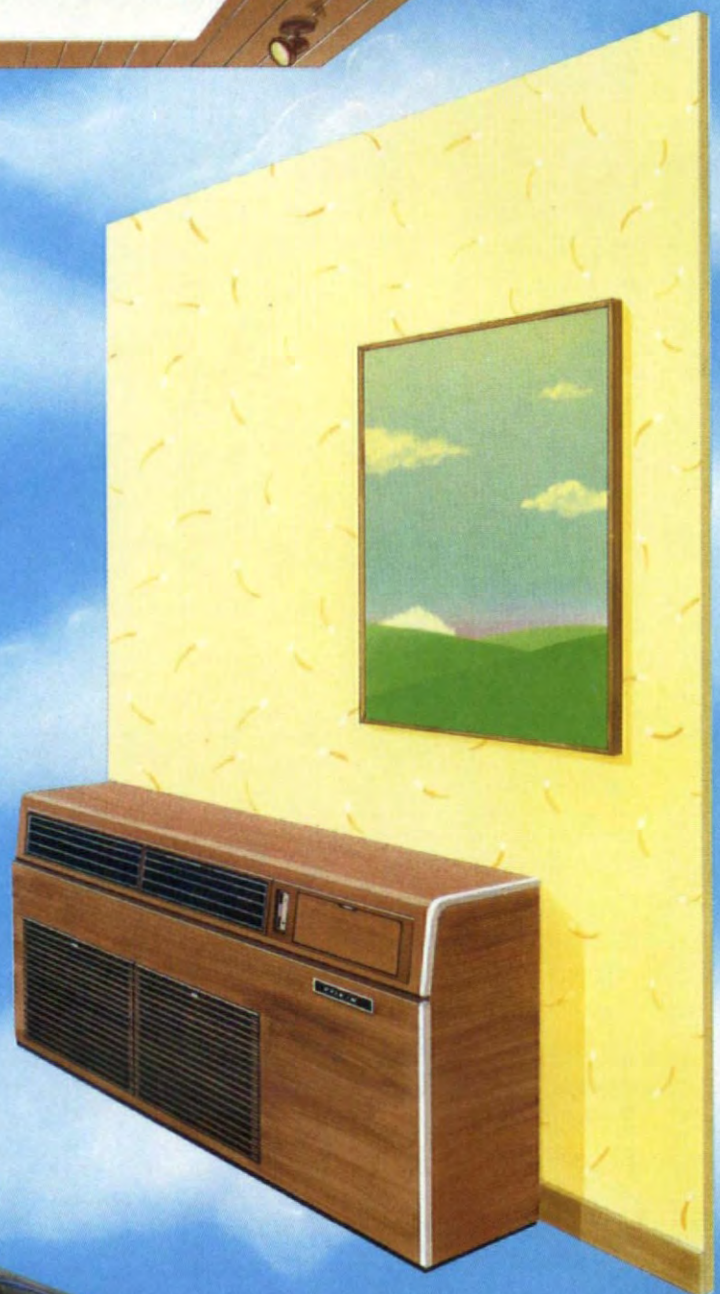

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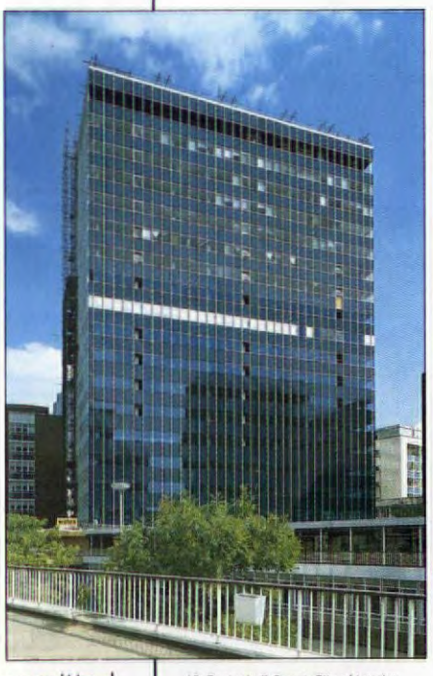

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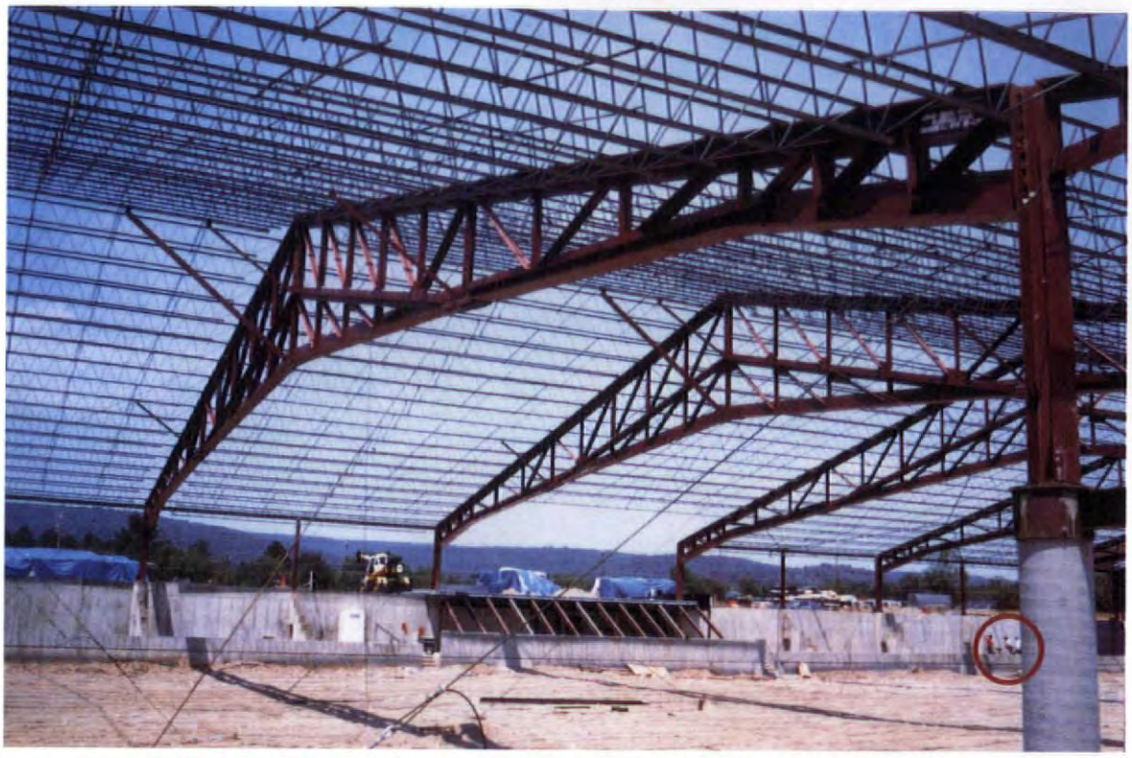

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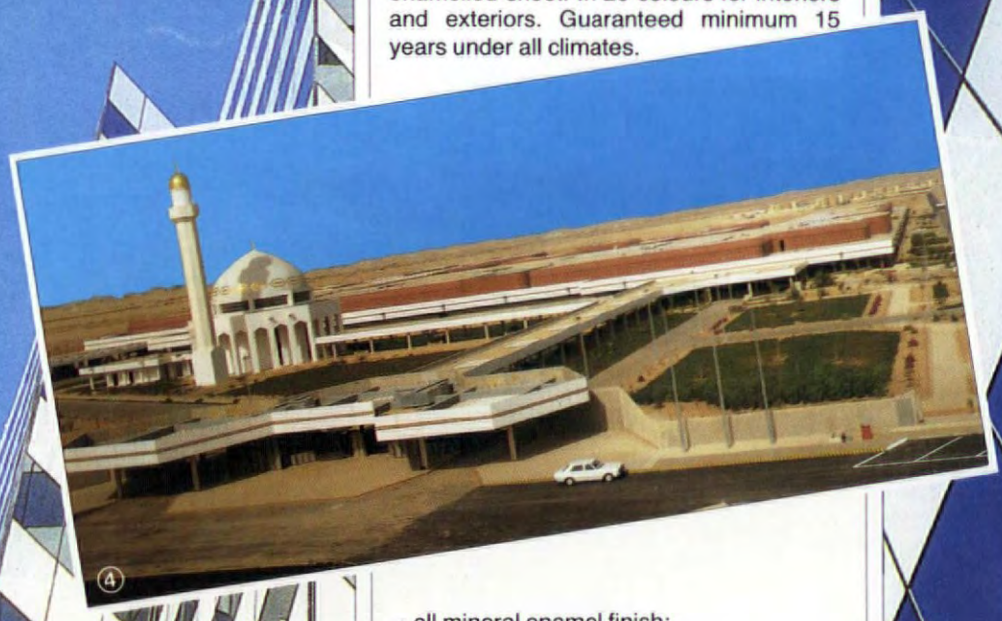

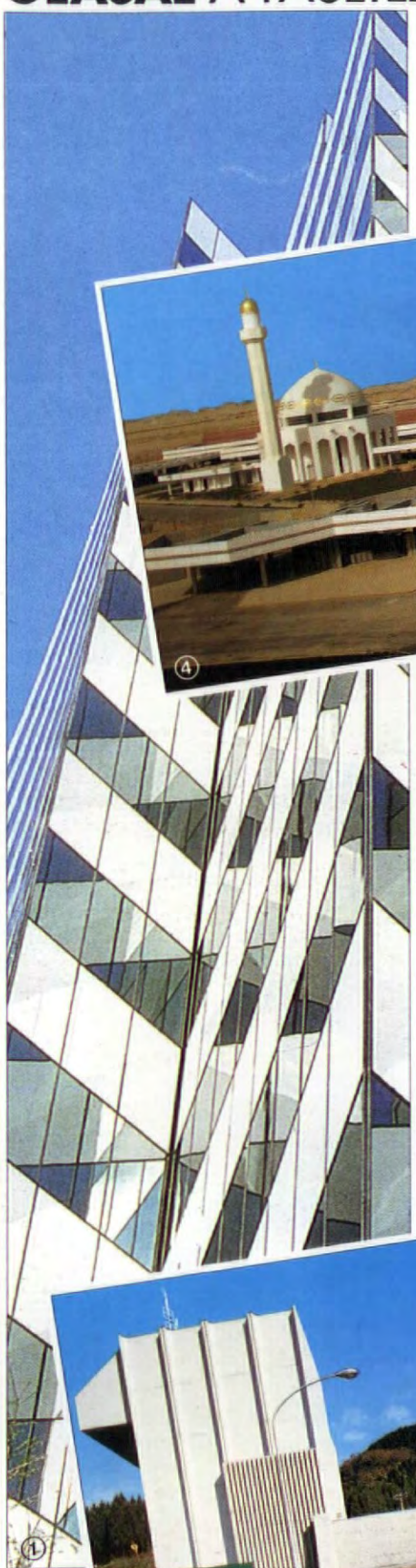

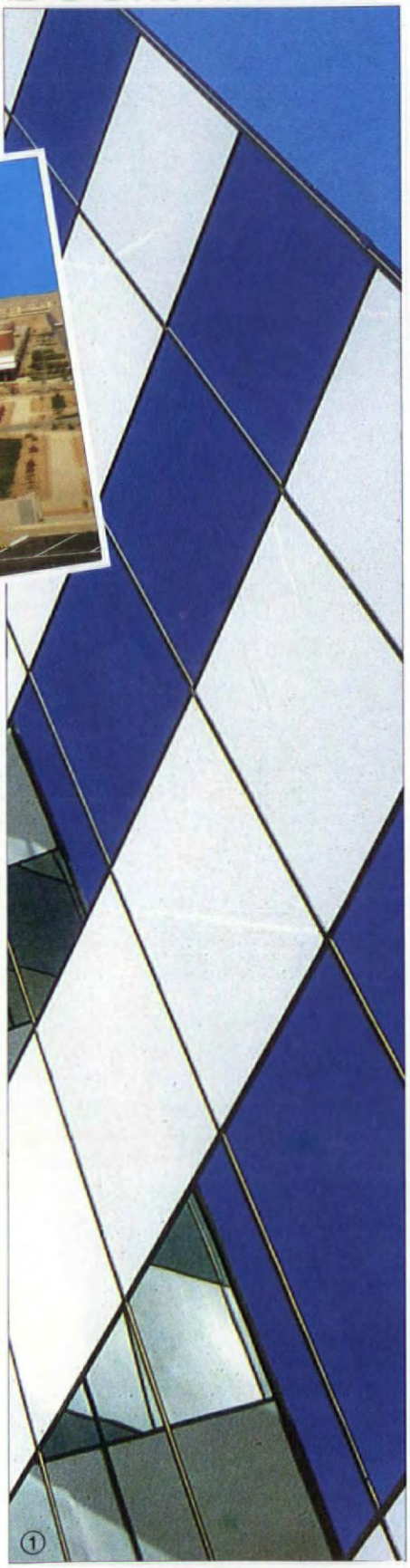

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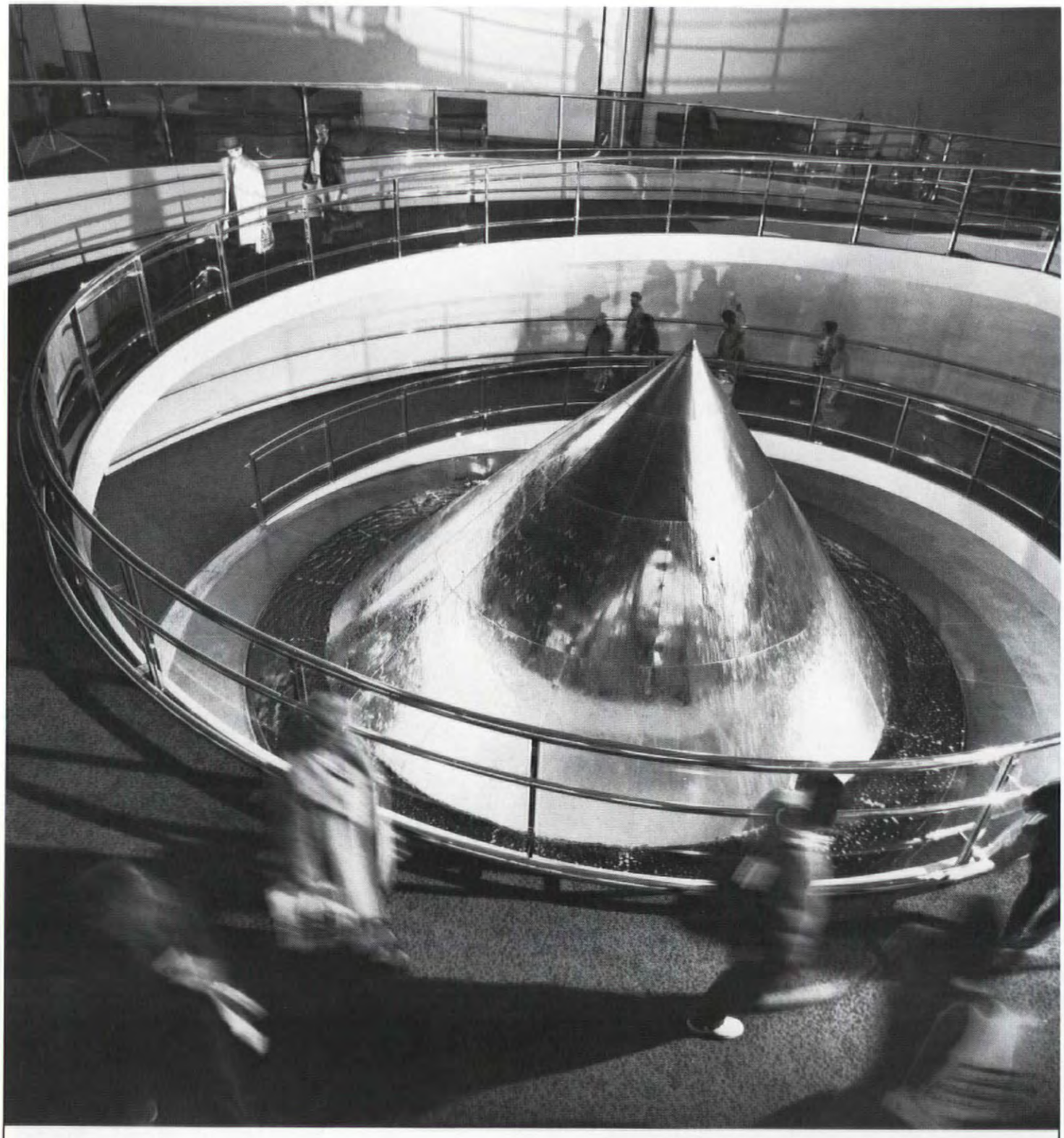

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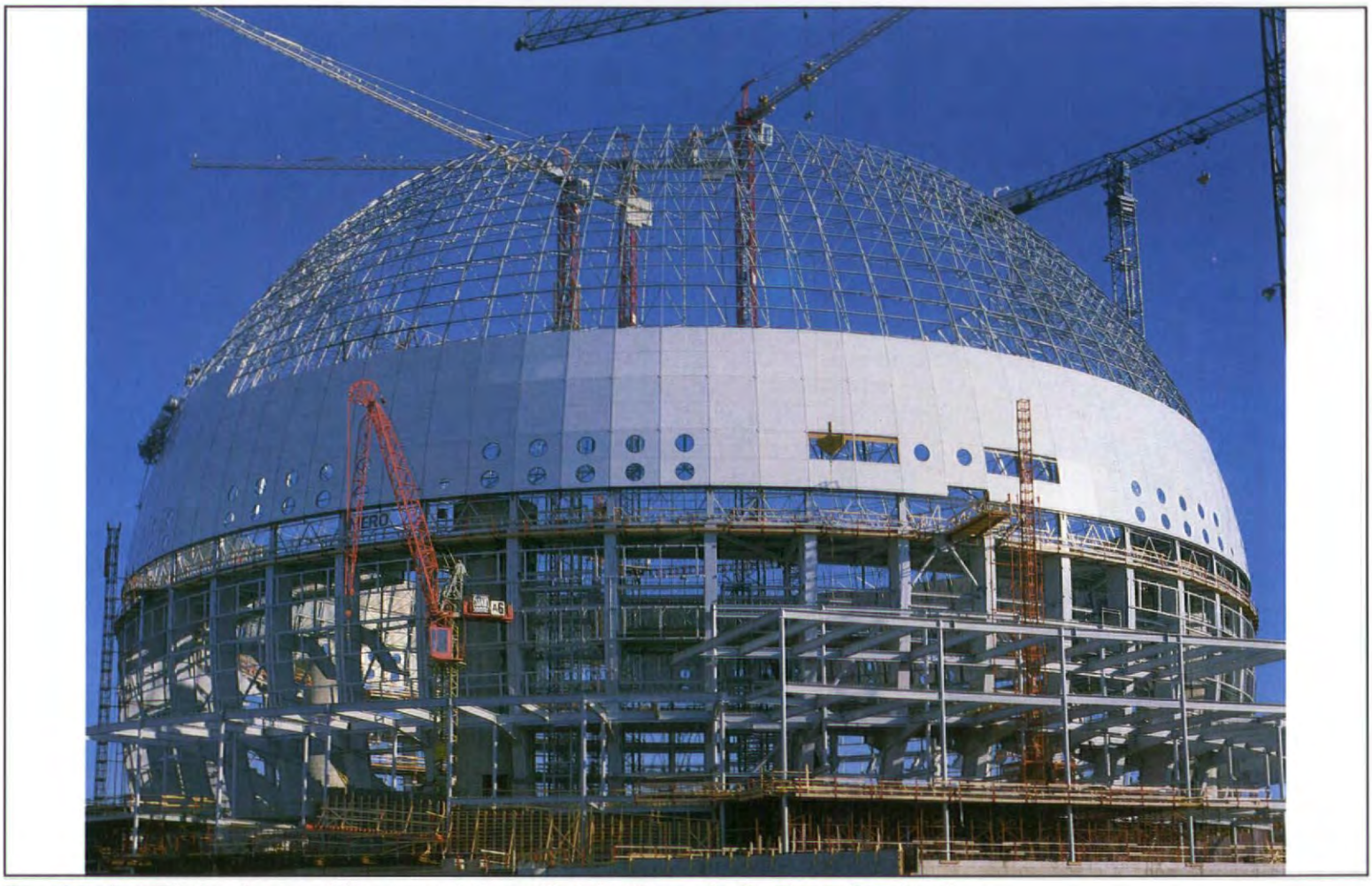
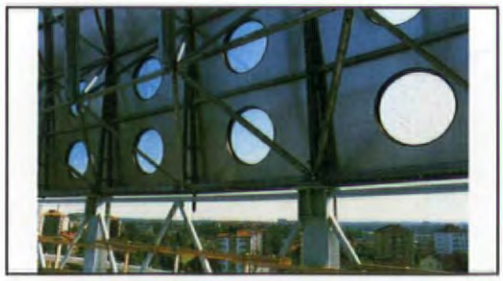


Stockholm Globe Arena; Diameter 110 m, Height 85 m; Arch. Berg, Stockholm



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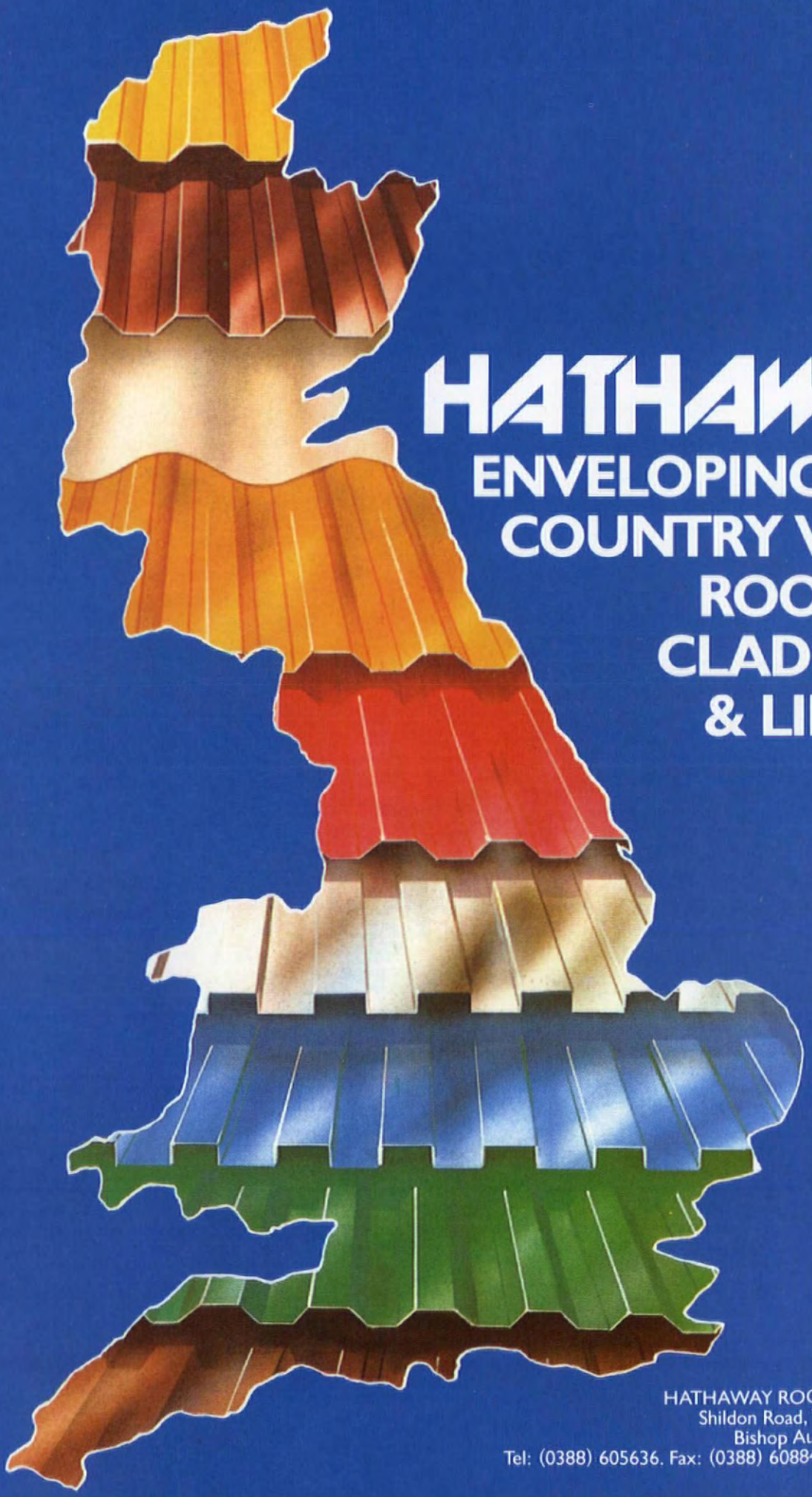

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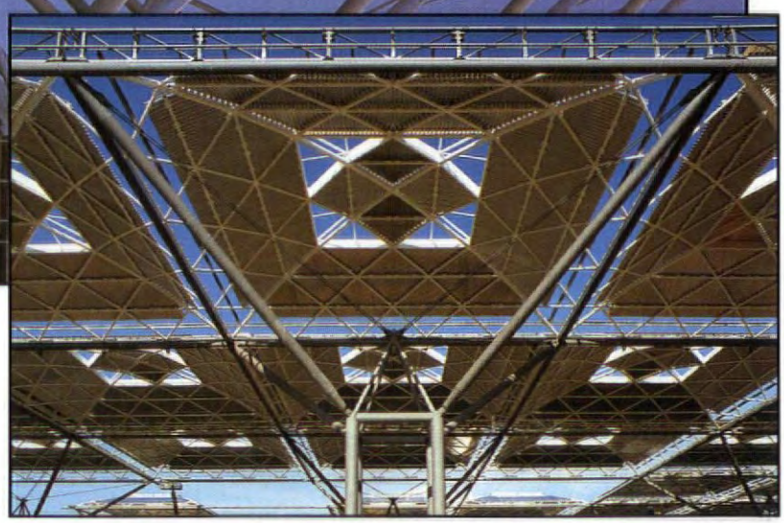

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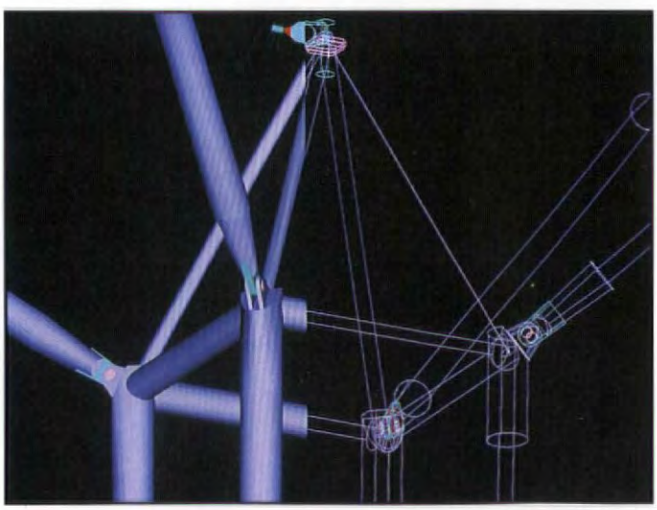
Surface area of steel painted 59,000 sq.m.



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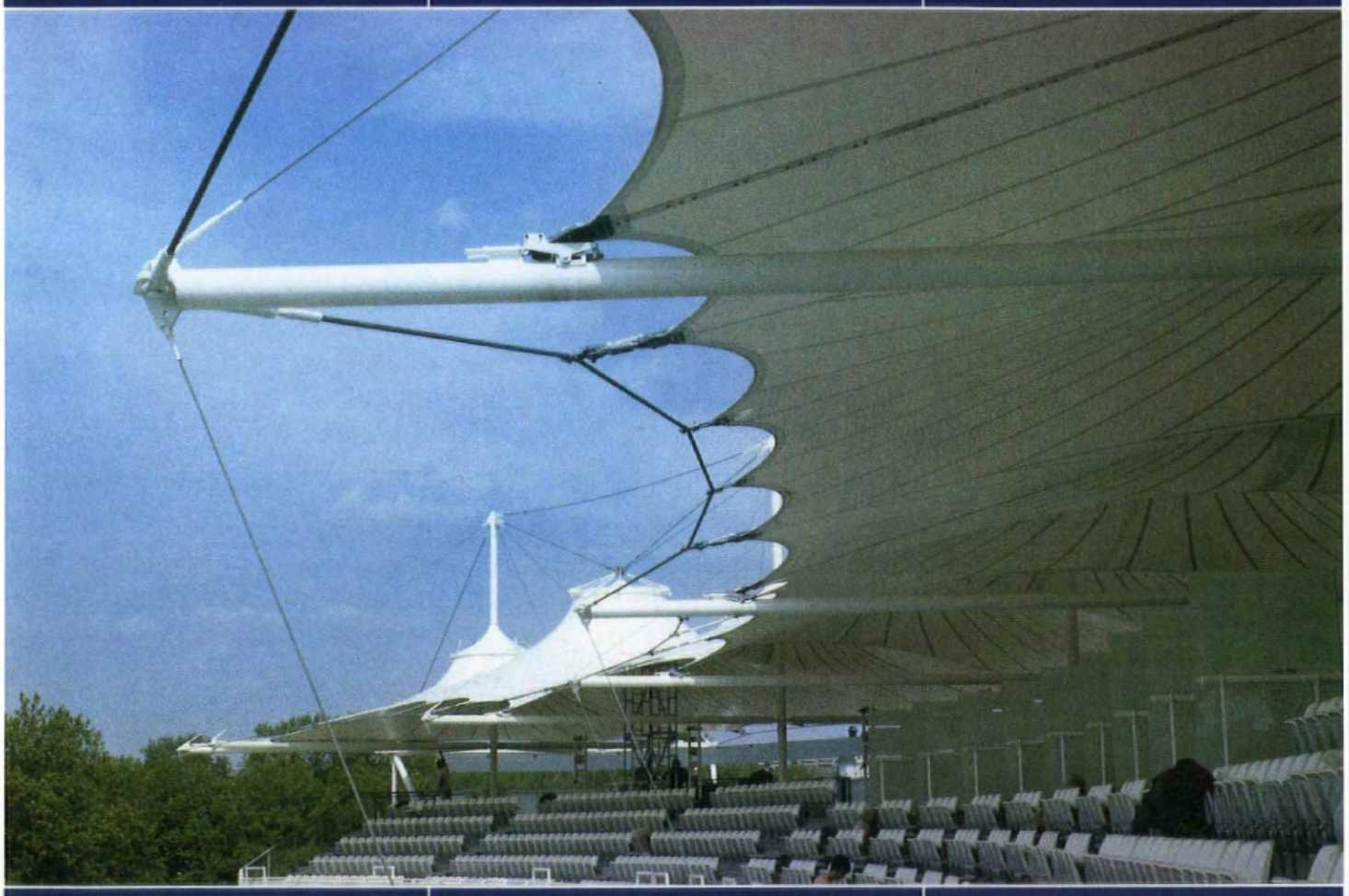

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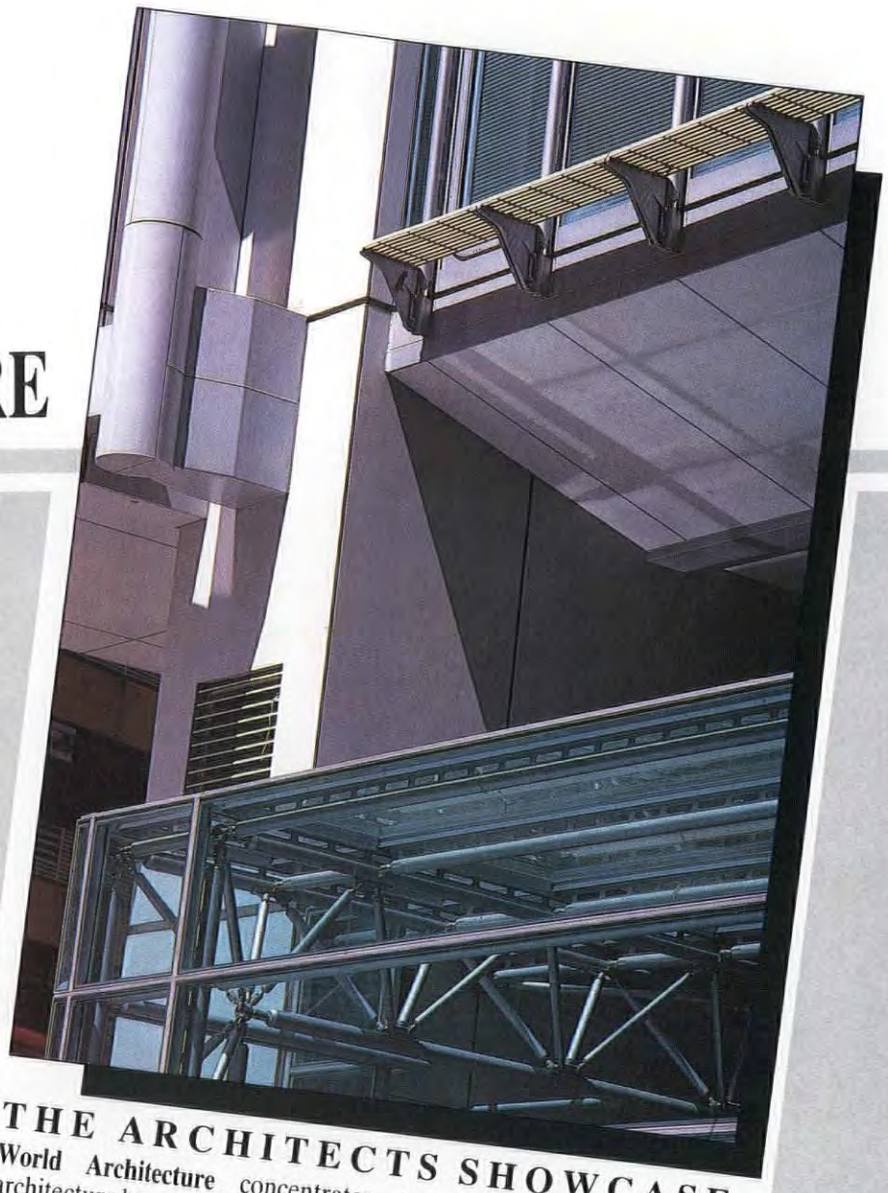

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WORLD ARCHITECTURE

Our profession has a highly responsible mission – the creation of an appropriate architecture in a rapidly changing world. In spite of the unparalleled boom of technologies and demographical changes it should preserve the harmony, as well as all human and spiritual qualities of the environment, create the optimum conditions for the physical and spiritual perfection of man. It is a tall order.

In order to promote the social role of architecture and to stimulate the progress of creativity and theory, the International Academy of Architecture has been established. Forty outstanding architects from various parts of the world, who have greatly contributed to the development of contemporary architecture have been elected members of the Academy.

World Architecture will be a true professional magazine for architecture and architectural criticism.

The magazine will popularize among its readers the work of eminent masters of world architecture, as well as of representatives of younger generations. The magazine will not only give information about the final product but also about the sketches and drawings that give an idea of the way of thinking and the methodology which are inherent in the process of building.

The magazine will also reflect the activity of the International Academy of Architecture, providing information on IAA projects, seminars and future events.

The Academy and *World Architecture* will not just set itself the naive and unattainable ambitions to create new styles or architectural "isms", but will support the constant progress of architectural creativity, will back and stimulate every new idea and project which carries new humanistic and aesthetic values.

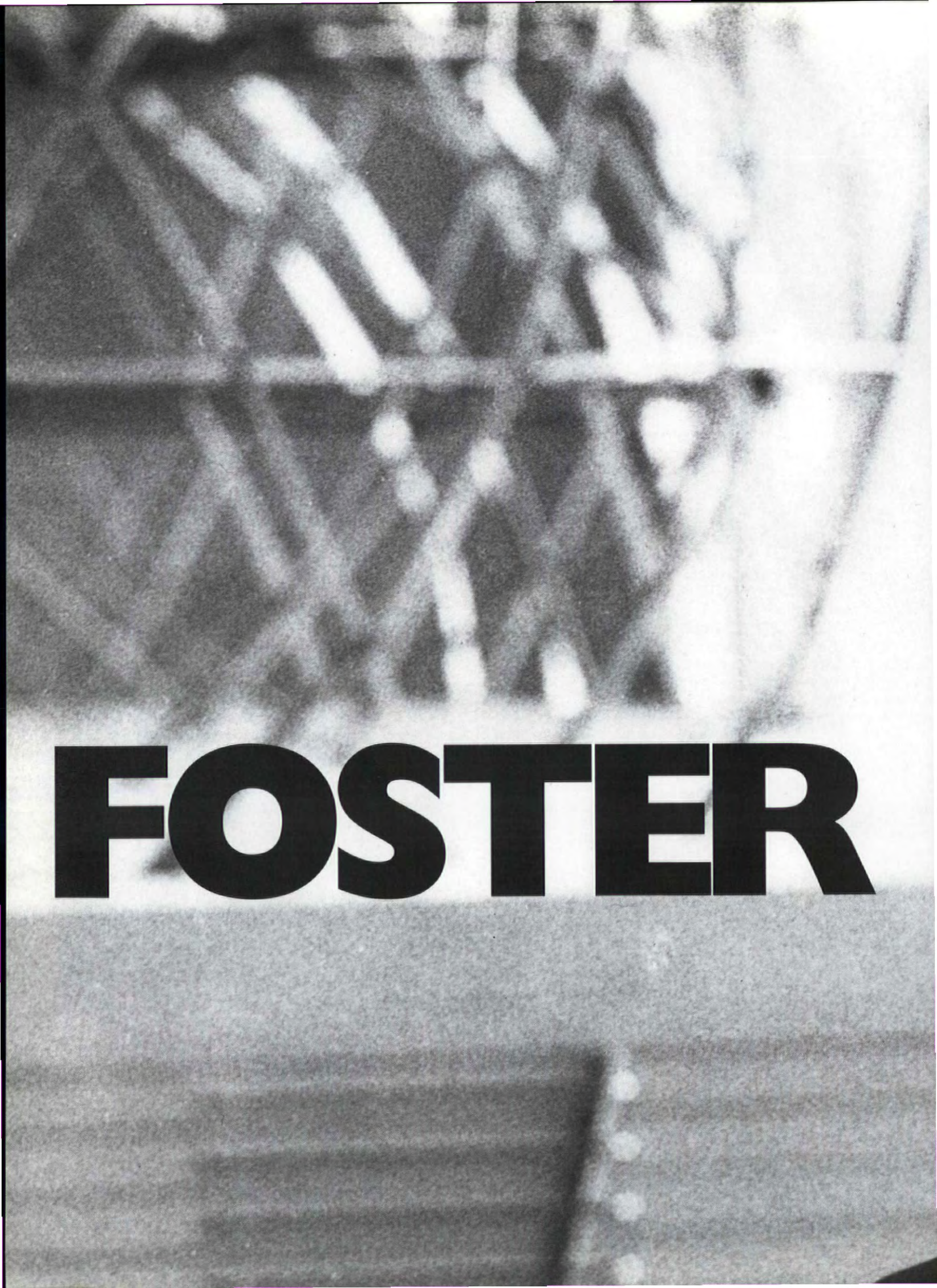
Almost half of the magazine's content will be dedicated to the creativity of a certain master. Thus everyone subscribing to the magazine will have a complete collection – a panorama of 20th century architecture.

Let us wish *World Architecture* great success in its professional and citizens' mission, as an active courier who establishes relations between ourselves and between architecture and society at large.

Georgi Stoilov
President of the Academic Council of the International Academy of Architecture

The first issue of World Architecture explores the idea of the building as Object, a critical reassessment of Modernism. As Post Modern fashions die out, architects the world over are beginning to reassess the idea of a rational, rather than a purely fashionable, architecture. Nowhere is the Modern idea of the building as object expressed more clearly than in the work of Norman Foster whose elegant engineering-based buildings have for the most part been highly crafted one-offs, pristine, freestanding structures (or sculptures) that have little to do with contextualism as most urbanists continue to understand the idea. However, buildings such as Foster's IBM at Cosham have a close rapport with nature (see illustration p47) while others such as the Hong Kong Shanghai Bank raise the standards of an urban free-for-all. The new Mediathèque currently under construction in Nimes is no less contextual than the isolated and ancient Maison Carée. Foster's buildings do what many of the Victorian buildings he admires do, uplift their urban context rather than settle down cosily in them. Modernism advocated this primacy of the object. In his stimulating essay (p58), William Tucker explores the development of this key twentieth century theme. In other articles the idea of what constitutes a Modern architecture is examined. James Dunnett argues that High Tech buildings owe more to nineteenth century engineering than to Le Corbusier. Elsewhere in this issue Yu Chee Chong examines the nature of the Modern garden in the machine age. In trying to reassess Modernism, World Architecture is aiming to encourage fresh debate over the response to Post Modern whimsy and kitsch. World Architecture will advocate an architecture of authenticity. It will explore the ways that architects can best respond to their specific contexts whether in wealthy Western European countries or in the teeming and poor cities of the Third World. It will not shirk from what are often disturbing and uncomfortable political issues. Above all it will be concerned with promoting an architecture and landscape of quality. Future issues will try to cover architecture as it is being practiced worldwide. World Architecture welcomes suggestions for ideas particularly from those countries poorly represented in the existing architectural press.

Jonathan Glancey
Editor


FOSTER

ADVANCING MODERNISM

Jonathan Glancey introduces the latest work of Foster Associates. Through his sensitivity to new developments in engineering, technology and materials Norman Foster works at the leading edge of contemporary architecture. His intuitive sense of form, function and finesse continues to revitalise Modernism.

Norman Foster is in many ways an old fashioned architect. He runs an atelier of which he is the master. He relies on team work and although at pains to give credit to a talented and exceptionally hard working staff, his individual mark is imprinted on every activity of the practice that now numbers more than a hundred. This makes Foster very different from Richard Rogers, for example, whose role is as a catalyst in the architectural process. Where Rogers dreams and communicates his dreams over a table with colleagues who take up the ideas and create buildings from them, Foster puts his ideas straight on to paper.

His notebooks, meticulously kept, reveal the visions of a literal minded architect. Foster's buildings might be more daring than most, but his drawings reveal a matter of fact common-sensical approach to their design. Many of his sensibilities are drawn from the world of the engineer and most of his buildings to date have been free-standing objects rather than part of an existing street or urban pattern. In this sense, the Sainsbury Centre or the Hong Kong Shanghai Bank are essays in the isolated object, in product design, in experimental engineering. They also happen to be distinguished architecture.

Foster is an intuitive architect: his considerable mental and physical energy goes directly into designing. 'I am more at home doing' he says, 'rather than talking about the subject of design. I resist the temptation to post-rationalise and I make an effort to communicate a reality which, for me, owes a great deal to pragmatism and intuition.'

Like an engineer Foster designs structures that explain themselves to the passerby. What separates him from the engineer, however, is his concern for the poetics of interior space. A romantic, he is still drawn to the architect heroes of his schooldays – Le Corbusier and Frank Lloyd Wright. He later added Alvar Aalto and Louis Kahn to the list. All four architects were masters of light and the handling of interior space. All four were masters of getting their own way and designing the buildings they really wanted their clients to have. Foster is now in the same fortunate position that although every building is in some ways an artistic compromise, he is very much in control.

His entry into architecture was unusual. He began work as an accounts clerk in Manchester Town Hall. The building enthralled him, the job did not. Two years national service as an electronics engineer in the Royal Air Force introduced him to aircraft and flying (he is a skilled aerobat and owner of several planes). After the RAF he studied architecture at Manchester University. This proved a congenial place for Foster's particular talent. The school placed a heavy and, even by then, old fashioned, emphasis on measured drawings. Where more modern schools discussed French philosophy, Foster drew precise prize winning drawings of windmills and barns. This accuracy of line has given his precisely and minutely detailed architecture many of its characteristics.

Foster went on to take a masters degree at Yale, where he met and teamed up with Richard Rogers. Although influenced by philosophical currents, the images of America that most impressed Foster were those that represented autonomy and liberation. He was interested in the notion of the autonomous dwelling as proselytised by his mentor Buckminster Fuller, by airstream caravans set shining in the Colorado wilderness, and by developments in aerospace. Years later many of these fascinations have led to elements found in particular buildings. The floors of the Hong Kong Shanghai Bank are based directly on aircraft construction. Foster is also experimenting with translucent materials developed from the NASA space programme which will allow him to create interiors in which light is delicately diffused, enabling space to be defined by means other than conventional walls or glass screens, something the Japanese have been creating for centuries. In recent years Foster has learnt from the Japanese experience, but wants to develop

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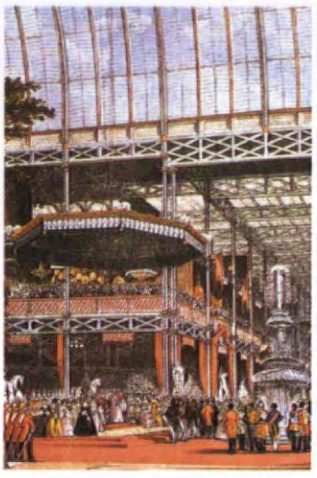
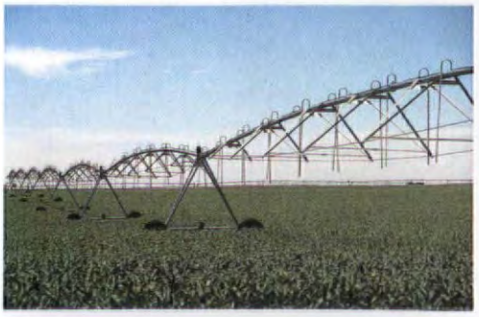
References and Projects:
(1) Eiffel Tower; (2) Crystal Palace; (3) Space Satellite; (4) Autonomous dwelling for Buckminster Fuller; (5) Urban Space, Siena; (6) Solar power station; (7) Aerospace museum; (8) Airstream caravan; (9) Willis Faber and Dumas, Ipswich; (10) Crop spraying gantry; (11) Sainsbury Centre for the Visual Arts, University of East Anglia; (12) Covered market; (13) Renault Centre, Swindon; (14) Japanese interior; (15) IBM Technical Park, Greenford.












time-honoured ideas in new materials.

In a purely twentieth century context, Foster could be called old fashioned in the sense of his being an unrepentant Modernist. Most of his buildings have been exquisite one-offs, well-machined objects that have little in common with their surroundings. The Sainsbury Centre at the University of East Anglia, in England, for example, sits, an isolated Modern temple on a pristine green lawn just outside London – as does the IBM Building at Greenford, and the Renault Distribution Centre at Swindon in the south west of England.

Foster has decorated drawings of these buildings with helicopters or else his pure white Caproni sailplane gliding overhead. These intrusions are significant. Most of Foster's best buildings are elegant machines, either complex in form like a helicopter (Renault Distribution Centre) or else simple smooth skinned structures like a glider (Sainsbury Centre). One of Foster's first architectural revelations was Le Corbusier who contrasted buildings with aeroplanes in *Vers une Architecture*. Independent, integral, self-sustaining, self-justifying and autonomous, Foster's buildings are essentially Modern.

Increasingly, Foster has been drawn into a concern for urbanism. This, however, is not new. From his student days Foster has never been without sketchbooks on trips and he still fills dozens of them with details or street scenes that catch his imagination. Nevertheless, few of Foster's buildings have needed to fit into a specific context. The Willis Faber building in Ipswich, perhaps the first to do so, was a truly urban building that not only recreated the contours of an old street pattern but extended the street inside and through the building itself. So the experience of movement through the building was like walking through covered streets. This broke down the conventional and formal nature of an office building and made Willis Faber an interesting experiment in office design. The passage, via escalators, passes right up through the building onto the turfed roof. The top of Willis Faber is free of the usual equipment that prevents the roofs on most offices from being used. The elevations, however, constructed from sheer glass panels were sleek but essentially non-committal. Abstract and fragmented views of Ipswich were simply reflected back in the glass.

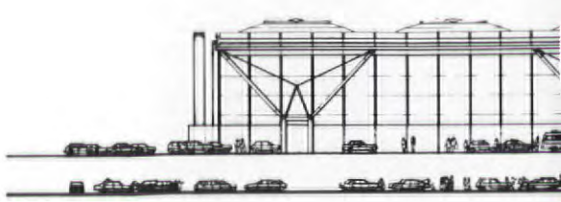
Foster's concern to create structurally logical buildings is matched by his concern to create buildings with a clear purpose. Stansted airport, currently under construction, is being designed so that no one will be in any doubt that this is an airport. In the post war era few airport buildings have been designed with the idea of flight as part of their structure or message. Foster is convinced that the public reacts more favourably to buildings of character. At Stansted the structure of the building takes its cue from the character of aeronautical design and walks through the building will offer clear views of the planes. It is an architectural celebration of flight.

The most effective Foster building of all is the Hong Kong Shanghai Bank. Not the largest or the tallest building on the Crown colony, the Bank is by far the most expensive – indeed at approximately nine hundred million pounds ($1,700,000) it is the most expensive building recorded in modern history – and one of the most beautifully built. There is scarcely a detail that has not been custom designed.

In this building Foster was able to develop his critique of the conventional office building already explored at Willis Faber. The experience of travelling up through the bank is a rich one. It is certainly a very long way from the conventional pattern of entering a small box-like lift and being hurtled upwards through identical intermediate lift lobbies and office floors. Foster's precedents for a more dynamic ride up through an office tower are revealing. He cites the Eiffel Tower as a 'dynamic exchange between the space contained by its structure and the vistas beyond'. Foster frequently cites British Victorian examples. His enduring love of high Victorian engineering does reflect in the detailing of his buildings. Several critics have stressed this seeming contradiction between his High Tech outlook, concern for new materials and so on and his love of looking back to his Victorian predecessors. However, as Foster is the first to admit, architecture, engineering and design do not exist in a temporal and spatial vacuum. Many Modern movement house designers were conscious of reinterpreting the Palladian villa. The sixteenth century Venetian architect was the twentieth century guide to many progressive architects. If Foster pays homage to Victorian engineers it is in a spirit of admiration rather than of emulation. His buildings are the richer for this fusion of heroic nineteenth century ideals, modern plans, materials and needs.

The Hong Kong Shanghai Bank is also witness to Foster's concern to bring daylight into large, deep plan buildings. In this building he has literally scooped sunlight into the building. Compared with a conventional deep plan, central core office building which typically relies on an expensive mass of artificial light, the experience of the Bank is more like a conservatory.

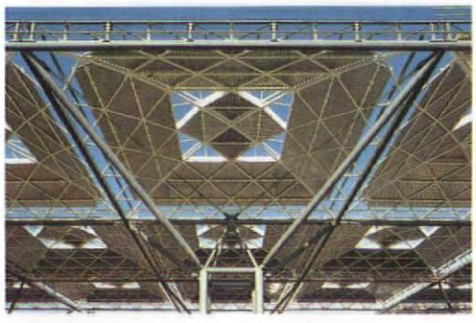
Most conversations with Norman Foster almost inevitably lead to a stream of ideas that relate to the visionary, yet practical solving of everyday problems. Foster likes to quote Robert Pirsig's *Zen and the art of motorcycle maintenance*. Like Pirsig, Foster's passion is with the process of doing and creating. If he was unable to build for any reason it would be very unlikely that Foster would retire to teach or write, He would be working on the design of a better glider, a better high speed sports car. Like the true Modernist that he is, Foster is profoundly optimistic about the possibilities of new technology and materials. As a realist he will always be working with them. □

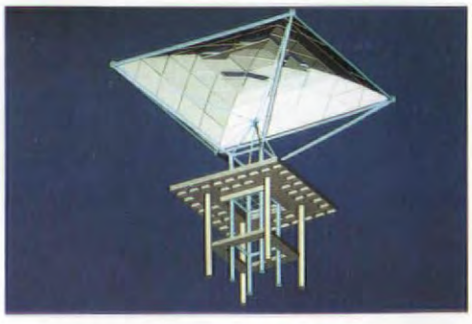


Model seen from landside.

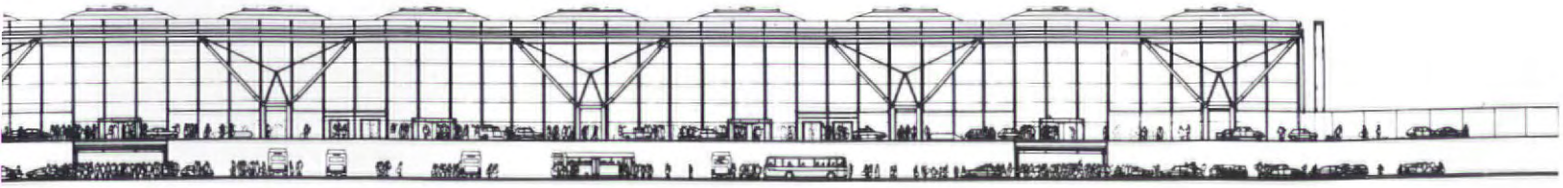
Foster's love of aircraft and flying has been appropriately harnessed to the design of Stanstead Airport on the Essex Coast. The new terminal building, now in an advanced stage of construction, is an attempt to capture some of the essence and romance of aircraft and flight. Most airline terminals are simply transit sheds that could be mistaken for factories or warehouses. Stanstead is quite clearly an airport.

Far left, model seen from airside; left, view of model showing interior of air terminal.



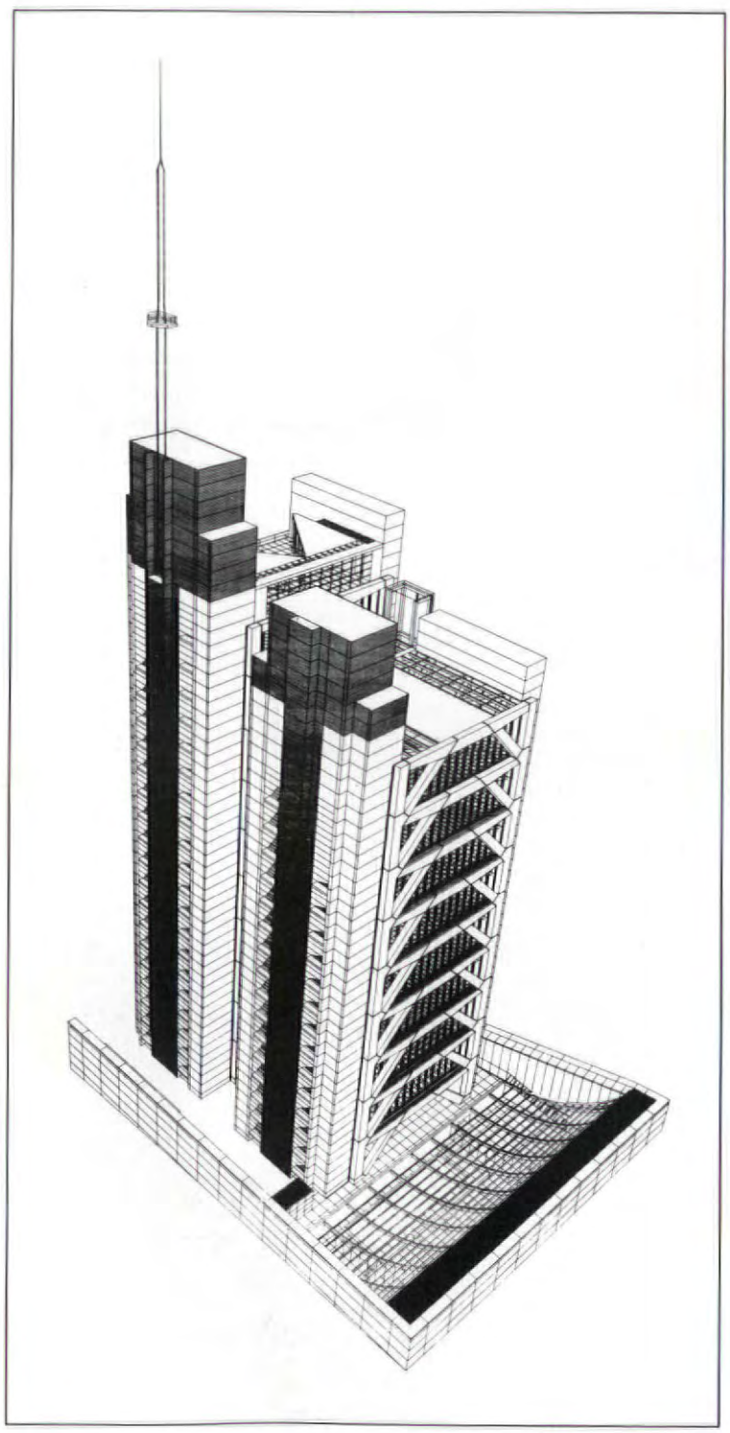


Far left, roof under construction: an expression of air technology; left, computer generated drawing of single roofing system module.



Century Tower, Tokyo.

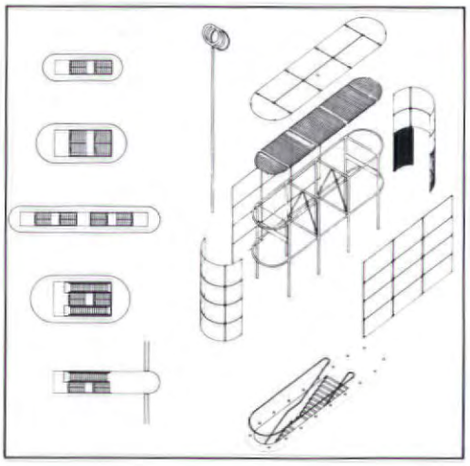
Century Tower is the first building Norman Foster has been commissioned to design in Japan. Although this office tower quite clearly owes its origins to the Hong Kong Shanghai Bank, Foster has adopted the bank's structural system to a Japanese vocabulary. This has been done in a very literal way with the main structure expressed on the outside of the building in the form of giant Japanese characters.



Bilbao Metro

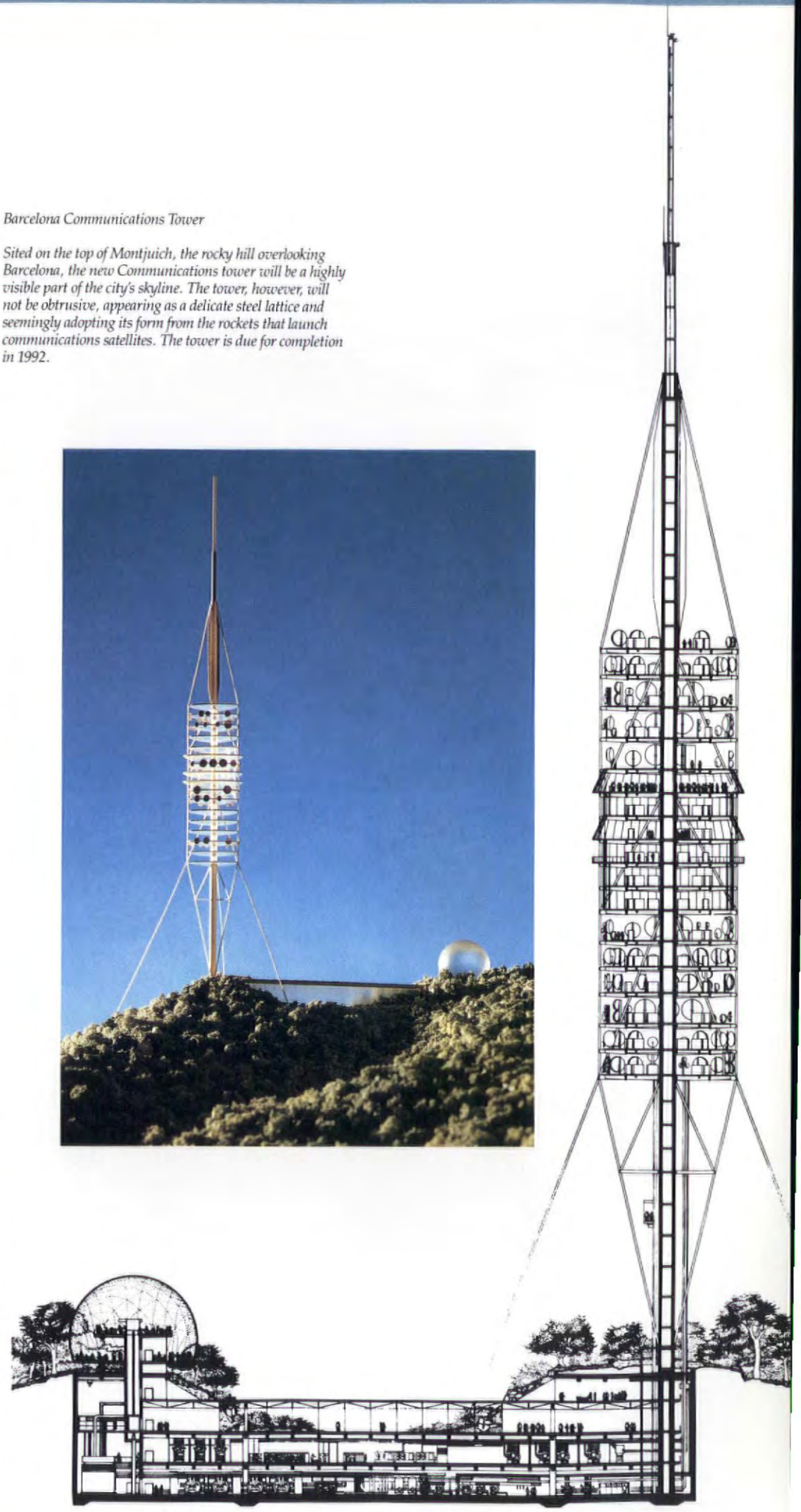
London's Underground network would quite clearly benefit from Foster's elegant and rational design solutions. However, his first foray into the design of Metro systems, which includes the corporate identity of the network, is in Bilbao. The hallmarks of the design are simplicity and translucency: everything is made clear to users, from street level to underground platforms.

Top. Photomontage of typical station entrance
Centre. Drawing of Station entrance elements.
Bottom. Cross section through platforms



Barcelona Communications Tower

Sited on the top of Montjuich, the rocky hill overlooking Barcelona, the new Communications tower will be a highly visible part of the city's skyline. The tower, however, will not be obtrusive, appearing as a delicate steel lattice and seemingly adopting its form from the rockets that launch communications satellites. The tower is due for completion in 1992.



Hong Kong and Shanghai Bank headquarters, Hong Kong.

PROCESS AND PRODUCTION

Martin Pawley examines the process by which Foster Associates operates as a bridge between the potential of new ideas and their practical realisation.

Foster Associates has never been dedicated to the business of inventing architectural imagery. As Norman Foster himself put it nearly 20 years ago: 'Clients tend to put problems to us in building terms, but, with analysis, the solutions to those problems often emerge as not architectural at all. In this sense we are a new kind of architectural office; a bridge between the potential of new ideas and their realisation in practical terms - each project with us is a kind of challenge to do more with less'.

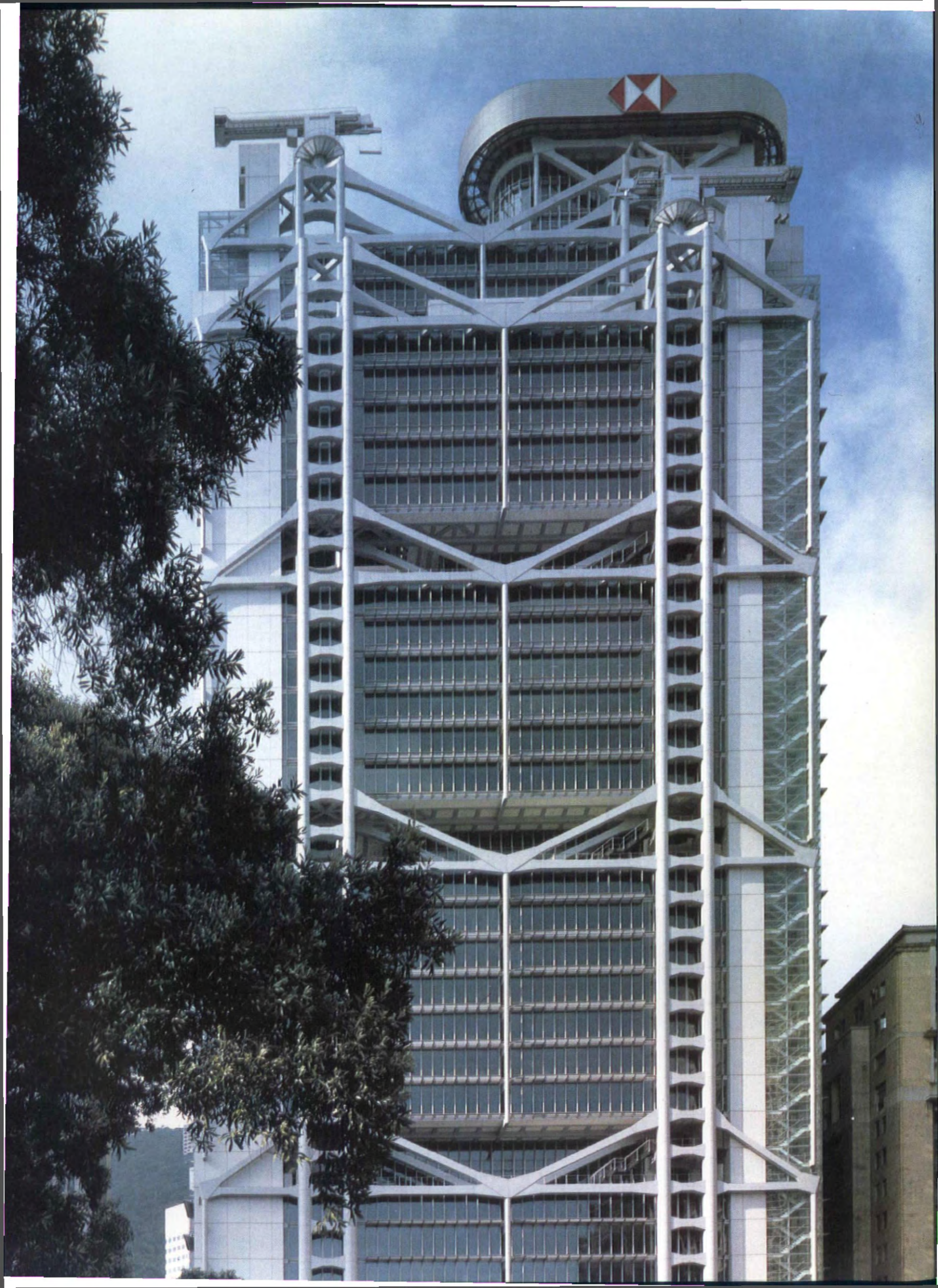
The 1986 exhibition held at the Royal Academy in London entitled 'New Architecture: Foster, Rogers, Stirling', marked the first occasion on which the British public could really appreciate what such a challenge could mean in real terms. At one level the exhibition showed a record number of visitors that, in the eyes of the outside world, their real champions might not only be the sports heroes they read so much about in their newspapers, but also a trio of middle-aged architects that most of them had never heard of. At another it gave them a first glimpse of the breathtaking results of the intensive development that had taken place in advanced technology architecture since the setbacks of the 1970s.

But timely as the exhibition was, it did not present an uncompromised picture of the shape of architecture in the Third Millenium. Concerned to make the most of its high budget and prestigious location, 'New Architecture' was devoted to the work of three architects with little real common ground beyond their celebrity status. Norman Foster, Richard Rogers and James Stirling all have established international reputations, and each holds the Gold Medal of the Royal Institute of British Architects. But while no critic should undersell their eminence - because no work by the preceding generation of English modern architects can match the magnificence of Norman Foster's HongKong and Shanghai Bank; the popular success of James Stirling's Staatsgalerie; or the *succes de scandale* of Richard Rogers' new Lloyd's building - it would be an error to believe that the future of architecture is destined to be divided equally between the tendencies that each represents. What the Royal Academy exhibition did not explain was that 'New Architecture' is everywhere under threat.

At the top of the list of external pressures that are applied to all the great architectural offices of the present must be the threat of absorption into the corporate identity of large multi-disciplinary organisations. Firms like Foster Associates operate in an environment where specialist manufacturers, technical consultants, large construction companies and project management specialists possess immense power. In Britain there is a convention that the architect is the leader of the building team, but it is a convention with only the prestige of the architect's name to give it substance. In the case of Richard Rogers' Lloyd's building, for example, the great insurance consortium chose its principal engineering consultants - Arups - before it chose its architect, and two of the three finalists in the closed competition were already linked with the same firm. It would take only a slight development of this tendency for major buildings to be billed as corporate achievements instead of individual designs.

Apart from absorption by corporate development interests, there are other threats to the successful high-tech practices of today. In 1985 Harry Mileaf of McGraw Hill Information Systems gave evidence before the Technology Assessment Board of the United States Congress predicting that the development of computer-aided design and draughting systems together with computer cost estimation and product specification would 'dislocate' the activities of 80 per cent of the 80,000 practising architects in the United States by the year 2000.

These then are the major evolutionary forces that will be brought to bear on the world of architecture over a short spread of time before the turn of the century. For a firm like Foster Associates - dedicated to operating as 'a bridge between the potential of new ideas and their realisation in practical terms' - to survive in such an environment of Darwinian savagery, not only must efficiency and performance be guaranteed, but a kind of organisational ascendancy must be achieved as well. The office must not only control its own computer aids to visualisation and productivity, but it must support key staff and sustain a network of formal and informal specialist consultants - and all the while retain a uniqueness and identity of approach in such a way as to buttress the mystique of architectural genius.



Of the three exhibitors at the Royal Academy, it can now be seen that, in this organisational sense, Foster Associates stands alone in its orientation towards the future. The office today still basks in the afterglow of the massive image cascade that engulfed architect and spectator in the triumph of the Hong-Kong and Shanghai bank. To date the bank is the most expensive building of modern times, weighing in at nine times the cost of Ioh Ming Pei's neighbouring Bank of China; four times the cost of Richard Rogers' Lloyd's building, and forty times the cost of James Stirling's Staatsgalerie. But it is not a building that tempts a critic either to ask where the money went, or to point derisively to its obvious destination. Norman Foster's achievement, in a logistical operation whose difficulties have been compared to those of the Falklands campaign, and over a gestation period no longer than that of a new airliner, was to deliver something beyond price: a magnificent and perfectly detailed example of advanced technology architecture that can be compared in precision and sophistication to the finest examples of automobile and aerospace design.

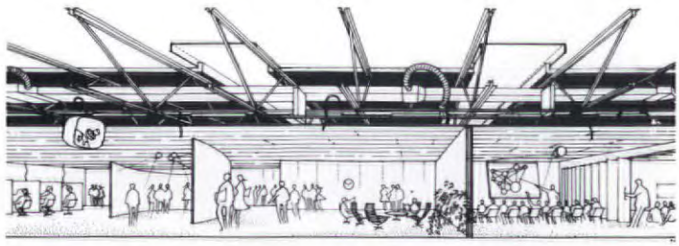
What part did the organisation and initial approach of Foster Associates play in bringing this about? Foster Associates is unique in its portfolio of built and unbuilt projects, each of which reveals a rare capacity for innovation coupled with an intuitive grasp of the need for a broad, comprehensible outline coupled with a rare intensity of detail. At a more fundamental but frequently overlooked level we can deduce that this capability only exists because the firm possesses an organisational and logistical capability that few other British architects have ever been called upon to deploy.

The unique powers of Foster Associates grew with the practice itself.

Chelsea Reach: Thameside development under construction incorporating Foster Associates' new studio.

From very humble beginnings Norman Foster will have moved his London office four times by the year 1990; from Covent Garden to Fitzroy Street; from Fitzroy Street to Great Portland Street, and from Great Portland Street to Chelsea Reach. While in comparison with the design leadership that was necessary to produce the suspended Pilkington 'Planar' glazing system at Willis Faber Dumas; the superplastic aluminium cladding at Sainsbury, or the vast undulating uPVC seamless welded roof at Renault, Norman Foster's capacity to master the simultaneous impact of major commissions, rapid growth, repeated office relocation and fluctuating workload should not be exaggerated. Such pressures are testing for any organisation, and the sustained design innovation that the firm has always been able to deploy is, in the end, a testimony to a management triumph over them.

It is a measure of Norman Foster's own diverse abilities that he can now, with a staff of more than 100, exploit the same architectural skills of clear thinking, programming and delegation as he did when his whole office fitted into two rooms. Such an achievement would have been impossible without an inborn ability to serendipitously attract and maintain the allegiance of a growing number of gifted staff, and neither lose his overall direction nor lose control of the fine-tuning of projects that are so complex and diverse that they would have driven lesser men into a hopeless morass of indecision and compromises. So universally accepted now is Norman Foster's reputation for combined attention to strategic thrust and crucial detail, that it is not widely appreciated that the skills that enabled him to gain it were self-taught, and learned in a remarkably short space of time. It is for instance a testimony to the rapidity of Norman Foster's own learning curve that most peo-



Each Foster project makes possible the next. The Newport Comprehensive School study of 1969 led to...

ple still do not know that, prior to the 50-storey Hongkong and Shanghai Bank, his office had never designed a building more than three storeys high.

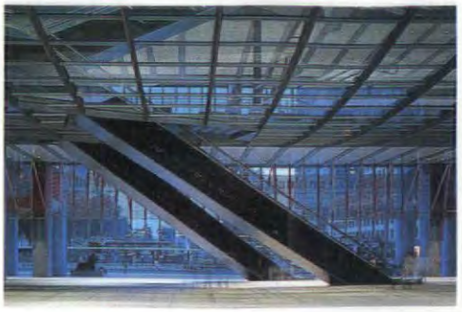
Norman Foster's characteristic initial approach to any architectural commission takes the form of an energetic research phase designed to enable him, if necessary, to seize the initiative from his client by challenging the precepts of the brief. By learning more about his client's needs than the client himself knows, Foster and his aides have frequently been able to 'move from a situation of inferiority to one of superiority' - and redraft the users definition of what he needs from his building accordingly. Perhaps the most dramatic instance of this process occurred at the competition stage of the commission for the Hongkong and Shanghai bank, which started out with two options already prepared by the client. It was only at the end of a research phase equalled by none of the other invited entrants that Foster Associates won the commission by proposing a third solution that transcended both original strategies. More recently, the London King's Cross redevelopment project - which began with Foster Associates being asked by a developer to contribute a single building to a master plan prepared by another firm of architects - quickly evolved into a commission to prepare an entire master plan. This master plan featured the creation of a large park and a complex transport interchange clear-spanned by an advanced technology envelope; neither of which had existed in the earlier version.

There is evidence of the remarkable success of this technique from Norman Foster's very earliest commissions to his most recent. In the early days varied industrial, commercial and planning projects for such clients as the Department of Education and Science, London Transport Executive, the Fred Olsen

the Fred Olsen Operations and Amenity centre in London's Docklands in 1970. This was the primer for...

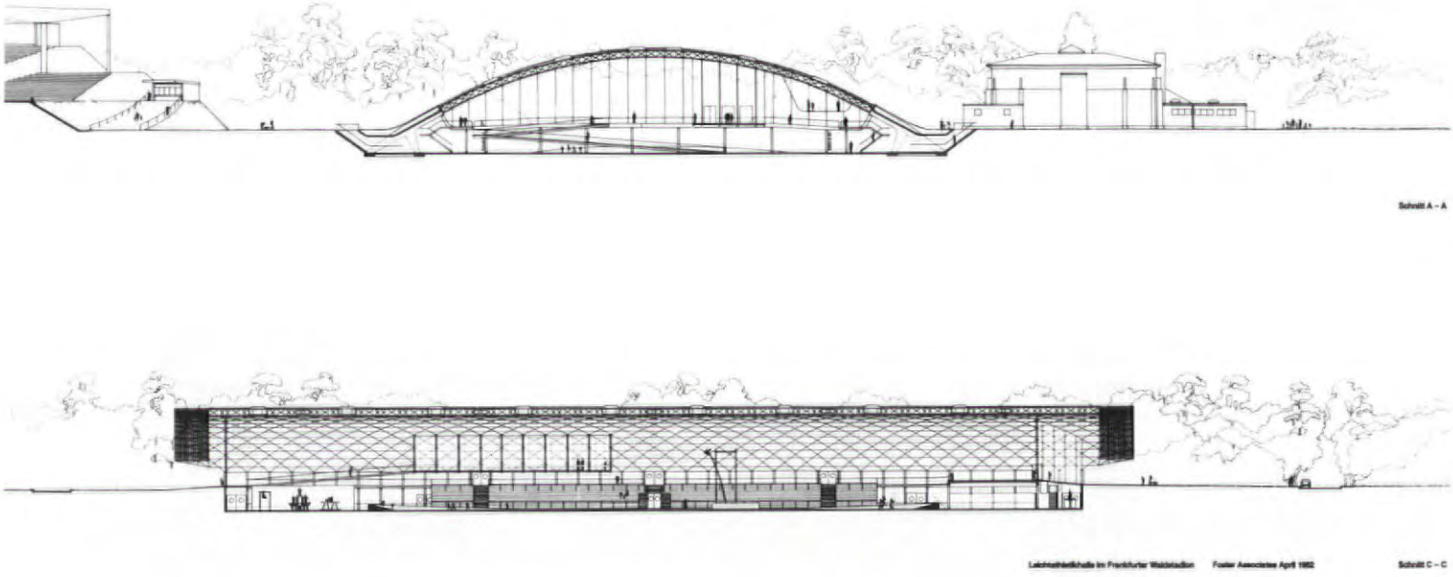
the space frame over a glass box construction of IBM Cosham, 1973, which led on to...

the suspended glass facade and escalator circulation of Willis Faber Dumas, Ipswich, in 1977 and on to...



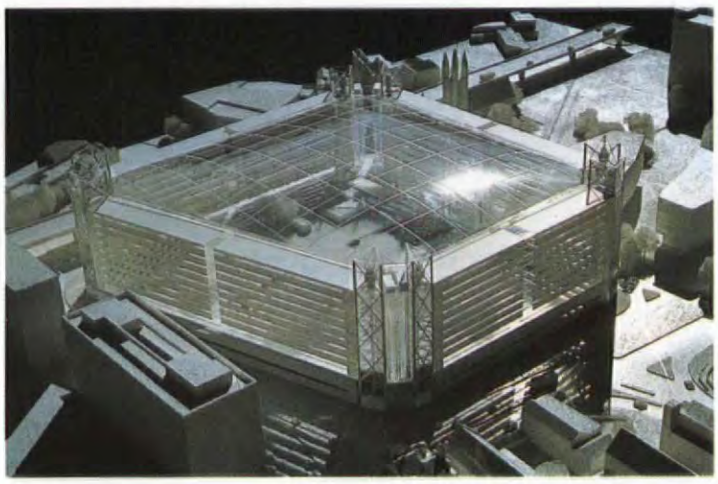
the escalators and vertical movement up and through the Hong Kong and Shanghai Bank headquarters, 1986.

The enveloping engineering based enclosure of Frankfurt Sports Stadium, 1984.

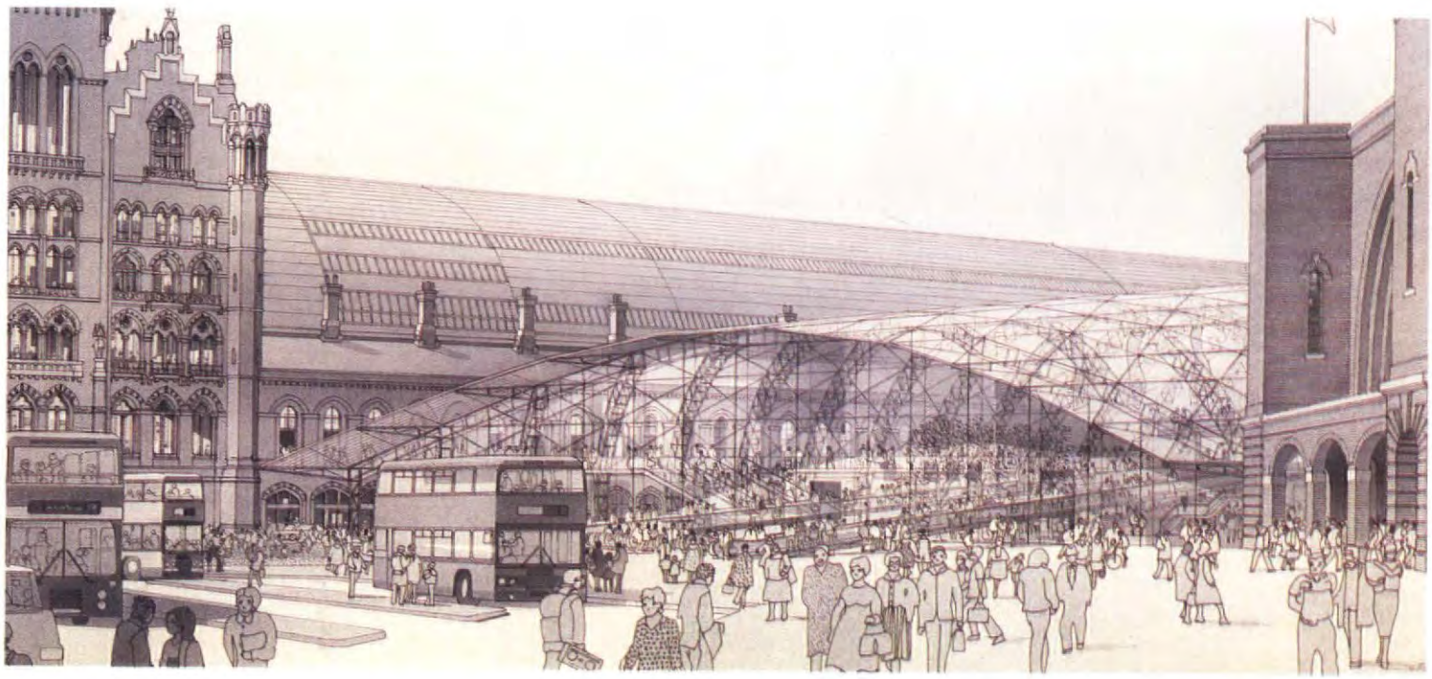


shipping line, IBM and Computer Technology tested his abilities and prepared the ground for buildings that were to follow. As he himself is the first to agree, each of these projects contributed to its successor in the most direct and fundamental way. Without the 1969 Newport Comprehensive School study, with its deep plan and steel lattice roof service distribution system, there would have been no 1970 Operations and Amenity Centre in London's Docklands for Fred Olsen - and in due course no headquarters for the London Docklands Development Corporation, the then-unborn organisation that was destined to take over the building in 1981. Without the neoprene and aluminium floor to ceiling glazing at Fred Olsen, there would have been no air-conditioned space frame over a glass box at IBM Cosham; without IBM Cosham, no suspended glass facade at Willis Faber Dumas; without the huge floor plates and escalator circulation of Willis Faber Dumas, no confident mastery of vertical movement within buildings and no Hongkong and Shanghai bank in its present form.

A similar progression can be shown to run from one of the alternative roof structures considered for Willis Faber Dumas; through the massive 1977



The unbuilt scheme for redeveloping Hammersmith Broadway, under a single glazed roof, 1982.



The great glazed vault of the proposed King's Cross Channel Tunnel rail link terminal.

Hammersmith redevelopment project for London Transport, to the 1981 Frankfurt Leichtathletikhalle - and eventually to the 1988 King's Cross transport interchange scheme. Yet another line can be shown to connect the structural concept of the 1975 Sainsbury Centre for the Visual Arts with the unbuilt 1978 project for the architect's own house. A fourth can be discerned in the progression from the 'umbrella' structural system of the 1983 Renault Parts Distribution Centre to the omni-directional space enclosing structure currently being built at Stansted Airport.

The mastery of external expertise is also an important factor. Though to a lesser extent than the global component sourcing brought to such a triumphant pitch of organisational perfection in the specification of the Hongkong and Shanghai bank, Willis Faber Dumas, Sainsbury and Renault were all buildings whose key architectural elements were developed with the indispensable aid of the research and development engineers of major international component manufacturers - and as such they had to be conceived and visualised in an entirely novel way. The structural and cladding elements that gave each of these buildings its unique identity were not taken from standard ranges or chosen from catalogues, but envisioned in the architect's office and developed by the manufacturer according to the architect's specification.

In psychological terms an important part of Norman Foster's astonishing success as an advanced technology architect in an era that professes to distrust advanced technology, is to be found in the obsessive acquisition of specialist knowledge. Of course this technique alone can never guarantee success, but it is cumulative in its effect, and a reputation for out-of-field expertise is a powerful tool. As a firm today Foster Associates deploys powerful design skills and more research and development expertise than ten conventional firms of architects, but its ultimate skill is its first line of attack - the senior architects at Foster Associates know how to seize the initiative by questioning, and rewrite the brief by analysis - and this is a skill that has grown from the very personality of Norman Foster himself. As an architect he has never hesitated to question any prospective client's conception of the kind of building, plan or organisation that he needs; even when such questioning might appear to endanger his own position at the very commencement of delicate negotiations. It is a bold course, and it is not always successful, but time after time it has laid the foundations of great architecture. □

FACING DOWN THE VICTORIAN CITY

World Architecture presents a visual synopsis of Foster's ideas for redeveloping King's Cross, a nineteenth century industrial landscape of historical, emotional and aesthetic importance.

Between the North London Railway viaduct and the two great mid-Victorian railway termini, St Pancras and King's Cross, lies a vast tract of mostly neglected industrial wasteland dominated by classically framed and decorated Regency gas holders. The Grand Union canal criss-crosses the site; historic early industrial warehouses, a small farm, gardens and allotments and small streets of handsome early Victorian houses still survive there.

But this remarkable view, perhaps unparalleled in the centre of any western European city, is about to change. Property developers have salivated over the King's Cross site for years, and now they have their chance.

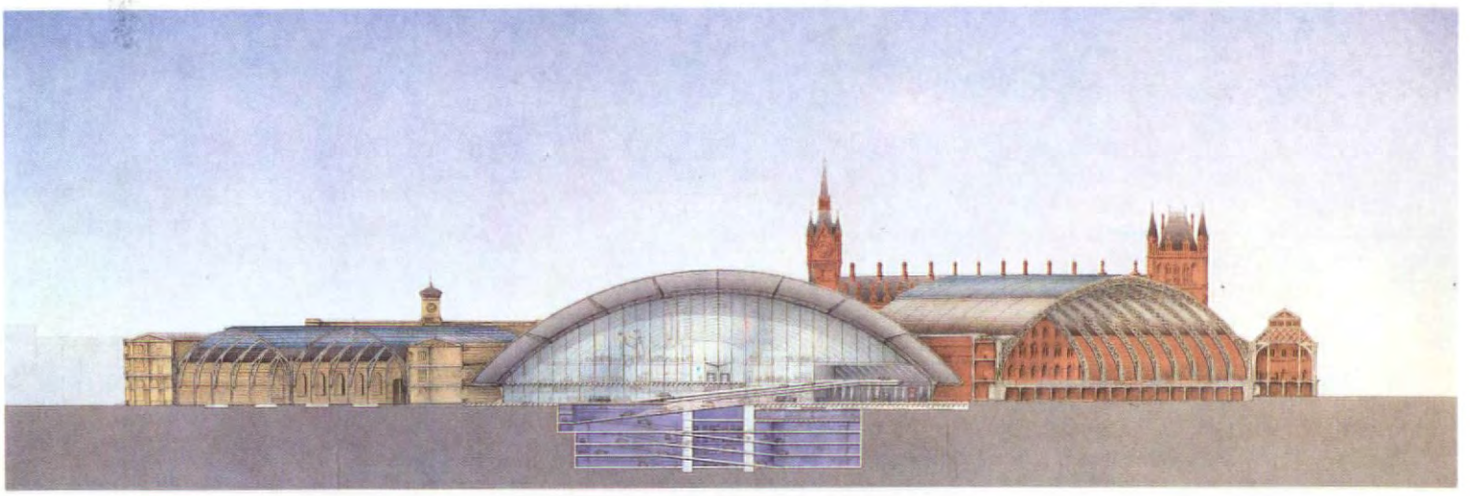
The site was leased, after a competition among the developers, by the London Regeneration Consortium, composed principally of Stanhope Securities, Rosehaugh Developments and the British Rail Property Board. The aim is to develop the site quickly, and in early 1988 Foster Associates were appointed Master Planners of the King's Cross redevelopment.

Asking Norman Foster to create the master plan heralding the complete redevelopment of one of the last surviving high Victorian sites in London is appropriate yet ironic for he himself has a great love of Victorian engineering. Whatever his ultimate solution – the architects' plan is undergoing constant revision – Foster is required to make swift, but fundamental and lasting changes to an area that should be developed more gently. Its saving grace is Foster's fascination with the area and its historical buildings.

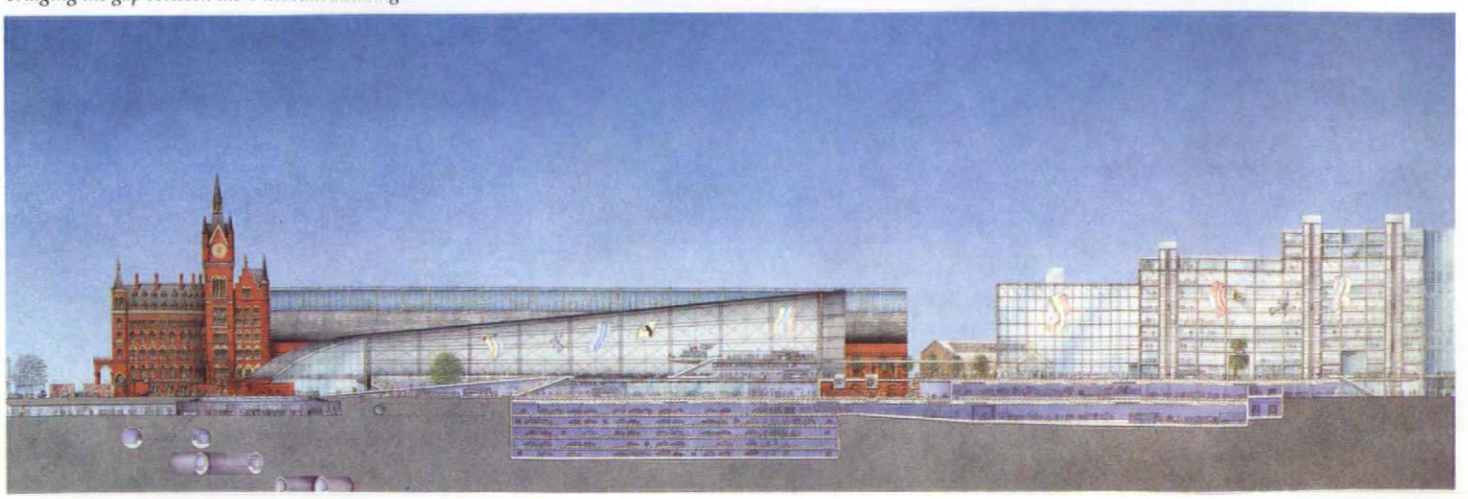
Foster's first plan, shown in May 1988, was conceptually a simple solution. The new high rise buildings, offering a mix of offices, shops, restaurants and housing are gathered around the top of an oval park through which the Grand Union Canal flows. Entrance to the park from the south is via a new road that passes underneath the new Channel Tunnel Rail terminal, a great glazed structure designed by Foster and somewhat based on the train shed vaults at Paddington and York stations. This links St Pancras and King's Cross

Euston Road elevation of first proposal for the Channel Tunnel terminus, King's Cross (1988).

Trackside elevation showing train sheds of King's Cross (left) and St Pancras (right) stations.



North-south section through Foster's terminal building bridging the gap between the Victorian buildings.



stations. The old gas holders are moved into a more central position together with some of the early industrial buildings to create a museum of the industrial revolution as it affected London.

This design is still the essence of Foster's revised plans. His model is Regents Park (1812-28), one of the finest examples of romantic urban planning designed by the architect, John Nash.

The design of the new buildings is still some way off. Foster envisages that these will be designed by a mix of architects from Europe and Japan. The buildings themselves will reflect major changes in urban design theory, without exclusive office or housing zones; the various functions will be interwoven, so that individual buildings will comprise flats as well as bars and offices. This is designed to prevent any one part of the new development from becoming a ghost town at night, a problem in many post war city developments. La Défense on the edge of the Paris city centre is a classic case. The City of London is also deserted at night and during weekends.

Critics have mostly been concerned with the sweeping nature of Foster's proposals and his handling of the historic buildings on the site. They are calling for genuine rather than ersatz experiences of the recent past. Certainly the old gas holders, dating back to 1824, should remain. They belong to the design of St Pancras station, providing a powerful counterpoint to Barlow and Ordish's magnificent train shed of 1866-68 and to Gilbert Scott's Gothic fantasy, the Midland Hotel (1868-76) which fronts the station.

But Foster Associates still have a little time to develop a scheme that meets with critical approval. Undoubtedly this is the most difficult task Foster has been faced with. Designing and building a magnificent, yet solitary, structure such as the Hong Kong & Shanghai Bank must seem easy when faced with the complex cross current of political, financial, conservation and critical thinking that pervades the King's Cross plan. Yet master plans of this scale are necessary and can work as John Nash proved in the early nineteenth century. □

The first model of Foster's King's Cross redevelopment was shown in May 1988. This has since been revised although the basic notion of new multi-use buildings gathered round a central park and lake is still the generator of the plan. Foster has based this quite consciously on the precedent set by John Nash's Regent's Park, sited about a mile west of King's Cross. The existing buildings in this early scheme were moved and clustered in a central location. A revised scheme was shown in October 1988 but this is still in the process of change.

The Mediathèque at Nîmes is classified by the French Ministry of Culture as a 'grand projet', which means that the new Foster building is being heavily funded by both national and local government. It also means that despite last October's devastating floods, the city of Nîmes will stick to its guns and see the building through. Naturally there was some doubt as to the survival of the project after the unexpected flood, but so determined is this southern French city to put itself firmly on the modern map, that the construction of the Mediathèque is still a matter of priority.
Work on the foundations had started shortly before the floodwaters broke through. A hole in the ground four storeys deep had been dug to accommodate the basement levels of the new building. This hole proved to be a good neighbour to the nearby ancient Roman Maison Carrée as flood waters poured into it, thus decreasing the height of water surrounding the still unspoilt Roman temple.

BEFORE AND AFTER THE FLOOD

Maison Carrée, the first century Roman temple facing Foster's new Mediathèque in the centre of Nimes.

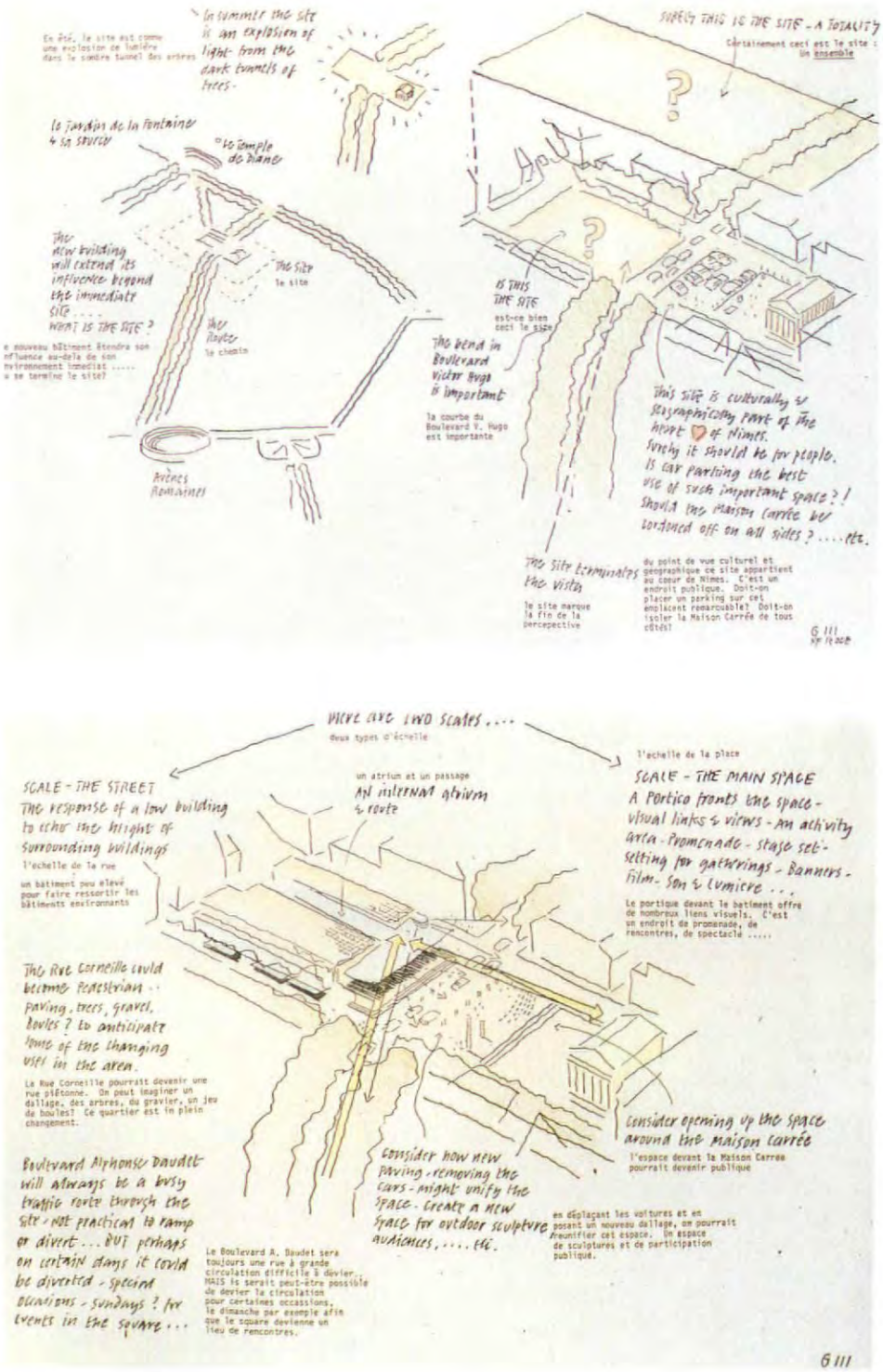
It seemed clear from the beginning of the project what Jean Bousquet, the energetic Mayor of Nîmes, wanted for the precious town centre site flanking the ancient Maison Carée. In Bousquet's eyes there were few architects who could realise this dream: one of the most sophisticated multi-media cultural centres in the world set on one of the most historic architectural sites in Europe. In the event Norman Foster was chosen to design the Nîmes Mediathèque but not before several of the world's best known museum architects had been put through their paces.

It must be said at the outset that Bousquet's vigorous search for an architect generated considerable controversy and some hostility, at least in the local press. Bousquet was happy to go on record saying that he didn't think any of the local practices were right for this highly prestigious project and that he was quite prepared to work with an outsider. Outsiders Richard Rogers and Renzo Piano had worked miracles seven years before with Beaubourg in Paris: perhaps some of the same magic would rub off in Nîmes.

Bousquet began his quest for that magic ingredient in the summer of 1984, touring major new museums worldwide. He then invited 12 architects - Christian de Portzamparc, Alvaro Siza, Richard Meier, Cesar Pelli, Arata Isozaki, Paul Andreu, Jean Nouvel, Aldo Rossi, Frank Gehry, Norman Foster, Hans Hollein and James Stirling - to submit their portfolios to him in Nîmes. Only Meier and Stirling - presumably too busy - failed to turn up. The 10 who came spent 24 hours in Nîmes exploring the site before discussing the project with Bousquet's panel of local judges, who drew up a short list of five architects. Isozaki declined to submit a design, leaving the running to Foster, Gehry, Nouvel and Pelli. With only one French architect selected, Bousquet soon felt chauvinist critics at his neck - 'Is this not some kind of implicit condemnation of French architecture?' they asked.

Foster's building, respecting the existing sightlines, is an attempt to stitch the fabric of the square back together as well as providing a building aimed to meet both specific and unknown future needs. The rival projects of Nouvel, Pelli and Gehry were perhaps all too extreme. Although there is a tendency in France to go for the extreme solution as in Beaubourg or La Défense in Paris among many other recent operatic architectural performances, perhaps the site next to the Maison Carée was just a little too sensitive.

Nouvel's scheme (placed second) was reticent in the grandest possible way. Excavating a long way down into the square, Nouvel planned the Media-



Foster's preliminary concept sketches for the new building. These are diagrammatic, but already the form of the building is taking shape.

thèque as an underground cultural centre, lit by a lake of glass set flush across the Place de la Comédie and by two deep chutes to light the lower levels. Although assuring the Maison Carée its pre-eminence, Nouvel's novel scheme would have been difficult and expensive to build; it would also have denied the integrity of the site.

Gehry opted for a ragged castle, a complex stack of roofs and balconies: like something out of a Californian hippy's D-I-Y manual, it was glorious entertainment but definitely not for Nîmes.

Pelli presented a dry curtain-walled culture palace facing the Roman temple, taking in as part of the 'internal decoration' the surviving Ionic colonnade of the Theatre. But Foster's project was, sure footedly, the one most enmeshed with the urban context, a real challenge for an architect who has built to date on greenfield sites. Perhaps it was this very respect for Nîmes that provoked some of the critics - why was Foster being so reticent? - The French critics had at least expected a real piece of high-tech drama like Sainsbury, Renault or Hong Kong. Instead they were offered a respectful, concrete-framed building clad in local stone.

But again Bousquet knew what he wanted and Foster sailed home. Although the selection procedure had been astonishingly brief, there were still several stages to go through and some fierce controversy before Foster's scheme was home and dry. 'Norman Foster', said the columnist in *Liberation* (16.11.84), 'the "sublime mechanic" from whom one expects so much, no doubt acting wisely, only offered a big "heap" ....', continuing, 'And on the facade; a great canopy, a glazed cantilever like the peak of a cap cocked at the ancient temple, and to enliven this a display of banners: no subtlety, except perhaps in the general layout'. Several critics felt outraged that a foreigner should win. More generally Foster was criticised for his surprisingly reticent design, 'a simulation', one critic thought; 'designed to seduce his critics and to be a guarantee of his abilities'. The same critic, among others, conceded that Foster was a great tactician, playing his cards close to his chest, working gradually towards a thorough solution for the delicate site once the cat was in the bag.

Why this approach should be sur-

Models showing early designs, one retaining the Neo-Classical colonnade and one opening up the front of the building in a butterfly plan.

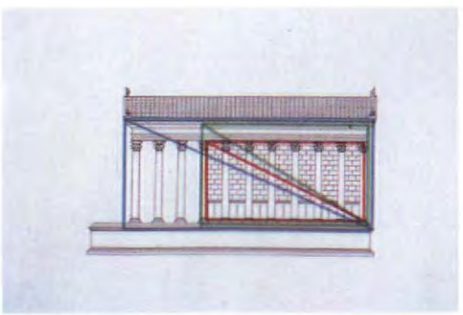
prising is more than a little odd. Faced with a sensitive town planning issue, an ancient site as well as a complex building programme, no sane architect rushes in with a ready made solution in a matter of weeks. In fact, for architectural as well as for political reasons, Foster has altered his design several times, although the basic idea has remained a constant.

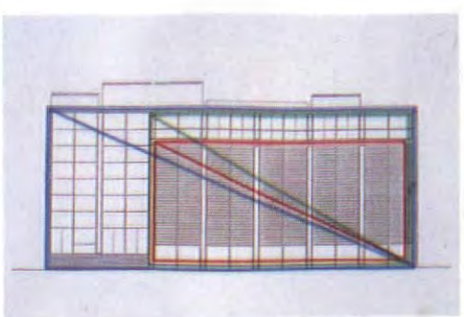
The site is sensitive. Currently the Place de la Comédie is a rather empty urban setting used mostly as a car park. Until recently it was flanked by an Ionic colonnade that once formed the facade of the old theatre (1803), destroyed by fire in 1952. Since the Foster project started, the colonnade has been demolished to give the architect free rein on the site. Facing opposite the site for the new Foster building is the almost miraculously preserved Temple of Caius and Lucius Caesar otherwise known as the Maison Carée and built in the reign of Augustus.

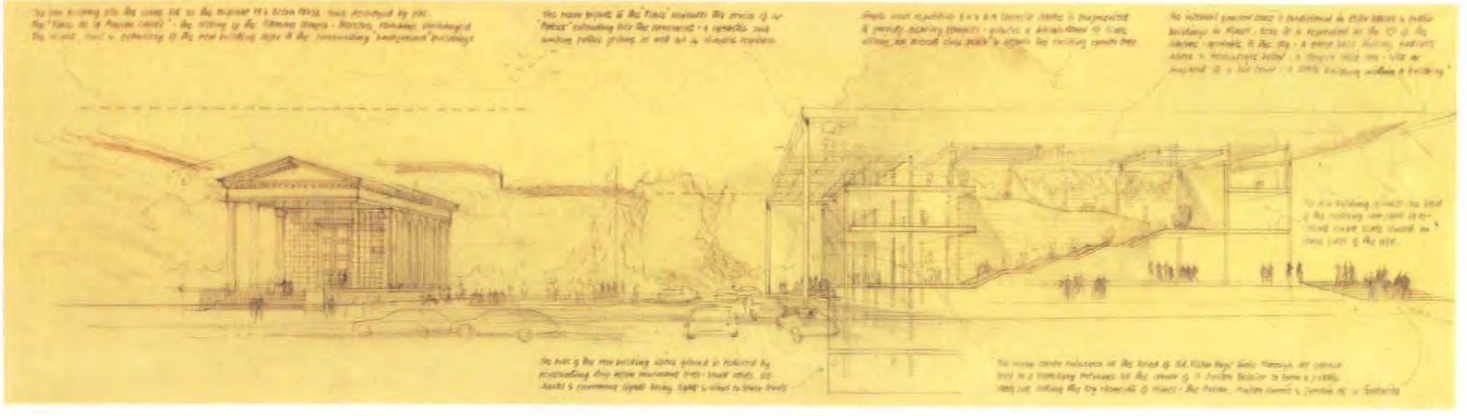
And then, even more surprising, Foster was suddenly forced - albeit temporarily as it turned out - to become a traditional Classicist, having to incorporate the facade of the burnt out theatre into his scheme. No doubt Bousquet's decision to remove the columns was a political one, but he was encouraged by his English architect who proved that, given the demands of the building and the need to maximise interior space, the retention of the colonnade would limit the freedom of the design, obstruct the new floor area in the basement and would be an expensive business. The colonnade had now been pulled down to be rebuilt on another site in Nîmes.

The design of the Mediathèque has gone through four major changes since being finalised. Most of the work which has gone through at this level has gone into the facades, particularly the entrance front which faces across to the Maison Carée. The plan of the building has remained more or less constant, the only major change being the placing and replacing of the atrium or galleria off centre (this provides a route through the building and the square itself). The main part of the building is on three levels. In the basement there are services, stores and parking. The Mediatheque itself is on the ground floor. It consists of a reference library, record library, lending library, film library, art library, bull fighting and theatre information and booking

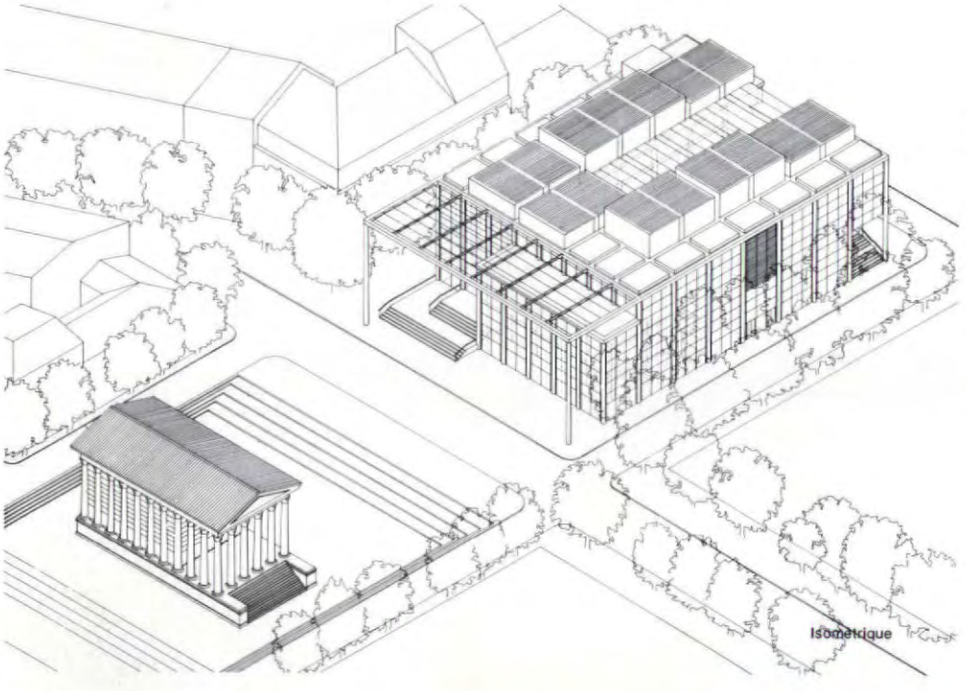
Drawings demonstrating the scale of the Mediathèque in relation to the Maison Carrée.



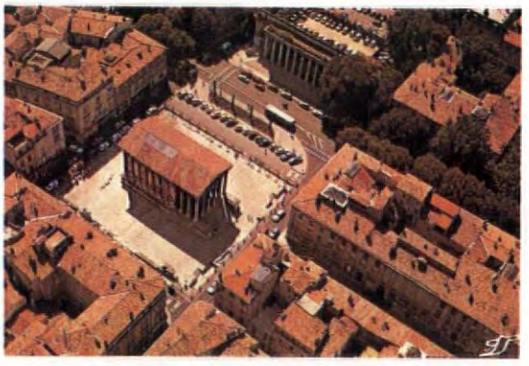




Sketch of Mediathèque scheme.



Isometric view of current version of the scheme (although there are many detail changes).



Aerial view of site in Nimes.

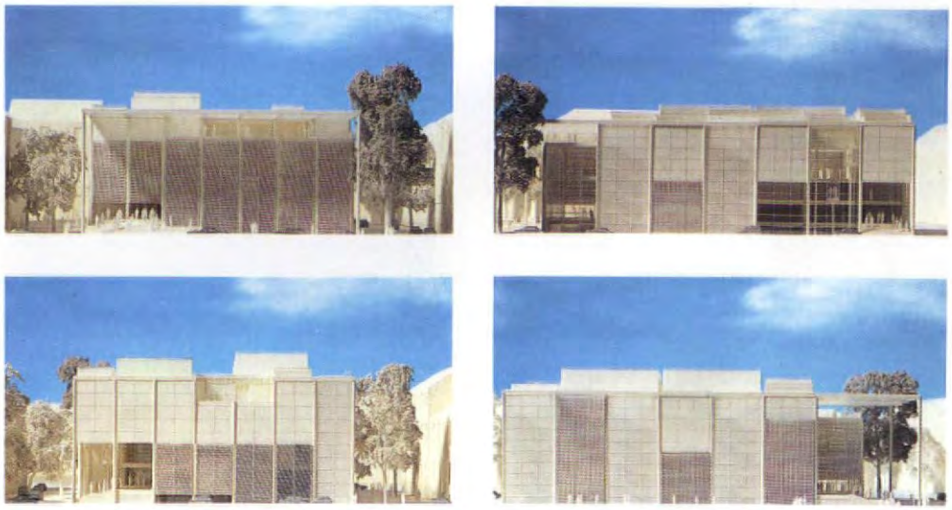
offices. On the upper floor there is the contemporary art centre featuring a permanent art collection, galleries for temporary exhibitions and space for ancillary activities. While the gallery spaces are well lit by the great glazed roofs (protected by light and heat sensitive louvres), the library floor borrows a technique from Louis Kahn with daylight brought down and diffused by giant funnels passing through the upper floor.

Visitors will be able to clamber over the building rather as they do at Beaubourg. The stairs and lifts punctuate the walls like buttresses, climb outside the building in glazed coverings and will offer fine views around the town. At the top of the building there will be planted roof terraces. Inside, vertical movement is via great suspended ramps climbing up through the off-set galleria. Most probably of concrete and aluminium, these will be suspended by light steel cables.

Extensively glazed - except where solar gain would be too great - the building is based on a 9m × 9m concrete grid structure. Floor slabs will be ribbed below to carry services including ventilation. Otherwise materials will be largely stainless steel, bronze and local stone.

Foster's original model showed a principally stone-clad facade; the entrance overhung with a cantilevered canopy spanning the breadth of the facade and addressing the square. The idea was that banners could be hung from

The four elevations of the proposed building. Note the extensive use of louvres.

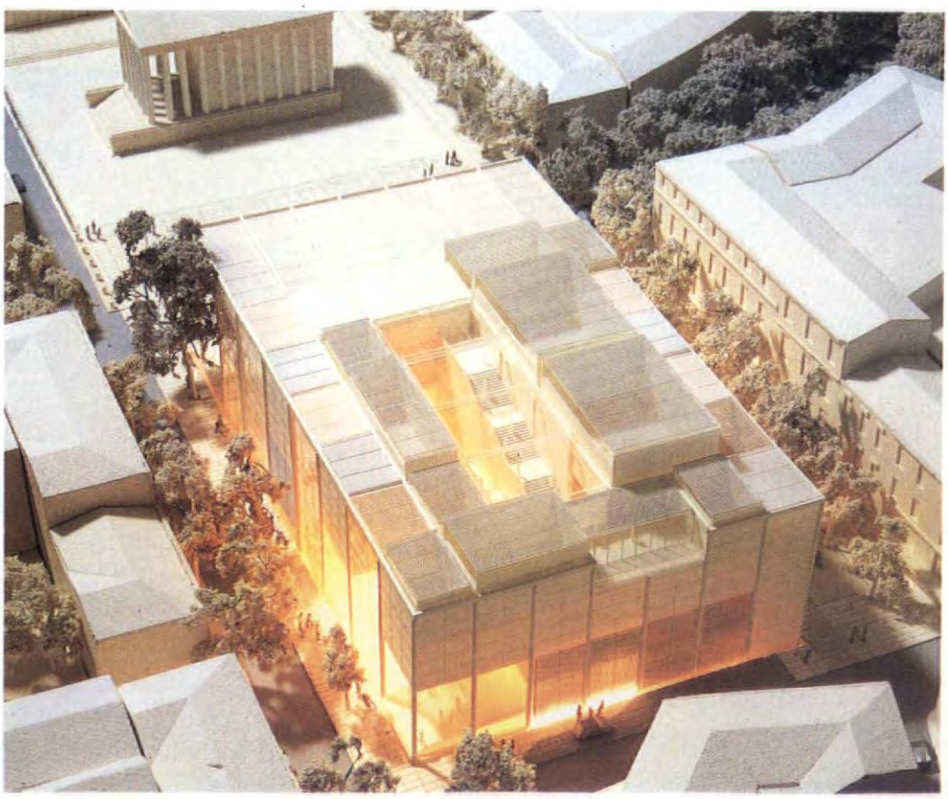


the canopy and that it would also act as proscenium for plays, films, video performances acted out on the steps and entrance of the Mediathèque or projected onto the stone facade.

The second model incorporated the controversial old theatre facade; a stylised reconstruction of the theatre front would have had to be built with the galleria placed centrally to make sense of a Classical entrance.

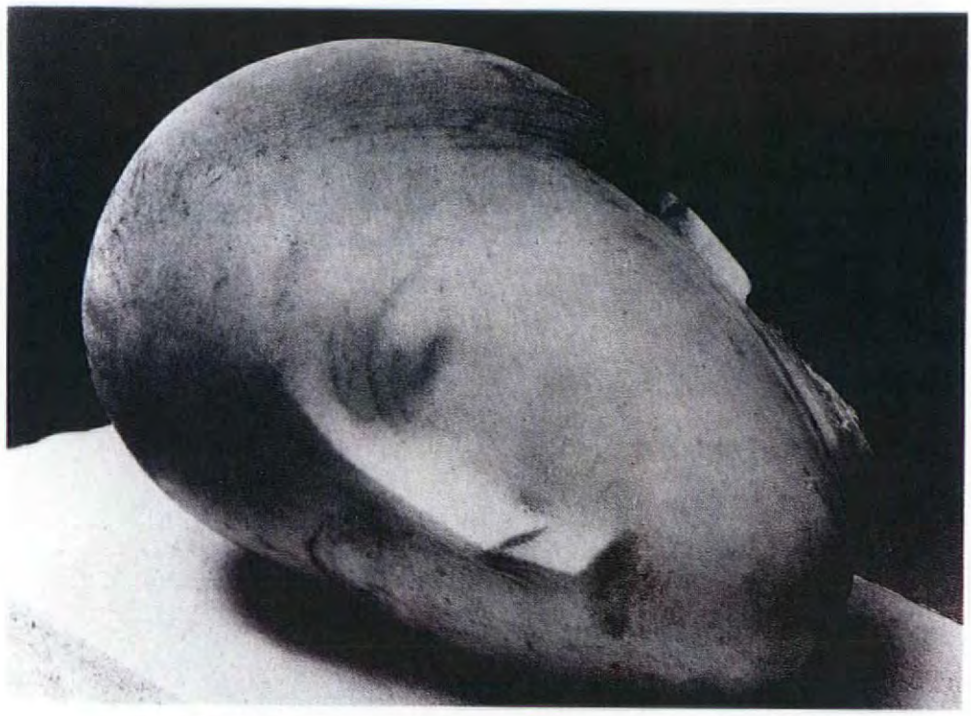
With the columns removed, Foster has gone through several further stages. First a model with a splayed, glazed butterfly front aimed at embracing the square. Next he shifted the galleria off-centre. In its final guise the building is both lighter, more sophisticated and more self-referential than the competition winning project and much more recognisably a Foster building rather than a conventional and overcautious piece or urban infill.

In some ways the French critics have been right - Foster is an excellent tactician. Having won the competition with his respect for the Nîmes townscape, he then bowed to local wishes by retaining the colonnade of the old theatre, and once this obstacle was safely out of the way, went on to generate more the kind of building the French critics were expecting. □



Model of proposed final scheme.

Brancusi, 'La Muse Endormie'.



THE OBJECT

The fashionable rubric that dictates to architects that they should always design to 'fit' in with that which already exists has produced a lot of bland, uninspired building in the 1980s.

'Contextualised' architecture has proven to be as banal as the debased 'International Style'. One of the strengths of Modernism lay in the responsibility it gave to the architect, the painter and the sculptor to produce a work that stood on its own, for its own sake and existed as its own justification. As William Tucker explains in this profound but neglected essay the word 'object' denotes all that is essential to the ideal of modernism – order, independence, integrity, and self-sustaining, self-justifying autonomy. Examples of such objects include Brancusi's* Sleeping Muse *and Tatlin's* Tower. *To which we might now add Norman Foster's* Hong Kong and Shanghai Bank. *Tucker's essay was written fifteen years ago, at the beginning of Modernism's exile. We think now is a good time to unearth it.*

**First published in Studio International in 1973*

If one word captures the aspirations of modernism from about 1870 until the Second World War, it is surely object. First in poetry and painting, then in sculpture, music and architecture, the word came to denote an ideal condition of self-contained, self-generating apartness for the work of art, with its own rules, its own order, its own materials, independent both of its maker, its audience and the world in general. It is essentially a classic and optimistic ideal, dependent on a strong belief in the power and centrality of art in human experience, and manifesting itself with the clarity and economy of scientific law or engineering structure. In the last few years, as we approach the high tide of the post-war reaction into romanticism and irrationality, the word 'object' has become a term of abuse among the avant-garde for whatever is considered passé in the plastic arts: those elements of the traditional vocabulary of sculpture and painting, their common fixity, boundedness and permanence, that are currently held superfluous or obstructive in the interest of finally breaking down the distinction between art and 'life'. The total merging of art and life is as impossible a proposition as their total separation but the range and density of effect created by that concept on the thinking of the most gifted and adventurous artists mustn't be underestimeted. From this view the ideal of the object was enormously fruitful in sculpture, and most notably in the period 1907 - 1915.

Subsequently the accessibility of the ideal in sculpture created particular problems which I intend to discuss. Sculpture by its nature is object, in the world, in a way in which painting, music and poetry are not: thus the ambition of the poem-object, the object-tableau, continued to be active over a far longer period because of the persistence of factors of meaning and representation in poetry and painting: in fact the object-status of the poem or painting tended to release and enlarge the evocations and associations in the component words or depicted subject, whereas the effect in sculpture was the reverse: as the sculpture-object approached the reality-object in form and intention, the gap between them seemed progressively to decelerate to the point to which all previous reasons for making 'sculpture' and indeed art in general seemed to disappear. This was the nature of the crisis that was experienced by advanced art in the 1920s, when most artists including those who had been chiefly responsible for achieving the success of 'the object' in sculpture and painting, Brancusi and Picasso, seemed to have felt an impulse to move backwards or forwards violently, as though the position gained was incapable of steady development, demanding either unconditional surrender of the conventions with which they had been warring (while depending on their existence) or counter-revolution.

It might be well to examine first the components of the drive towards the object, because these must now be seen to have been often in conflict. Out of, and in opposition to, the subjectivity of early nineteenth-century romanticism came the objectivity of naturalism - the affirmation of the objective world, and its precise and 'scientific' rendering. At its purest this tendency was represented by Impressionism, where landscape and light provided a neutral subject-matter: but in Flaubert, Baudelaire, Rodin, Rilke, exactness of rendering acted as the vehicle for the depiction of extreme states of feeling. Objectivity of perception allied to unusual bizarre or 'degrading' subject matter thus gave new life to romanticism. We have already discussed Rodin's objectivity of method, his workmanlike physical approach to his art, which he shared with Flaubert and the Impressionists. He himself could not achieve the indifferent, 'objective', approach to his subject that he recommended to Rilke.

Out of objective perception, objective method, objective 'subject-matter', developed the objective consideration of the work itself. Its demands issued from its own objective existence - the flatness, bounded rectangularity, colour and tactility of the painting, the appearance of the printed poem on the page, with the simultaneous objective consideration of the conventions needed to support the illusion of space and volume in painting and 'meaning' in poetry. Thus Cezanne and Mallarmé emerged during the two final decades of the nineteenth century as the leaders of the heroic struggle for the independence of painting and poetry as self-contained disciplines, which paradoxically involved the re-structuring of objectively verifiable conventions - for example of perspective and syntax - relative to our perception of the external world and verbal usage, in the conflicting interests of the painting or poem as being itself physically verifiable.

Sculpture had to wait for the emergence of Brancusi, for a talent and ambition ready for the task. It was not simply a question of appropriating objective tendencies in painting, as Degas and Rosso had done, and which shortly afterwards were to be exploited to such spectacular effect in Picasso's cubist constructions. What was required in addition to Rodin's objectivity of observation, was an objectivity of handling and of subject-matter, such as occurs only rarely in Rodin's oeuvre, for example in the studies for the *Burghers of Calais* and the *Balzac*. Brancusi's student sculpture and early work in Paris demonstrates at once a faithfulness to appearance and a firm, taut, sure and naturalistic rendering of flesh that is far from Rodinian. In addition, through choice or circumstance, or both, his favoured mode is the portrait bust. (In passing one notes one characteristic Brancusi and Rodin did share – the intrinsic *modesty* of their immature work, the containment of ambition until, with *The Age of Bronze* and *The Prayer*, respectively, the time came for a major statement: and one wonders how far circumstance – the expectation that each had of earning a living from their craft solely – had a hand in the formation of their separate ambitions.)

It is generally assumed that Rodin's main contribution to the emergence of 'the object' in sculpture lay in the fragmentation and truncation of the human body, and in exhibiting these intentionally dismembered figures and fragments as complete sculptures in themselves. There are several arguments that make me doubtful whether this is a wholly accurate proposition. In the first place, on Rodin's part, there is his own unsureness as to which of the vast accumulation of components stored in his studio were in themselves 'sculpture'. It is not that such of the fragments as have been cast and exhibited are not enormously impressive; rather that one is suspicious of an evidently wilful and random

Rodin's 'Great head of Iris'.

Brancusi's 'Le Supplice', a bronze from 1907.

mode of selection and presentation. Moreover the fragments, such as the justly celebrated *Iris* figures of 1890-1, still read as signs for figures – indeed the evident purpose of truncation, from the *Walking Man* on, was to increase figural expressiveness, to increase the empathy of the spectator with the figure by forcing him to 'read' with his own body the missing parts of the sculpture. Seen purely as an abstract shape, if it is possible to do so again after making the figure reading, such a fragment as the *Flying Figure* is a lump of no character, order, or formal interest whatever. That Rodin recognised, and put to use, this element of *recognition* as the sole factor in bringing order and expression out of sheer formlessness, is evidenced by the *Great Head of Iris*. However, here a new element of naturalism obtrudes itself – 'truth' to nature in representation is replaced by 'truth' to the material, *clay*, presented in its essence as sheer passive inert *lump*.

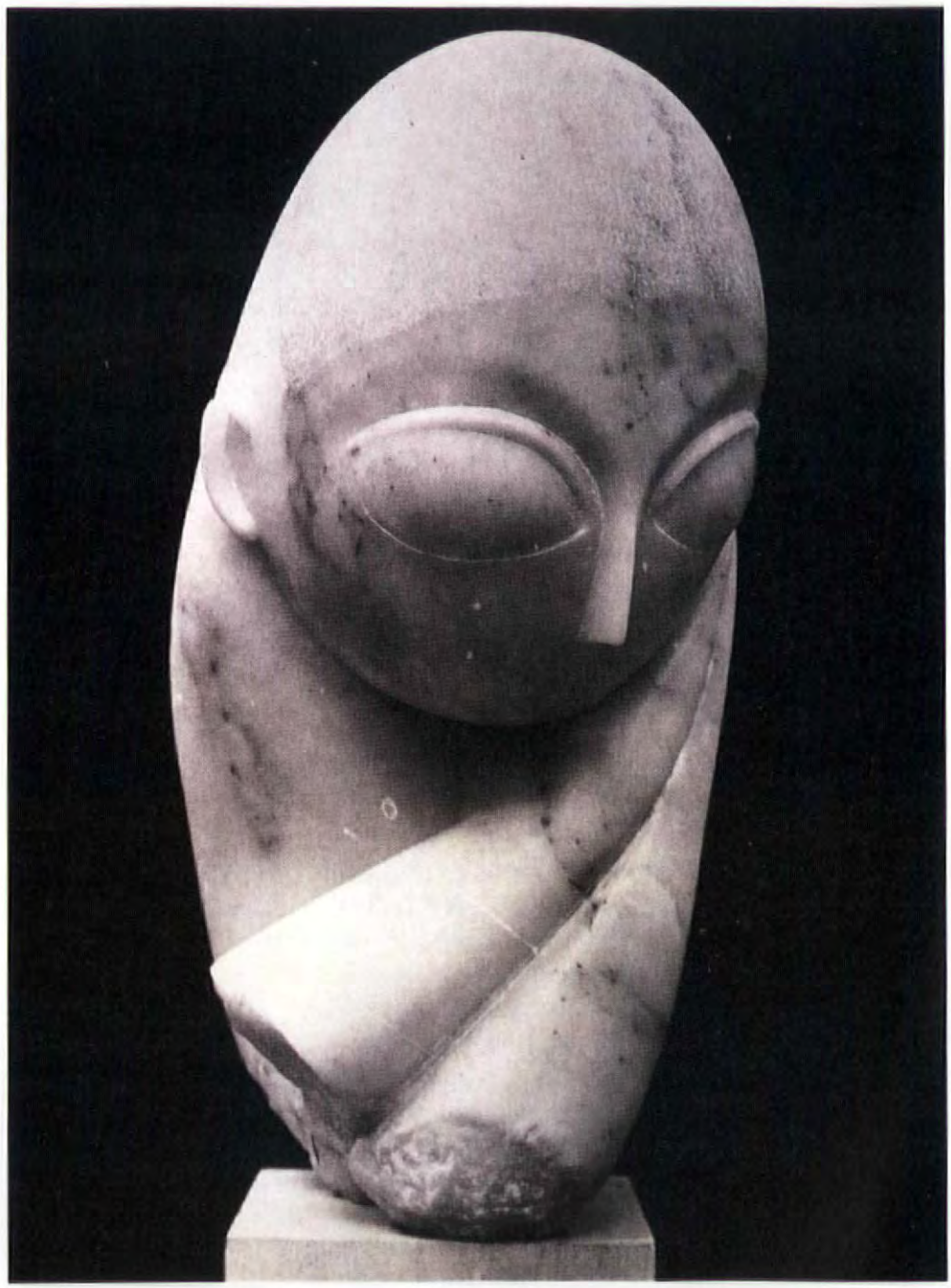
I have mentioned that Brancusi's earliest sculptures were largely portraits. We know that during his early years in Paris he continued to make life studies; so there are strong grounds for thinking that there were more than economic reasons for favouring the head as subject. What must have appealed to Brancusi was the conventional and symmetrical containment of the portrait bust: and it was on the basis of this conventional form that Rodin's example in fragmenting the figure was useful to him, for example in the *asymmetrical* reduction of the limits of the conventional form. Here Brancusi's purpose evidently is at odds with Rodin: where Rodin's intention in truncating the figure is to call attention to the missing part, Brancusi's is the opposite – to concentrate what is there, to use the section to articulate the central solid. In the two versions of *Torment* from 1907, for example, Brancusi can be seen progressively moving from an expressive to an objective mode. In the first, the evocation of pain is created by the inclination of the head against the right shoulder; the face itself is expressionless; one does not question the position of the right arm cut off at the shoulder: the shoulder, bunched up against the side of the jaw, is a sufficient expressive focus. But the lower part of the chest and the left forearm are indeterminately realized, blurring the transition between the sculpture and the point at which it meets the real world in a 'Rodinesque' fashion. In the second version Brancusi removes the artiness and indecisiveness of this lower section with a single clean cut, and the sculpture is instantly realized and transformed. There is no feeling that the body and left arm continue downwards, through the base – the effect that Brancusi was clearly guarding against in the first version. The upper part of the body now reads as a compact block, its mass horizontal against the diagonal axis of the neck and head. The proportions of each element, now clearly defined as shape, can be read against each other. The latent geometry of the conception is affirmed; and in the process, strangely, the communication of pathos is accentuated also. Nor does the preciseness of realization interfere with the emergent abstract structure of the piece: the axis through the protruding ears plays against the axis through the shoulders. The nice balance of naturalism and abstract structure was hard-won, and not again attempted by Brancusi.

The potential object-nature of Brancusi's early heads is evident not only through a backward reading of his later development, but through their small size, not apparent from reproduction; the detached heads of babies, for example, would rest easily in the hand,

and in fact seem to invite this sort of response.

The clean horizontal section through *Torment II* also has the effect of precisely indicating the inclination of the head from the vertical. The *Sleeping Child* (cast 1908, but probably modelled in 1906) is again convincingly complete in itself: the inclination of the head, finding a 'natural' base on the cheek, at once conveys the subject with marvellous economy, and makes any questioning of the existence either of the rest of the child's body or of a conventional bust-type presentation, superfluous if not unthinkable.

The handling of the surface of this piece recalls Rodin, as does the surrounding and undefined volume of rough marble surrounding *Sleep* of 1908. The device evidently derives from such pieces of Rodin as *Thought* and *L'Aurore*, in which an exactly defined head emerges from a great lump of uncut marble. Rodin himself in these sculptures was quoting from Michaelangelo's unfinished *'Slaves'* Brancusi's purpose in employing this device was as plastic as Rodin's was literary. The rough marble around the head, suspending gravity, at once 'explains' its horizontal axis, and referring back to Michelangelo, makes the head's presence in the stone reasonable, in that there is a fair chance of its escape: the whole might fairly be seen as a work in progress. Indeed it was an early statement of Brancusi's 'egg' theme, whose most beautiful realization is the bronze *'Sleeping Muse'* of 1910. 'The Beginning of the World' may be the most extreme, most celebrated, statement of this type of object. But although its proportions and highly polished surface are far from mechanical considered against the earlier statement, the achievement of objectness seems too easy, too complete. The 1910 *'Sleeping Muse'* is exactly poised between its condition as 'head' and its condition as 'object': in comparison of Rodin's *'Head of Iris'* which one has to identify as a head, one knows the *'Sleeping Muse'* is a head. So much is given, one does not question it. Thereafter one reads the features, the hair, the ears, their character and disposition in their graphic shape on the surface, and in their varied but shallow articulation of the surface, as affirming the echoing the total



Brancusi, 'Mlle Pogany'.

and detached horizontal ovoid, the abstract form. Moreover the modelling of the form, its delicate but perceptible asymmetry, derives neither from its original condition as 'head', nor from the ideal egg-form to which it tends, but from its actual conditions as 'object-head'; its horizontality being its prime character, affecting the gravitational distribution of mass within. The half-polished but still imperfect surface, the residual features and neck contribute to its utter naturalness, its poise both as object and as image; neither aspect dominates. One feels that in later versions of the type, as the state of objectness became more accessible, Brancusi sought to rarify the theme, to remove it from the everyday world of objects - to which of course the egg image familiarly belongs - by the immaculate surface and high reflective polish. 'The Beginning of the World' has a theatrical presence which cannot replace the tension between the real and the invented that gives the 'Sleeping Muse' its singular beauty.

The three Cups, which Brancusi made in the years 1917 - 20, are the only sculptures in his oeuvre which take an object rather than a human or animal as subject. They are thus quite distinct from the useful objects, vases, studio furniture, and so forth which were made by Brancusi with the same tools and the same vocabulary of form, but which were clearly not intended for the same apprehension and scrutiny as the sculpture. The Cup is carved in wood and is much larger that its model in reality; it is solid, no longer a container, and the handle also is filled in; its underside is now a complete hemisphere, so that the top surface is tipped from the horizontal and tends to read as the sculpture's 'face'. It is an appealing object, with strong and simple proportions. To replace the living model, which seems to have been a very necessary stimulus for Brancusi, the artist has had to animate the sculpture, to give it the presence of one of his family of animals and children: the translation of the cup from reality into sculpture has a kind of folklorish humour, a certain sentimentality. Brancusi's Cup series, his one conscious attempt to make an object as sculpture, must owe something to that general concern with the object which emerged

Bottle rack by Marcel Duchamp (59cm), first exhibited in Paris, 1914.

from cubist collage. Here again, in a far more public and dramatic form that in Brancusi's prolonged and isolated quest, the subject (still-life), the means of representation (elements of the real world) and the formal vehicle (the surface and boundary of the painting) were converging at such a rate that it seemed obvious to many of the followers, though not to the authors of Cubism, that if this pressure and this direction were to be sustained, both painting and representation were doomed, leaving the real world, or some aspect of it, as simultaneously subject and object for the artist. The period after the Russian Revolution and the ending of the World War was one of almost hysterical optimism for the avant-garde, as if the whole world had been presented to them for reconstruction on the principles of Cubism. A Utopian vision of reality in effect replaced the conventional subject-matter of previous art. And on the pretext of a reconstruction of reality, and the declared rejection of all the familiar elements of traditional painting and sculpture, the range and vocabulary of sculpture was enormously enriched: for the objects produced by Duchamp, Tatlin, Rietveld and others, whatever their own beliefs as to the significance of what they were doing, can now be seen to belong to modern sculpture, as they themselves were embedded in and formed by the tradition they variously repudiated. The process of reclaiming their work for sculpture has been protracted, and as the career or Giacometti shows, the premature exploitation of their discoveries resulted in an ingenious but essentially sterile academicism. It is only in the last few years, when the proscription of all materials except wood, stone and bronze has finally been relaxed and sculpture has recovered a natural scale relationship with the human figure, that the potential of Gestalt, scale, structure and material implicit in the work of these artists could be appreciated and used.

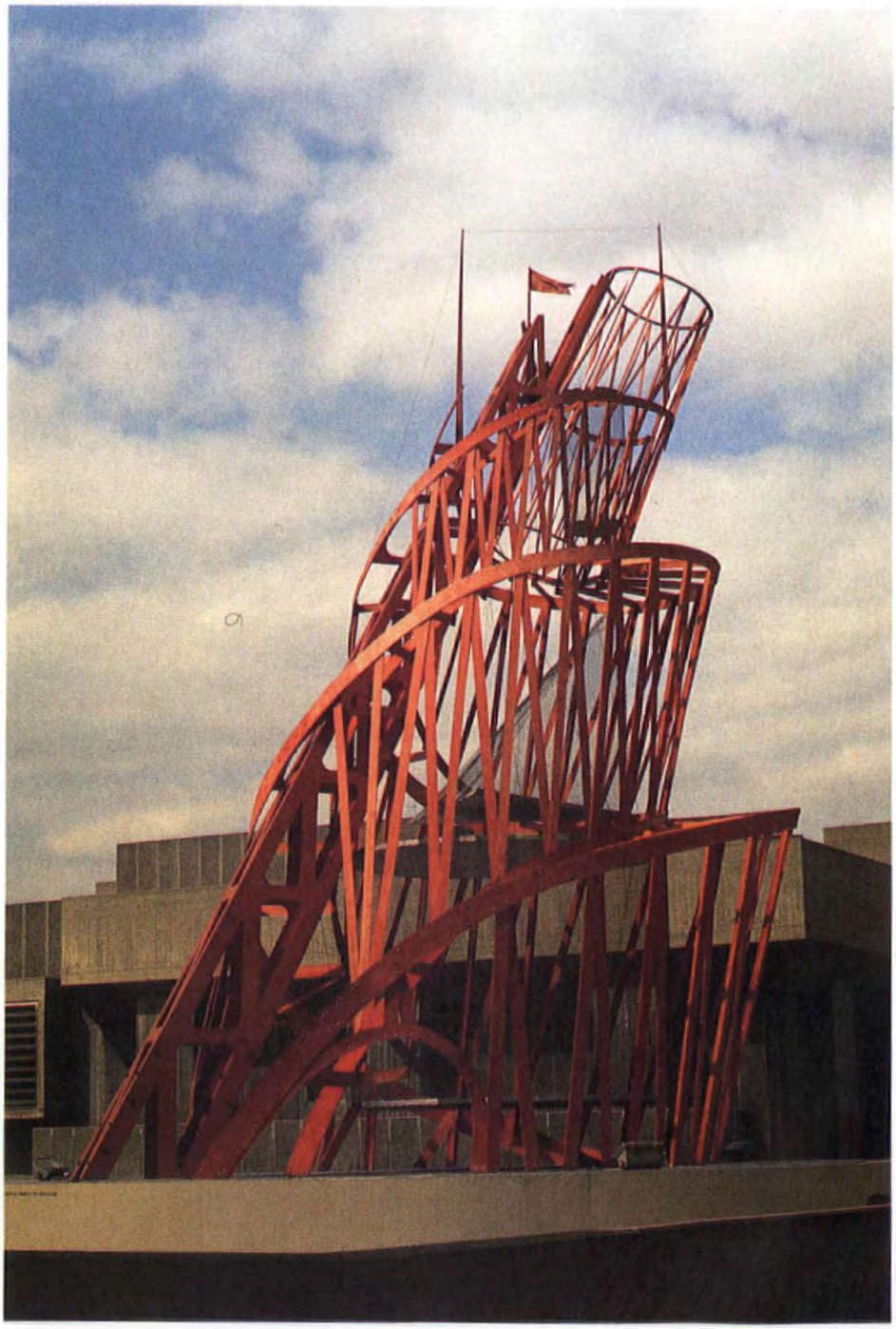
I have previously described Duchamp's ready-mades as elements of cubist still-life released from the medium of painting. There are inevitable difficulties with these pieces, such as the problem of being unable to see the ready-mades except in photographs or in the inferior multiple copies that Duchamp released at the end of his life. Certainly Duchamp's proclaimed attitude towards these works, at the time and in subsequent work, and the use to which the ready-mades have been put, justifying a flood of feeble imitations, must all add up to a pretty strong case against taking the originals seriously.

Yet I was enormously affected by the image of the Bottle Rack when I first saw it as sculpture, however it came into existence and whatever its history and exploitation, and I find that I still am. The same holds true for the Urinal, the Snow Shovel, the Hat Rack. The rest of Duchamp's work, before and after, seems contrived, over-elaborate, clever, whimsical, mechanical and boring. The Bottle Rack and the other pieces I mentioned are inspired: they do not work simply on their incongruity as useful objects, in an art context: in fact their detachment from the original context, except with the Snow Shovel makes them virtually unrecognisable except as sculpture, i.e. in terms of their abstract properties - image, proportion, structure and use of material - which is the inversion of Duchamp's professed intention: to make art unnecessary by substitution common, mass-produced objects for art objects. However the whole enterprise depended on the general cultural structure built around the making and appreciation of art, the needs it satisfies and the expectations it creates. Du-

champ could not escape being part of this structure and while in the short term his betrayal of his own talent may have diminished art, I am convinced that the effect of his best work will in the end be seen to have enlarged it. The ready-mades witness how Duchamp, his taste and sensibility sharpened by the competitiveness of cubist Paris (where he had arrived too late for his contribution to be anything but academic), found in his exile in New York mechanically fabricated objects whose completeness, simplicity and order must have seemed but a step from the stripped and dismembered bottles, glasses and guitars of Braque and Picasso's collages of 1912 - 15. The formal integrity which these objects possess is typical of a great number of useful objects in general circulation in the nineteenth century, when function, economy and efficiency had been the only determinants of design. It was Duchamp's achievement, in spite of himself, to bring this whole area of form and use of materials into sculpture, where subsequently it has remained untapped, except in the work of David Smith, who was the first to incorporate tools and machine parts into sculpture for their abstract rather than image quality. However the abstract formal power of the Bottle Rack as a total configuration has not yet been equalled in sculpture, in which even now total forms is still largely dependent on vestigial memories of the figure, or the extrapolation of the rectangle from painting.

Tatlin's career offers a strange parallel to Duchamp's, and as with Duchamp his most important work is not available except in photographs or reconstructions. As with Duchamp, this is largely due to the artist's desire to move the object beyond the context where it could be received and appreciated as art. In contrast to Duchamp, however, Tatlin always affirmed the primacy of aesthetic considerations in all his projects, even the glider. 'I have made it as an artist. Look at the bent wings. We believe them to be aesthetically perfect. Or don't you think Letatlin gives an impression of aesthetic perfection?'

Tatlin's aesthetic, his 'culture of materials' also derives from cubist collage, from the period of his stay with Picasso in Paris (1913). The straight



Reconstruction of Tatlin's tower, monument to the Third International.

and curved lines and planes representing the elements of cubist still-life are transformed in Tatlin's reliefs of 1914 - 17 into the 'functional' forms of real materials: steel and aluminium sheet, flat, rolled, or profile cut; sawn, planed, drilled sections of wood; wire bent in curves; cables under tension; with other materials, glass, string, and so on, tautly and dynamically organised in structures which appear to thrust into the spectator's own space. Until the Soviet authorities are prepared to release Tatlin's surviving work, one can only guess at the quality of these reliefs: but my guess is that they will prove to be very good indeed.

Tatlin's monument to the Third International was his first fully three-dimensional structure. In spite of its grandiose intention (the final version was to be 400 metres high) its form seems to have largely resulted from the materials - wood with steel brackets - from which he constructed the original model. Disregarding its total impracticability as engineering structure, and considering the model purely on aesthetic grounds, it is undoubtedly an impressive object, wild, generous, and energetic, with a surprising variety of views. But it has the faults of these virtues - there is much in it that seems redundant, capricious or merely confused. It is a flawed structure because Tatlin seems to have been unable to decide whether he was making a model or the real thing. Its character, like that of so much Russian constructivist work, is closer to stage design that to sculpture or architectural engineering.

During the 20s Tatlin moved from the design of prototype use objects - a chair, a stove, a suit of clothes, etc. - to the design of a glider, or air bicycle. What led him to this was, typically, an aesthetic motive - the desire to find an ordered and rational structure based entirely on curves. A flying machine would at once give form and purpose to his aesthetic beliefs, while realising the fantasies of dynamism and release from the earth merely symbolized in the Tower. The skeleton of the glider is indeed a beautiful structure, so far as one can gather from photographs. In contrast to the Tower, the materials for the glider were selected and worked with the greatest care and precision - steamed and bent wood - 'ash, linden, willow, cork, silk ropes, aluminium and even white-tanned leather ...' The aesthetics were perfect, but the dream of an air bicycle for the masses was unrealised. However the fruits of Tatlin's work especially in his investigation of the form-giving properties of materials not previously considered worthy of sculpture, remain available to us.

"The so-called Red-Blue Chair, the chair made of two boards and a number of laths, that chair was made to the end of showing that a thing of beauty, i.e. a spatial object, could be made of nothing but straight, machined materials. So I had the plank sawn into strips and laths; the centre part I sawed in two halves, so I had a seat and a back and then, with the laths of various lengths, I constructed the chair. When making that thing, it never occurred to me that it would prove to be all that meaningful for myself and possibly for others too ..." (Gerrit Rietveld, in a filmed interview.) Rietveld was brought up in his father's furniture workshop as a designer and maker of objects. As an architect and an early member of De Stijl, he was in a position to put into practice the dreams of remaking the world that animated the post-war avant-garde. His Schröder House in Utrecht (1924) is a key piece in the evolution of the modern movement in architecture, and the first building in which De Stijl's theory was realised, as the Red-Blue Chair (1918) had been the embodiment of De Stijl in three dimensions. However the chair exists in an earlier, unpainted version, in which its material and construction are more positively affirmed: and what binds Rietveld to Duchamp and Tatlin in the development of the object in this period is the great series of chairs he made largely during the 1920s which are virtually abstract structures articulating the simplest and most expressive ordering of materials within the general concept of 'chair'. They seem not intended primarily for use or for production; they exist as autonomous chair-objects, conceived and elaborated for their own sake. Wood in rectangular and round sections, bent and moulded plywood and fibreboard, steel tube, sheet aluminium and plastic are employed separately or in various combinations. There is no repetition. Each chair is a new adventure.

The sensitivity to the aesthetic properties of 'ordinary' materials, the invention in joining rigid materials and bending and forming flexible materials to give structural strength, the sense of detail and proportion, give these pieces a character and an authority which give them a place in the history of modern sculpture. Rietveld's own ingenuous description - 'a thing of beauty, i.e. a spatial object' - should along leave no doubt that here was an artist, rather than architect, designer or craftsman at work. Indeed it is evident from Rietveld's own evolution, and his increasing success as an architect, that as his distance from the work increases, when invention is no longer taking place in and with tools and materials, the product declines into an anonymous 'modernity'. Though he made other objects of extraordinary force and beauty - for example the celebrated sideboard (1919), and the suspended lamp of three opposed fluorescent tubes - the chair seems to have long been Rietveld's central preoccupation and certainly the area in which he achieved the most consistent success. Its size, its relation to the human form and to the ground, its necessary strength, its relation to gravity both in its own structure and its supportive role, its stressed horizontality and verticality, its separation of inside and outside, front and back - all these factors make the chair and analogy for the human figure as well as a useful objects. For Rietveld, the chair was evidently 'subject' rather than object, as the figure was 'subject' for Rodin.

Rietveld's chairs, together with Duchamp's ready-mades and Tatlin's useful objects and glider demonstrate how the object had itself become subject: that it was in the end the quality of the artist's eye, hand and mind, that would distinguish his object from other things and from reality in general. However because of the attitudes of these artists, the proclaimed anti-art stance of Duchamp and Tatlin, the self-effacement of Rietveld, and the conventions of appreciation of sculpture, most of the attention and credit for the realization of the object in sculpture has gone to Giacometti, who had less of a sense of sculpture than any of these three, but a far greater sense of the moment, of how much and what taste in

sculpture could take in the late 1920s and 1930s. Giacometti's sensibility was always, as his post-war figurative style demonstrated, that of a painter. Most of his pre-1930 sculptures are either frontal and planar, or laid out on the horizontal as a tableau. The object of which he made a slogan - 'objects without pedestals and without value, be thrown away' - became in his hands essentially an academic concept: the sculpture object of Brancusi, the objects of cubist still-life, the objects of Duchamp, re-incorporated into sculpture in traditional materials, plaster, bronze and wood. But the ingenuity of his borrowing another's juxtaposition, the clarity of presentation, cannot conceal the fundamental lack of feeling. It is more an indication of sculpture's poverty than of Giacometti's talent that his word has acquired such a reputation. Even now, when the post-war figures are coming to be recognised for what they are, the tiresome and inflated repetition of a single idea (the articulation of form by perception, which had already been used to far greater effect by Matisse), the early sculptures have acquired a niche in the history of modernism that has seemed impregnable. But the more one looks at these early pieces, the more suspect is their quality. Only one sculpture, the *Woman with her Throat Cut* communicates a real and authoritative coincidence of image, formal invention, and handling of material. Elsewhere the object world is exploited for its contained Gestalts, simple and symmetrical structure and mechanical forms: but the deadness of the handling, the slackness of the proportions, only serve to emphasize the dependence of the sculptures on imported figurative and intellectual referents. □

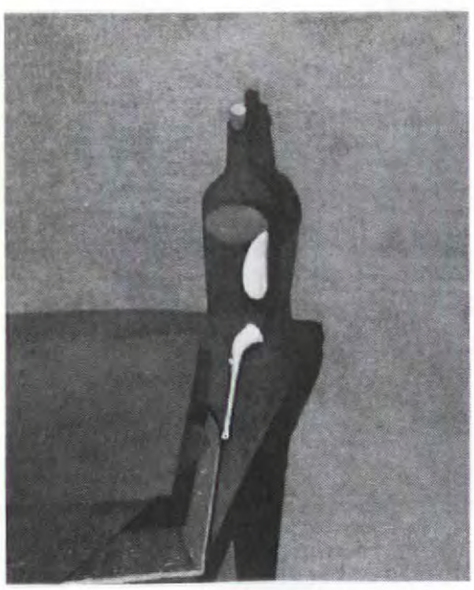
Iconic modern object: 'Red Blue' chair by Gerritt Rietveld.

HEIRS TO MODERNISM

Is late Modernism as witnessed in the work of High-Tech architects too obsessed with technology? Does Post Modernism wilfully avoid the technological challenges of our age? James Dunnett searches for the heirs to the mantle of Le Corbusier.

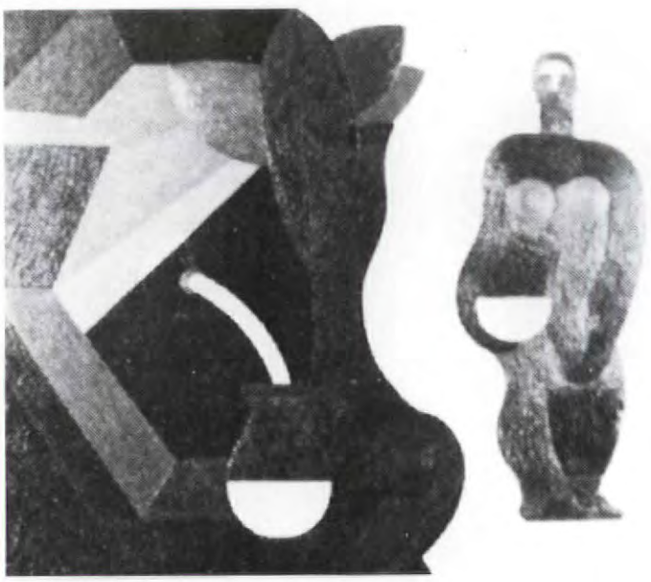
Has the Modern Movement any heirs? Specifically, can the "Hi-Tech" architecture epitomised by that of Richard Rogers and Norman Foster be seen as its continuation? In the aftermath of the Modern Movement architectural thought has polarised around the question of technology – between those who think Modernism too technological in orientation (Classicists and Post-Modernists) and those who think it not technological enough (the Hi-Tech school). The Post-Modernists, notably James Stirling and Michael Graves, owe much to the imagery of Le Corbusier, as is particularly evident in their graphics, but abandonment of the search for a sound functional or structural rationale has deprived their work of the force of conviction. The Hi-Tech architects have tended to discount the social and planning issues which were fundamental to the thinking of the earlier Modern Movement. The debate has arguably been impoverished by this narrowing of focus. The failure of an acknowledged masterpiece "in the grand manner" to appear since the death of Louis Kahn can perhaps be attributed to the lack of balance that has resulted. A new synthesis is required. The advances of the Hi-Tech school must be allied with a developed sense of human values. The stimulus provided by new technology and the desire to exploit and express it was certainly an important part of the Modern Movement, but it was integrally related to other questions. The nineteenth century had been preoccupied by the unfavourable social and cultural consequences of mechanisation and industrialisation; the Modern Movement believed that if the machine was mastered, if it was used to do work for which it was suited rather than to abuse pre-machine concepts, it could work to real human benefit. A study of the *consequences* of modern technology – social, planning, architectural – was thus fundamental to Modernism. Of the thirteen chapters of Le Corbusier's *Towards a New Architecture*, for example, eight are concerned primarily with matters of architectural form, which is treated almost as though independent of technology ("There is no such thing as primitive man; there are primitive resources. The idea is constant, in full sway from the beginning"); much of the remainder (e.g. the chapter "Architecture or Revolution") deals with social and town-planning objectives. Only the text of the chapter "Mass Production Houses" (considerably shortened in Etchells' standard English translation) has an overtly 'hi-tech' theme.

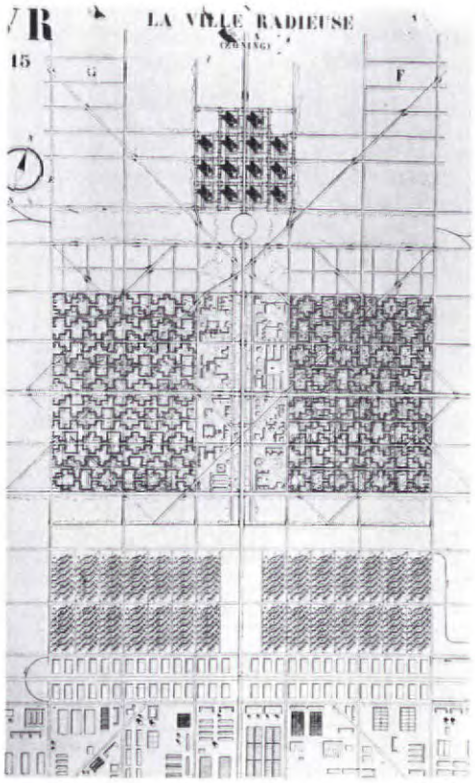
The objective was to create a humane setting for man within the context of an industrialised society. The problems of the industrial age were concentrated in the city, as was also its potential, and so reform of the city became the prime concern. Le Corbusier's very definition of architecture – "The masterly, correct and magnificent play of masses brought



Left.
Amédée Ozenfant, 'Bouteilles, pipe et livres', 1918.

Right.
Amédée Ozenfant, 'The Source', 1927.





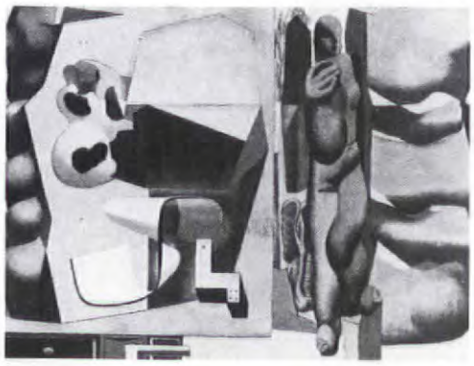
The Radiant City.
Far left. Plan 1930-33
Left. Old and new urban texture compared 1930-33.

together in light" – implied a new form for the city: the typical building in a city street, presenting a single façade to public view, does not allow for the perception of mass. The objects held up for admiration in *Towards a New Architecture* are almost invariably free-standing: grain silos, liners, the Parthenon. Le Corbusier specifically counsels against the excessive articulation of surface – previously the essence of city façade architecture – for fear of obscuring the mass.

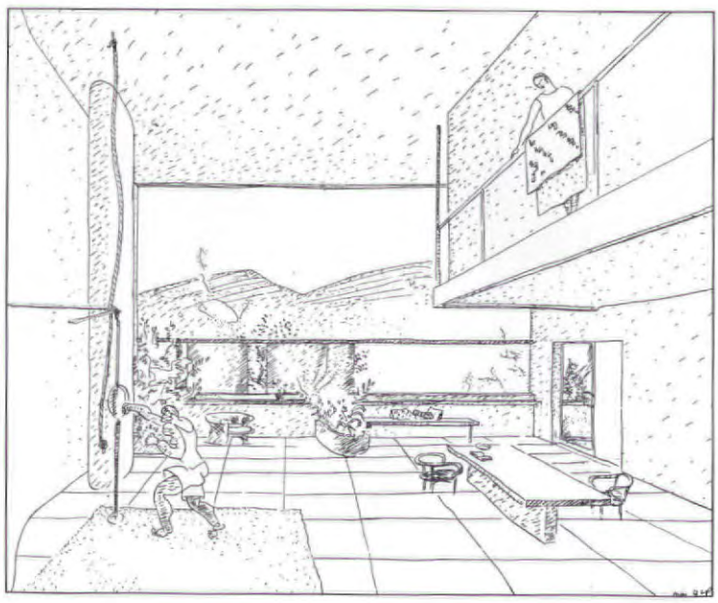
But the transformation of the city into a collection of more or less free-standing masses was an integral part of a solution to social and technical objectives. The new openness would allow the home to be provided with adequate light, sun and air, with a view out over greenery and space for physical recreation. It would allow adequate limited-access, grade-separated roads to be built, away from the buildings, so that the new technology of transport – the motor car – could be fully exploited; and to achieve this, it made use of the new structural and mechanical technology of taller buildings.

Le Corbusier's ideal of the city was fundamentally influenced by contemporary developments in the visual arts, with which in Paris he was in immediate contact; and it is notable that it was a painter, Amédée Ozenfant, who seems to have clarified in his mind the possibility of an architecture of pure forms and unmodulated surfaces: the aesthetic of Purism. The whole conception of Le Corbusier's Radiant City can be seen as the setting for an ideal of intellectual life, for "meditation" – the creation of the Cubist or Purist work of art*. The influence of his own work as an artist permeates his architecture, and can be seen for example even in the human figures in his perspectives: they often have intense plasticity – sketches for sculpture he had no time to carry out.

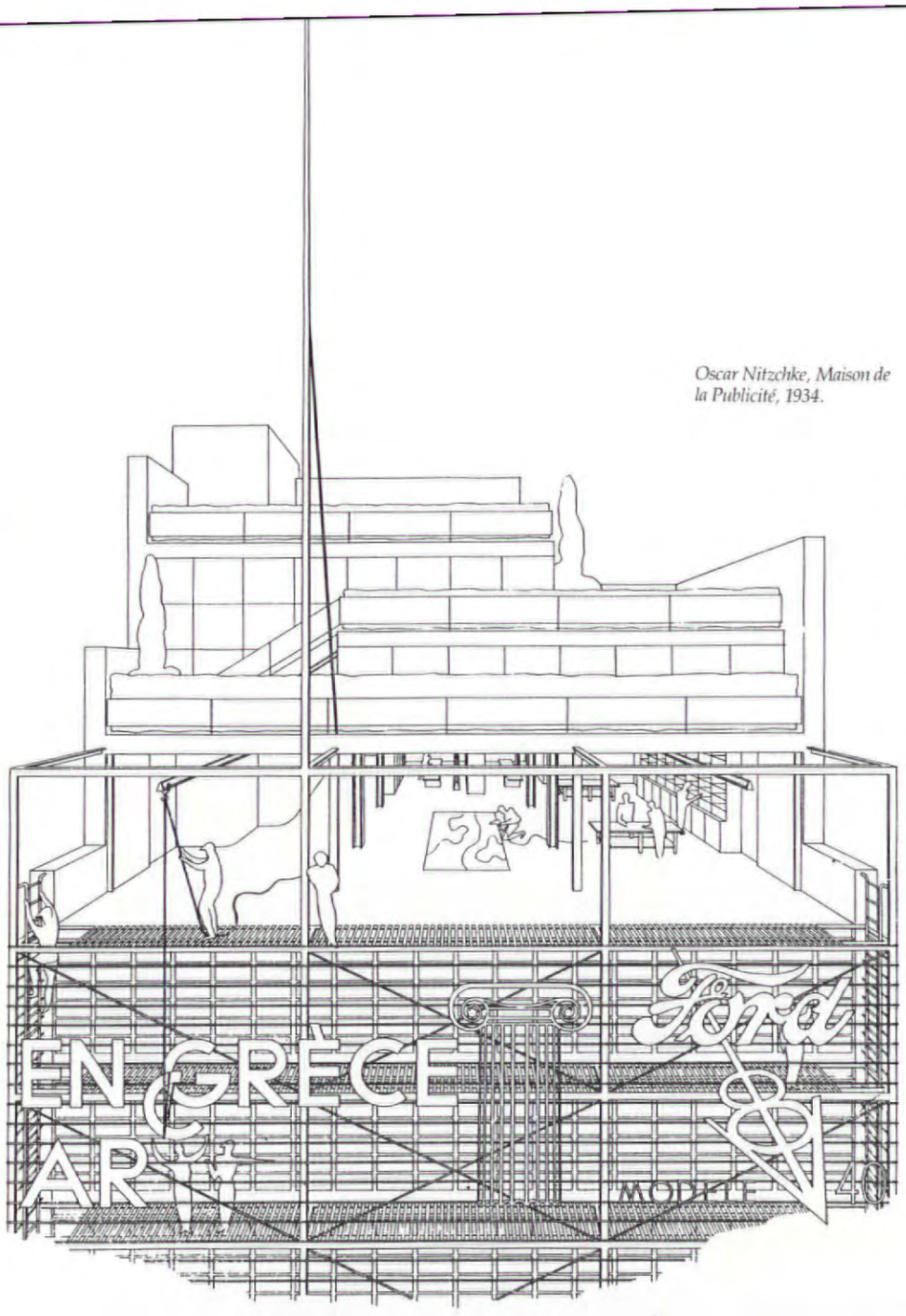
This breadth of outlook was deliberately narrowed by the hi-tech school. Their assault on the Modern Movement has been chronicled and to some extent promoted by Reyner Banham: it begins with the work of an engineer, Buckminster Fuller, who with some reason denounced the Modern Movement's understanding of the new technologies as superficial, and as early as 1927



e Corbusier,
'Perilous Harmony', 1931.



This is an instance of Le Corbusier seeking to create the contemplative interior.

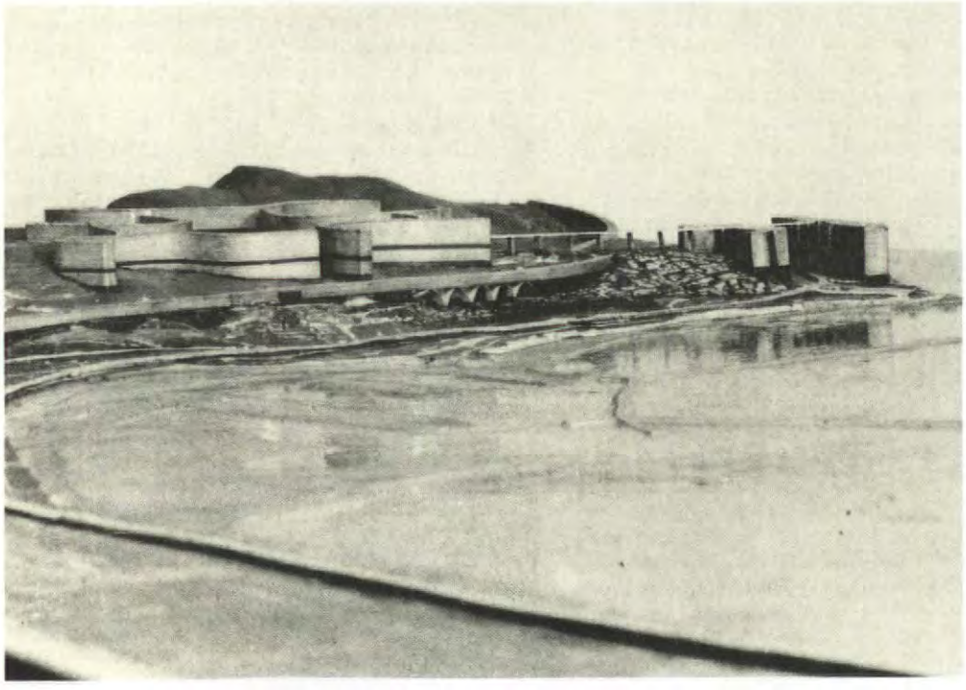


Oscar Nitzchke, Maison de la Publicité, 1934.

started to develop the Dymaxion House – a still impressive image of technological expertise. But with its unalterable mono-cellular structure it made no contribution to the cultural, social, or organisational problems of the city, beyond implying its dissolution. The Dymaxion's elegance simply as an artefact, and its implied indisposability (which certainly denies a reading as "mass"), proclaim that architecture has here become more akin to design – the hallmark of hi-tech ever since. Banham compares Fuller's expectation of an "unhaltable trend to constantly accelerating change" with that of the Futurists, whose ideas certainly influenced Le Corbusier, but were absorbed by him into a more balanced overall perspective.

Another early and insufficiently known project which exploited continuous change is the Maison de la Publicité designed in 1934 by Oscar Nitzchké for a site in the Champs Elysées. Unlike earlier architectural projects incorporating advertising, it did not attempt to monumentalise it, but simply provided a framework as a façade, on which it was expected there would be a constantly changing display. With its acceptance of the pop imagery of advertising, and its light diagonally-braced grid façade, it was a remarkable anticipation of the Pop Art of thirty years later and hi-tech designs such as the Pompidou centre. In the world of advertising continuous change is inevitable; Le Corbusier himself derided the excessive claims to permanence suggested by the weight of masonry that encumbered Academic designs, and in his Obus plan for Algiers toyed with the idea of a "megastructure". But continuous change was an irrelevance to his principal pre-occupations, the attainment of calm, and an architecture of mass.

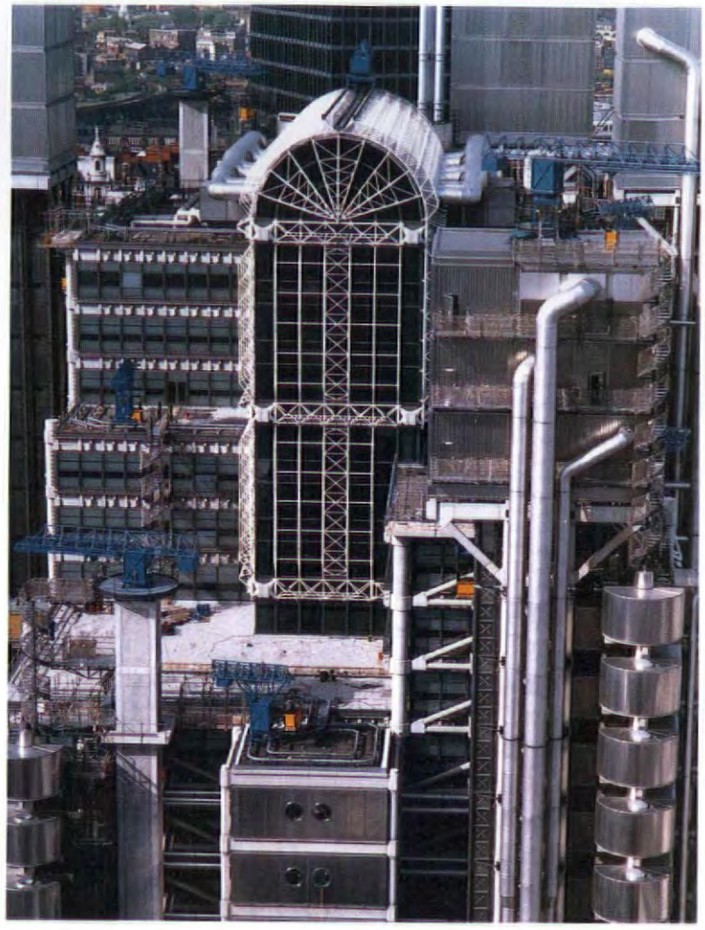
In the fifties and sixties ideas of movement, impermanence, lightweight materials, buildings under constant reconstruction, took a firm hold, especially in the work of Archigram and the Metabolists. "Walking Cities", mobile universities, capsule buildings were proposed, partly under the influence of architects with war-time or post-war



Plan Obus, model.

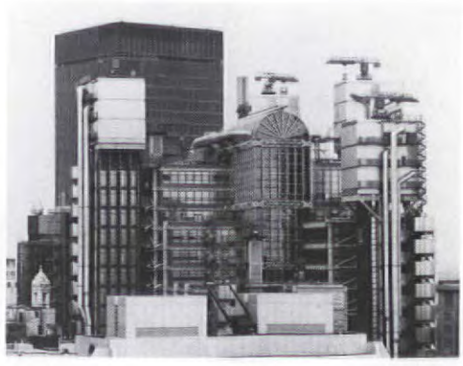
Miesian tradition reinterpreted in the City of London: Commercial Union building by Gollins Melvin & Ward.

Facing the Commercial Union building is the flamboyant Lloyds' headquarters by Richard Rogers & Partners.



military experience of advanced technology materials. Lewis Mumford in *The Culture of Cities* tellingly contrasted a Metabolist image of a troglodyte city communicating by radio with the ancient image of a city for man. Instead of the calm, harmony, serenity sought by Le Corbusier, an atmosphere of frenetic activity and constant change was aspired to. If the building itself could not move, then at least the pipes and ducts servicing it could be displayed on the outside – pipework at least theoretically subject to constant alteration, and expressive of the movement of gasses and fluids within.

This new Modernism and the old confront one another eloquently across Leadenhall Street in the City of London – on the north the Commercial Union by Gollins Melvin Ward, of 1969, on the south Richard Rogers' Lloyds building; the one a serene office tower which leaves much of its site vacant as a plaza, the other bristling with incident, teeming with movement, and filling its site completely. It may reflect the grain of the existing City around it more exactly than does the Commercial Union tower, but this may have been the starting point of the design, rather than the desire to create a humane environment for the users of the building. The introverted plan offers no view out towards a serene sky as a rest for the eyes from the frenzied activity within, as does the Commercial Union: the external services and circulation towers and frosted glass obscure the view. Despite the hi-tech imagery, the plan form – a band of accommodation around a central light-well (in this case glazed over) – represents a return to Victorian types, as does the detail of the Galeria-like barrel-vaulted glazed roof. The suggestion which the Commercial Union makes, whatever its architectural limitations, that it represents but one



fragment of a new environment for man, is absent.

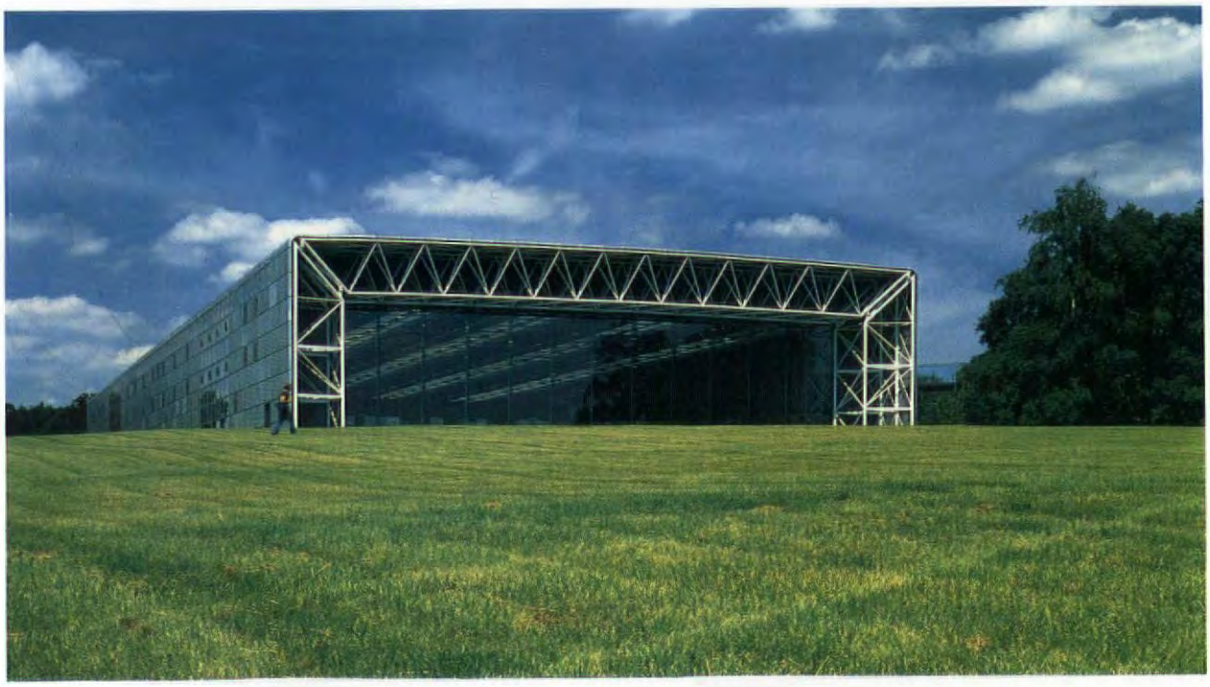
Norman Foster's work has always had more serenity than Rogers' – the Willis Faber and Dumas building has an envelope of an exciting minimalism. But it fills its site completely; thus, in urbanistic terms, it does not afford a play of mass or posit any alternative form of city, but at the same time it eschews

Willis Faber and Dumas, Ipswich, by Foster Associates with podium and tower office block seen in reflection.

enrichment of surface, which had been intrinsic to the architecture of the old city. In the tradition of Buckminster Fuller, Foster has a strong preference for very simple mono-cellular forms housing all the required accommodation within a single envelope. This reinforces the sense of "design" rather than "architecture", denying as it does the play of masses: but it may also suppress a legitimate demand for varying forms of enclosure required to optimise conditions for varying forms of occupation. A case in point is the Sainsbury Centre, where the aircraft-hangar format restricts glazing to two extensive sheets at either end of the "shed", although the mix of functions within – gallery space, offices, teaching, canteens/restaurants – would not seem best served environmentally by such an arrangement. Here also the temporary clip-on nature of the cladding is emphasised, and prevents any reading as "mass".

Foster's approach as master-planner for the extensive development proposed at King's Cross in central London reflects his earlier work. But for the first time a hi-tech architect is here confronted with the design not of a single building (however large), but of an urban district, and the social and planning issues central to the Modern Movement have to be faced. It is arguable that the proposals that have so far emerged from his office for this site reflect his lack of experience in these questions. His competition-winning scheme contained just two simple mono-cellular ideas – a large single oval park at the centre of the site, and a single barrel-vaulted concourse between the two existing main-line stations. The form of the concourse is a quotation from Victorian railway engineering and emulates the existing train sheds on either side. But the analogy is debatable: the site is irregular and involves painful distortion of the geometry of the vault. The function of the space enclosed is quite different from the adjacent train sheds.

The conception of the new urban district behind the stations also seems to owe much to Victorian precedent. The height of the buildings is to be limited to seven or eight storeys and they are to fill their sites completely, producing a network of "corridor streets". The layout does not reflect Modern Movement concern with orientation in relation to the sun. The park, though reflecting a Modern concern with bringing greenery to the city, is to be Victorian in concept (and indeed Regency in its seemingly arbitrary shape): it will be of immense benefit to those immediately overlooking it, but for the rest it will be something to go to, and to be enjoyed only on those occasions. There is no suggestion of the Modern ideal of green permeating the city, to be enjoyed by all from their windows. Neither does the central park seem to be intended as an exploitation of the "courtyard" theories of Professor Sir Leslie Martin, which at first sight it resembles, and which Martin incorporated in a theoretical plan for the Foundling Estate district adjacent to King's Cross. Martin's plan was designed, like Foster's, to avoid violating the Victorian skyline of London, and allowed for a mix of housing and offices comparable to that intended for King's Cross. The accommodation was to be arranged in three concentric bands around a central park, with all housing on the inner two bands having



The sleek aircraft hangar design of the Sainsbury Centre for the Visual Arts, University of East Anglia, Norwich, Foster Associates.

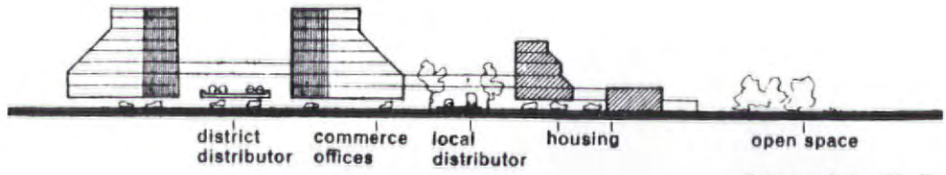
direct access to, and outlook over, the greenery. But Fosters' housing is concentrated in one corner of their site, without any special relationship to the park.

The alienation of the thought of the hi-tech school in many respects from that of the Modern Movement, not least in an obsession with change for its own sake, is epitomised by the violent opposition of their apologist Martin Pawley to the conservation of one of the principal monuments of the Modern Movement in England, Ernö Goldfinger's Alexander Fleming House. That alienation is most marked in what might be termed the humane aspects. It can be highlighted by comparing the human figures in Norman Foster's drawings, which are no more than graphic artist's shorthand, with the rich inventions of Le Corbusier.

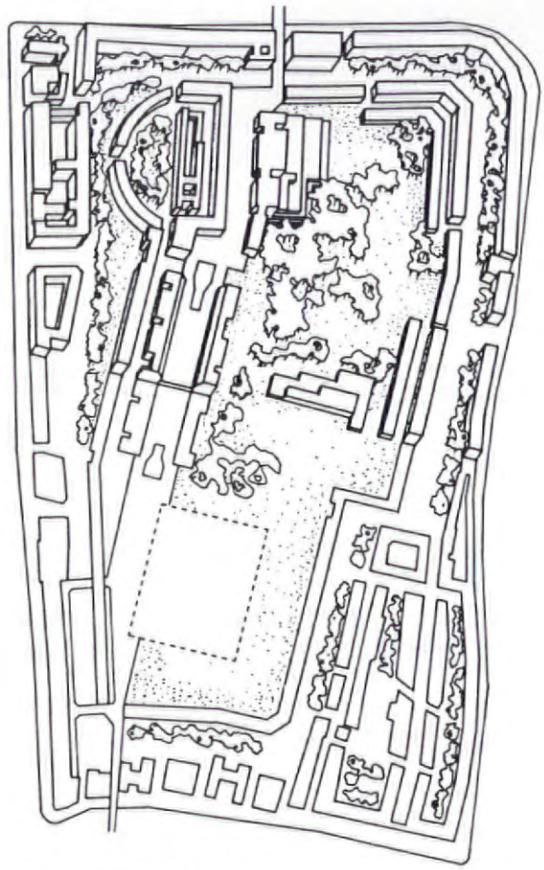
The effectiveness of the hi-tech architects in providing an imagery appropriate to what Banham might have termed the Second Machine Age, or even the Laser Age, and of exploiting its technology, cannot be denied, and it is for this reason that they command so influential a position today, outclassing their immediate predecessors, the Team 10 generation, who retained closer links with the social ideals of the Modern Movement, but whose architecture was less forceful. Their achievement is valuable, but the hi-tech architects have yet to tackle many of the questions to which architecture must address itself. Despite being advanced technologically, their work can seem conservative in concept. In many ways they are heirs of Paxton rather than Le Corbusier.

Foster's plan for King's Cross at this stage retains an abstract quality, having yet to get closely to grips with the realities of the site, especially the problems of structure and levels generated by the railways. It is likely to undergo extensive refinement as it develops. It will be interesting to see a richer grain of thought emerge. □

* (note from page 67) This issue is discussed in my article "The Architecture of Silence", *Architectural Review*, October 1985, pp. 69-75.



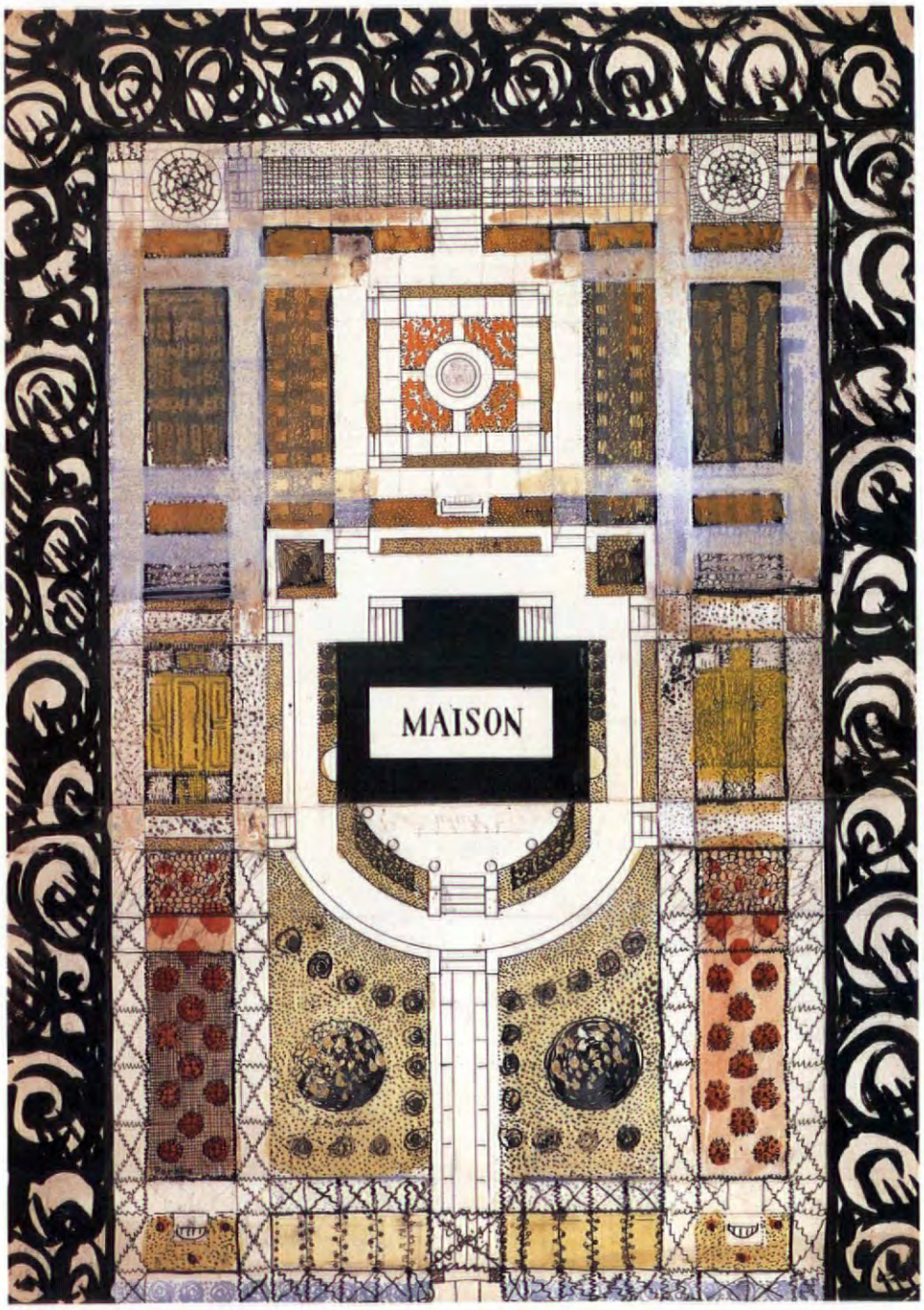
Section and plan of Leslie Martin's Foundling Estate scheme.



The threatened Alexander Fleming House, Elephant & Castle, London by Erno Goldfinger.

The laws of nature and architecture are both contrary and complementary. To what extent can architects expect to order nature? Yu Chee Chong discusses the work of two garden designers of the machine age André and Paul Vera.

NATURAL ORDER



Ground plan showing the planting layout. The black patterned border represents groves of trees which would provide privacy.

The garden designs conceived by André and Paul Véra between 1912 and 1919 are recognisably products of the 20th century. The Véra brothers were aware of, and to a certain extent, participated in the contemporary experiments in fine art which were eventually to lead to abstraction. Their work re-interprets the formal garden using many stylistic innovations, and combine natural and man made garden elements in a highly original and often witty manner. Equally remarkable was their use of the new visual language to express their ideas; some of their renderings are themselves Cubist works of art. So modern was their vision that several of their projects envisage their client's owning an aeroplane and incorporate details such as a divide of trees to shelter the garden from the *champs d'aviation*.

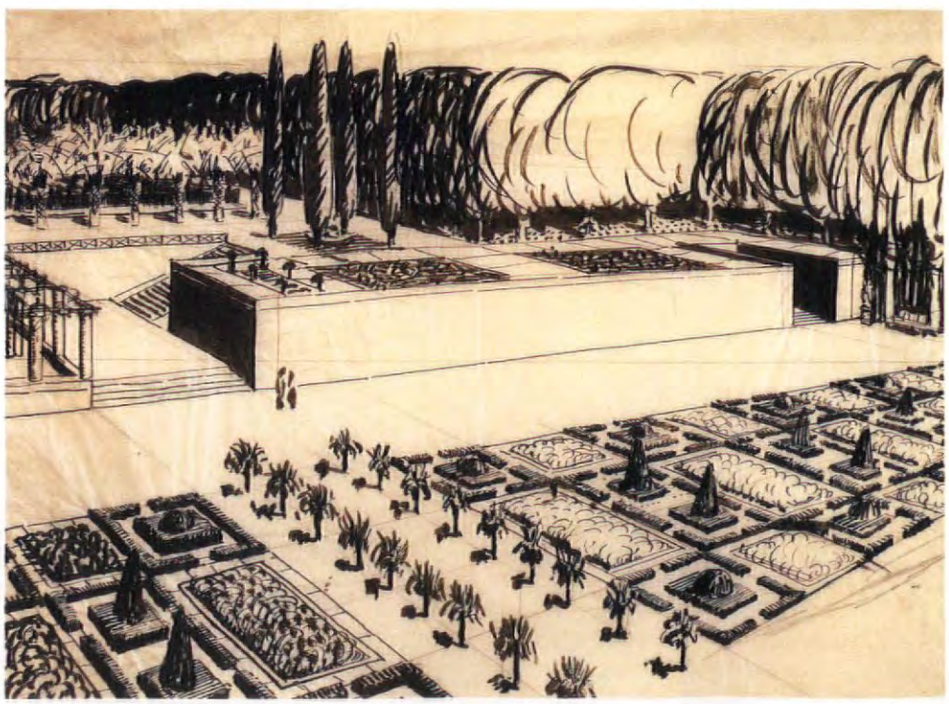
The unique aesthetic formulated by the Véras was imposed on nature to create vistas of geometric patterns, formed by straight allées, symmetrical rows of trees spaced at regular intervals, parterres of flowering plants, ponds in square, round and semi-circular shapes - all of which conform to an overall rectilinear groundplan. The many compartments formed by hedges, walls, trees and arbours create sculptured spaces which are further enhanced by the deliberate play of geometric volumes. There are conical trees, spherical bushes and hedges cut into cubes, triangular and octagonal shapes. The repertoire of form is further extended by architectural features such as columns, domed pergolas, cubic pavilions, hemispherical planters, trellises shaped in quarter segments and gazebos with pitched roofs. The gardens are placed on slightly varying levels, some of the compartments are lowered and approached by a few steps, and in one extreme case, there is

a split level garden with the upper terrace reached by a grand staircase.

André Véra (1881 - 1971) was the 'ideas man' responsible for the garden designs. He wrote extensively on the theory and design of gardens including two influential books *Le Nouveau Jardin* of 1912 and *Le Jardin de Andre Véra* of 1919. He was also involved in town planning and was an apologist of the urban landscape.

Paul Véra (1882 - 1957) studied painting under Maurice Denis and Paul Serusier, gaining a place in posterity by participating at the 2nd *Blaue Reiter* exhibition in Munich in 1912. Abandoning the Nabi style of his teachers, his later paintings, engravings and sculpture reveal a tendency towards Cubism. As well as designing gardens, Paul Véra was an important figure in the decorative arts, producing designs for ceramics for Sévres, for tapestries at Beauvais, and interiors for the ship *Ile de France*. His work is represented at the Metropolitan Museum of Modern Art, New York (a screen entitled *Les Jardins*), at the Musée d'Art Moderne, Paris and at the museum entirely dedicated to his work at St. Germain-en-Laye.

The Véras' garden designs also incorporated elements of modernism derived from innovations in architecture and the decorative arts at the beginning of the 20th century. Much of the impetus of reform in design during that period was architect-inspired and it comes as no surprise that the Véras were involved in one of the avant-garde societies of artist/architects of the period - the Atelier Français, founded in 1912. Ultimately indebted to the English Arts and Crafts movement, the members of the atelier strove to apply aesthetic considerations not only to the structure of buildings but also to the interiors and gardens in a



In the project for a walled garden, above, and the project for a garden on two levels, we can see very clearly the attitude of garden planning as an exercise in monumental 'sculpture'. The emphasis upon the garden as a composition of related abstract objects is interesting, especially in the light of William Tucker's article on modernism (see p 58). The sentimental or romantic connotations are subsumed under neo-classicism. This is Man asserting his Order upon Nature.

unified and harmonious style. In a wider sense the work of the Atelier, in common with other collectives such as the Wiener Werkstätte, deliberately blurred the distinction between art and craft, under the primacy of architecture. The manifesto of the Atelier Français, written by André Véra rejected the complicated sinuous forms of Art Nouveau in favour of clarity, order and harmony, and the use of bright, frank colour. The first exhibition of the Atelier was devoted to *L'Art du Jardin* , a subject dear to the Véras' hearts.

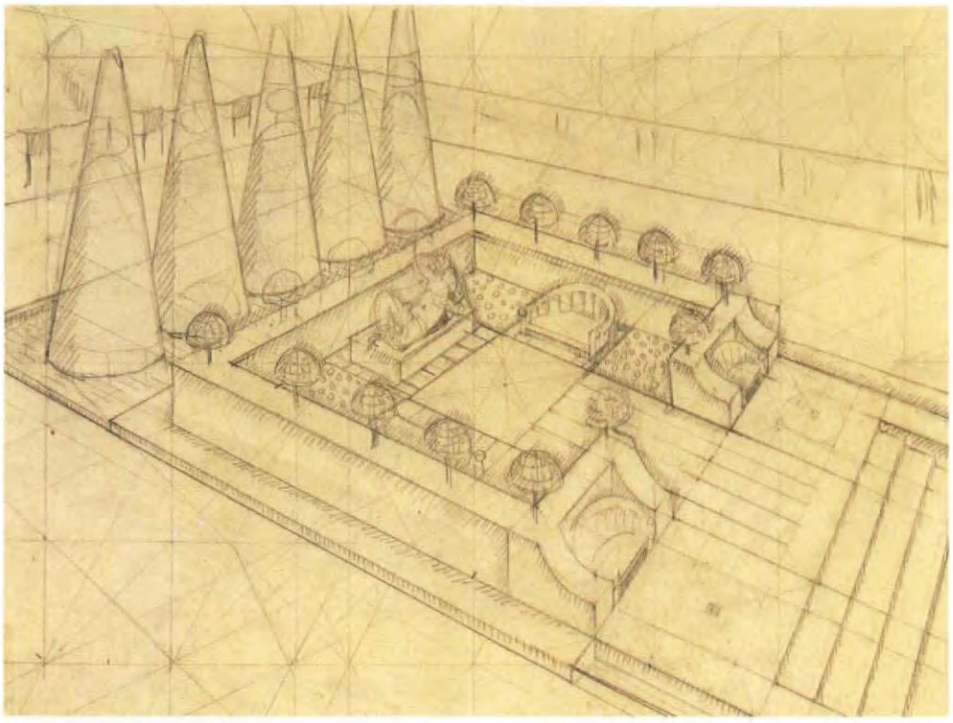
A collection of some 30 designs for gardens by the Véra brothers have fortunately survived. In these, the design imperatives of the Atelier Français are clearly obeyed. The drawings are informed by a sense of structural simplicity and a fresh clarity. Some of the drawings are actual projects, some are sketches with ideas for schemes while the pen and ink drawings were preparatory drawings for wood engravings illustrated André's books.

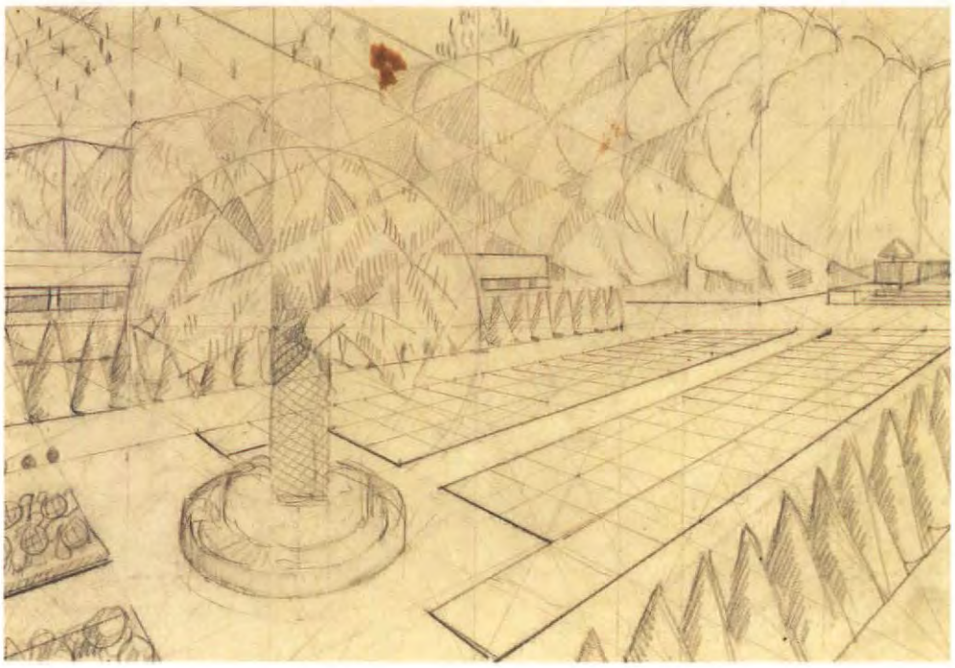
A recurrent theme evident in the Véras' designs is the use of enclosed spaces. The idea of the enclosed garden is an ancient one which has its origins in the monastic *hortus conclusus* used for growing vegetables and herbs. Medieval pleasure gardens were composed of a number of enclosures treated as outdoor living rooms, each containing a different experience - a knot garden, a maze or a secret garden for courtly dalliance.

The Véras fully exploit the concept of outdoor living spaces in their designs. A delicate pencil drawing depicts a square space formed by four low hedges with a central opening flanked by two chairs nestling snugly in the outside hedges. Inside, the 'room' is furnished by two benches on either side and a Maillol sculpture of a reclining nude. In another design, this time boldly executed with brush and ink and gouache, a square area is surrounded on all four sides by tall trees like a walled garden. Within it is placed a curious octagonal inner room formed by low hedges, which again is furnished by seats and sculpture.

The Véras' use of geometric volumes (described earlier) must have been revolutionary. And, although their use of ornament such as statuary and fountains was not new, the stylised

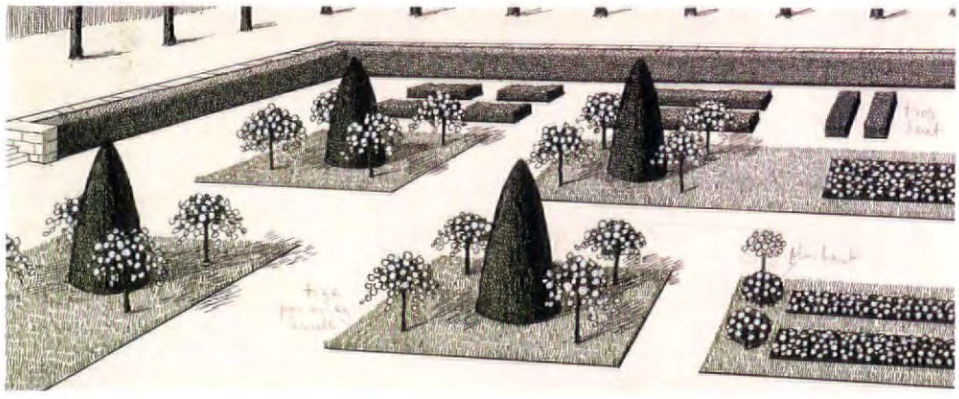
The curious aspect of this garden design is heightened by the symmetry of the drawing. It has a machine aesthetic which is appropriate to its age (1920) but which weathering, time and natural growth (however much it was trimmed back) would soften.



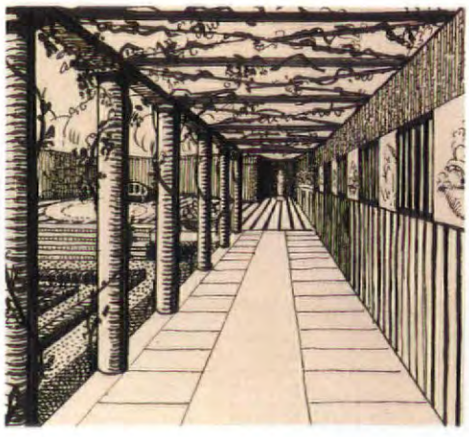


This drawing is in tune with the art of the period. It has a fragmented geometry which is reminiscent of the Braque's cubist work although, in retrospect, it is closer to the spirit of Cezanne – now seen as a 'father' of modernism. It is also an example of the Modern reaction against the attenuated decoration that had characterised the hitherto dominant decorative style of art nouveau.

Gardeners have dreams. The topiary walls pictured here are a horticultural impossibility.



These two designs are refreshingly human and, even, pretty. They possess an ordinary sentimental aspect as opposed to the heroic idealism characteristic of the modern movement.



forms of the ornament were new. Their love of ornament is characteristic of the Art Deco era and many of their garden *bibelots* shows the influence of Louis Suë and Andre Mare. Other ornamental devices are clearly derived from the Wiener Werkstätte, such as the rose bushes on tall elegant stems, and the border around the margins of the groundplan resembling a design for decorative wrought iron, but in fact representing trees.

The axial groundplans and overall rectilinear schemes of the Véras' designs are strongly reminiscent of the French formal gardens of the 17th century. In emulation perhaps of the great French garden maker Le Notre, the Véras have placed the house in several of their designs right in the centre, as a fulcrum around which the garden stretches on all four sides. In the use of parterres (the equivalent of the English knot gardens) the Véras also hark back to historical antecedents, but instead of the *broderie parterres* in the form of elaborate arabesques symbolizing royal power, geometric patterns of clipped evergreens and flowering plants have been substituted.

It is instructive at this point to compare our modernistic garden designs to the exactly contemporaneous English designs. Gertrude Jekyll in collaboration with Edwin Lutyens developed the natural garden based on the ideal of the English cottage garden. In these, the abundance of nature, the natural harmonies of colour belie the plantsmanship and careful design used to create the thoroughly romantic picture. The Véras' gardens represent the antithesis of the English garden of the Edwardian period (and perhaps even more of the 18th century school of landscape gardening pioneered by Capability Brown and carried on by Humphry Repton).

In imposing rational aesthetic rules on nature the Véras produced garden design which were necessarily artificial. Their gardens were organised spaces for looking at and living in, not for the display of beautiful living objects. No eccentrically hanging branch, wilfully flowering plant, let alone a weed, is allowed to disturb the disciplined order and harmony of their gardens. The Véras' gardens were for the architect and aesthete, not for the horticulturist. □

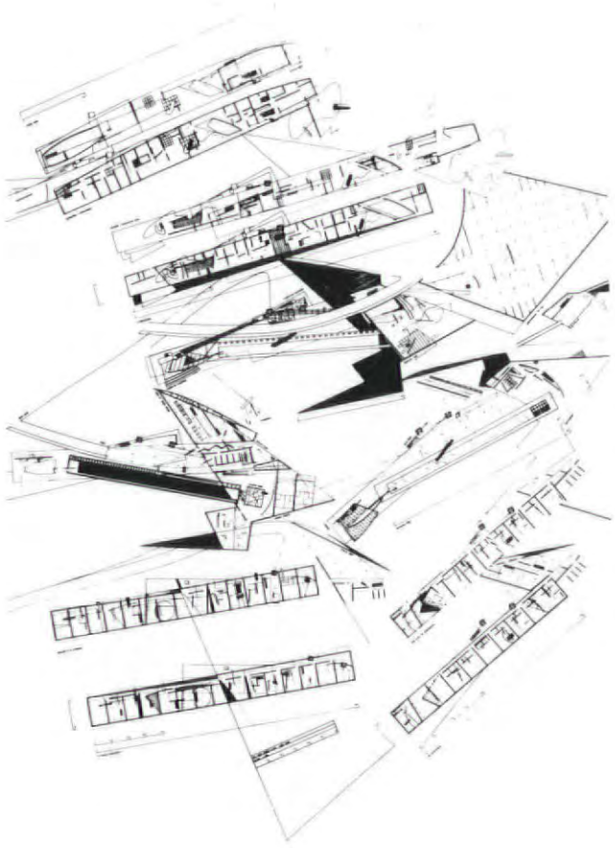
Deconstructivist Architecture

Deconstructivism reminds me of a television game show whose jolly, smiling participants are famous for ... being famous; few remember what they actually do. It is the fate of the DeCon Seven to be cast as architectural bimbos: some swear they never wanted to go on television/appear in a big MoMA show – but it's too late; they can never be ordinary radical architects again. This is one reason *Deconstructivist Architecture* may turn out to be a High Noon for critics, too, not just for the designers. So anxious is everyone to prove that they are 'not taken in', 'do not believe the hype', that the work of these important architects, and the nascent revival of the modernist project itself, may suffer. And that would be a tragedy.

Philip Johnson's preface to the exhibition catalogue explains the whole problem in two paragraphs: first, he recalls that it is now about sixty years since he curated 'Modern Architecture', the exhibition which established the International Style as the reference point for architectural debate, and ten thousand buildings, thereafter. Then, in paragraph two, Johnson asserts: 'deconstructivist architecture is not a new style ... it represents no movement ... it is not a creed. It is not even "seven architects"'. And I believe Johnson meant it, when he wrote it. It was, after all, a modest exhibition in size; and the catalogue contains no apocalyptic pronouncements – just an essay, plus pictures of the work. It seems, on balance, that all the hoopla – jetset seminars in London, scuffles at the opening, hundreds of reviews – probably caught the players by surprise. They could not have planned it, but the show seems to have touched a subterranean Modernist nerve.

To the modern cultural underclass, aesthetic pluralism in the arts may sound progressive, but feels very much, certainly in this decade, like cultural impotence and inertia. Big Ideas, however, now they may be mocked, have usually occurred when history seemed to be moving forwards; lots of Little Ideas only flourish when humanity has little else to occupy itself. Philosophers of the postmodern tell us that we have become disconnected from the forward flow of time, that we are no longer confident that the future has a future. Well, there are hints in this architecture exhibition, as in many other art events of late, that the Modern Project is reviving. Johnson demurs on this point, saying 'no generally persuasive 'ism' has appeared, or maybe will unless there is a worldwide new religion' – but one thing deconstructivism is not is a millenarian religion. Its success is a sign that modernism has come back from the dead, like one of those gritty Armenians dug out of the rubble after 30 days.

'Architecture', says Johnson's associate Mark Wigley, 'is a conservative discipline that produces pure form and protects it from contamination. The projects here mark a different sensibility: it is the ability to disturb our thinking about form that makes these projects deconstructive'. Wigley explains that deconstruction is not about 'taking structures apart'; on the contrary, they attempt to expose the necessary impurities that are intrinsic to the harmony and stability of all structures. In this sense, deconstruction brings to architectural form some of the understanding that the new physics has given us about matter itself, where 'chaos' has replaced order, and indeterminacy is the organising principle.

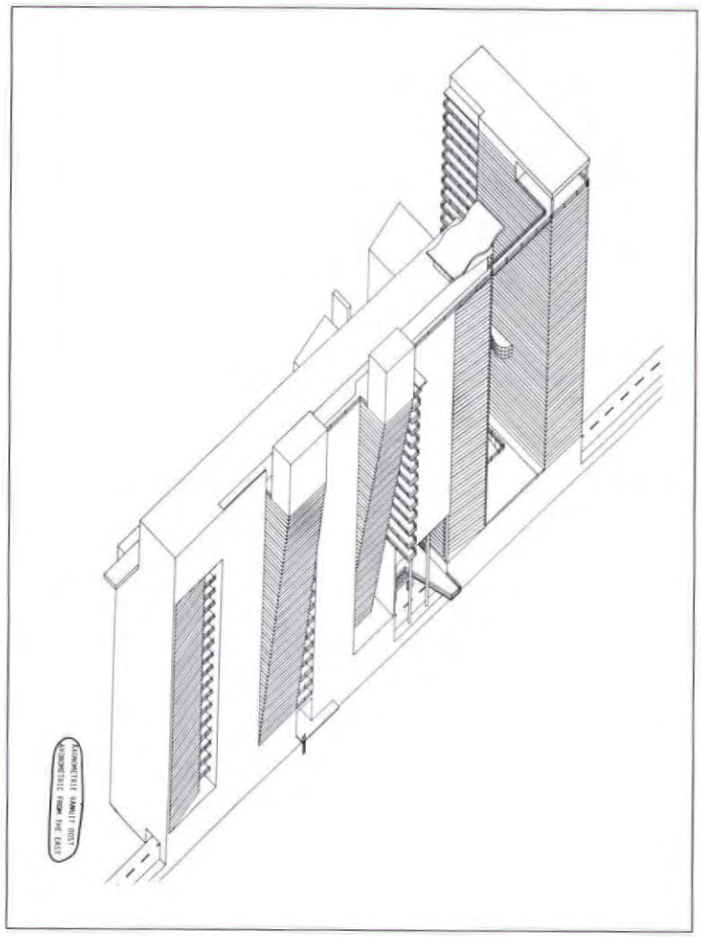


Floorplans of the Peak project, Hong Kong, Zaha Hadid.

Deconstructivist architects locate the impurities in 'rational' architectural forms by what Wigley calls 'a combination of gentle coaxing and violent torture' – subverting of the classic rules of composition in a process similar, in intent at least, to the strategy of Russian Constructivism.

Rem Koolhaas' project, for example, an high rise apartment building for Rotterdam, is essentially a single slab, or a row of towers, depending on where you look at it from – its perceived volume and formal organisation look different from the river and from the city. Peter Eisenmann's biological research centre incorporates classic modernist blocks which represent the four shapes basic to

Axonometric of Rotterdam project and tower, Rem Koolhaas.



Site plan for Biocentre, University of Frankfurt, Peter Eisenmann, 1987.

biological knowledge; but these idealised forms are distorted to provide functionally specific technical and social spaces. Zaha Hadid's design for a club on the Peak above Hong Kong contains four huge beams which are thrust into the hillside; the beams, says Hadid, have been abstracted from the vertically thrusting skyscrapers down below. The beams are then twisted relative to each other, and reconfigured in other more subtle ways to create a distorted, decentred and consequently much richer interior space.

It's easy, when viewed simply as a series of geometrical games, to understand why cynics dismiss Deconstructivist architecture as 'twisted axes on the brain'. Its funny angles, careering planes and tilted boxes are all, visibly, that unite the work. But there's the rub – or, as one might call it in this context, the 'vicious circle': deconstruction is a critical *sensibility*, a way of looking not just at the visible world but also at the world of ideas. But in the age of images, it is doomed, like modernism itself, to be judged by how it looks.

When built, of course, the reverse process, by which physical form can challenge ones ideas – comes into play. Bernard Tschumi's project for the Parc La Villettee in Paris, for example, has got to be one of the most 'theoretical' structures ever erected, a geometrical playground which pays spectacular homage to the French support for radical innovation. According to Tschumi, the basic principle of the project is 'the super-imposition of three autonomous ordering systems: points, lines and surfaces. Each system begins as an idealised structure, a traditional mechanism of order – but when superimposed, distortions occur, the result: "a series of ambiguous intersections between systems"'.

Which is just how it feels in real life: ambiguous. If one were a Martian, hovering overhead, and possessed of a developed penchant for spatial conceptualisation, the Parc would probably be as clear as daylight. As it is, one feels nothing clearer than a vague unease. But this is as it should be: Johnson himself has spoken of the 'pleasures of unease' – the sensation that one's brain, traumatised, perhaps, by a long forgotten fall, is coming back to life. This is the value of the work in *Deconstructivist Architecture* – its a splendid and welcome antidote to the cultural paralysis and anaesthesia provoked by postmodernism and all its works. □

John Thackara

The catalogue, 'Deconstructivist Architecture', is published by the Museum of Modern Art, New York.

Nostalgia of Culture

"I set myself the task of constructing a castle in every detail; from the foundations, floors, walls, staircases and secret passages right up to the pointed roofs and turrets. I carefully cut each individual stone, covered the floor with parquet and stone flags, filled the apartments with furniture, decorated the walls with tapestries and paintings, lit candles in the chandeliers and smoking torches in the endless corridors. I decked the tables and invited guests ...

I lived for hundreds of years in that castle and shaped every stone with my own hands. I built it between interrogations in Lefortov and in the Vladimir punishment cells. It saved me from apathy, from indifference to living. It saved my life."

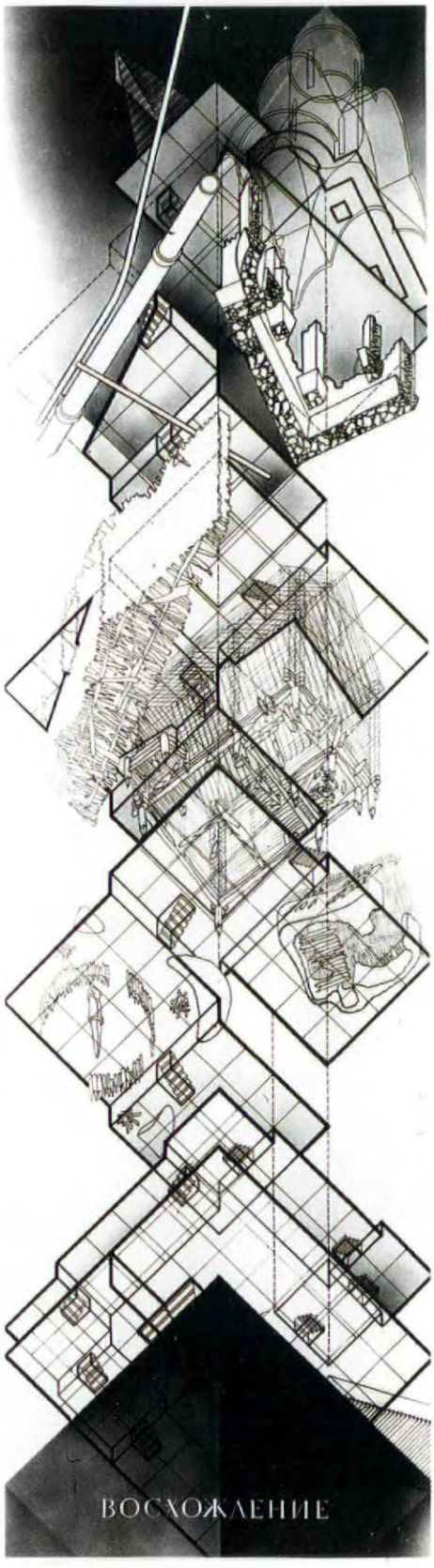
"To build a castle" by Vladimir Bukovsky. Published by Andre Deutsch 1978.

"The Childhood of Maxim Gorky" from the famous post-war work "Childhood and Society" by the psychologist Erik Erikson, stressed the importance of swaddling in Russian peasant society. This learned tolerance of restriction was quite different from, say, the aggressive upbringing of American Sioux Indian male babies whose infantile rage was exacerbated as the basis for the ferocious skills of hunting. In contrast, the Russian baby was being taught agrarian patience and conformity, the aggressive (and expressive) instincts being repressed but not eradicated.

Historically, individualism and freedom, for the Russians, were exotic European and urban characteristics, most obviously identifiable with the French-speaking bourgeoisie, aristocracy and intelligentsia. The Baroque city of St Petersburg (the setting for *Crime and Punishment* by Dostoevsky) was an alien European town. The recent furious reaction to dissidents and refuseniks, including the "psychiatric" punishment of being "swaddled" in a tightly made bed demonstrates the profound Russian suspicion of "alien" individualism, such as that which has been characteristic of Britain for a thousand years.

That is why the brief flowering of freedom and expressiveness (*true* glasnost) in the Russian arts and architecture between the years 1915-30 is so startling and extraordinary. Bolshevism between 1918 and 1929 encouraged an already existing avant-garde and intelligentsia fired by Picasso's Cubism and the Futurism of Boccioni and Balla. Their concept of "materia" had a Russian equivalent in FAKTURA (the integrity of materials having an intrinsic artistic force). But KONSTRUKTSIIA (design; formal assembly and construction *not* building or STROITEL'STVO) was peculiarly Russian, as was the

L. Batalov and D. Zaitsev, 'Ascension', 1985

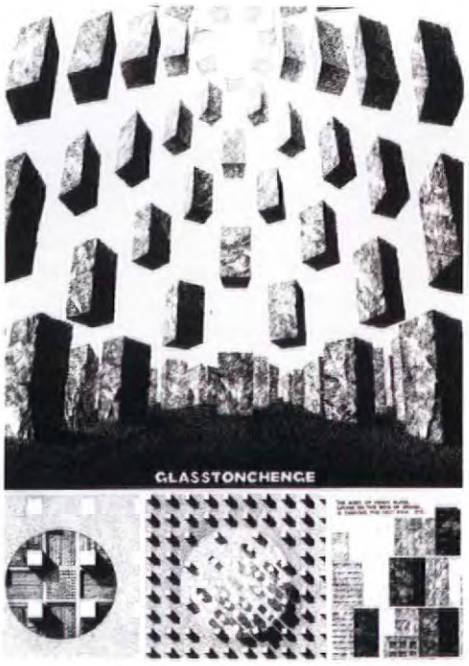


architects' TEKTONIKA, the underlying "geological" forces of a revolutionary society in ferment. Even more than the members of the Bauhaus, the KONSTRUKTIVISTY believed that they were actually *changing reality*. They were by far the most ambitious of the Modernists and, unlike other intelligentsia, had real political power.

Already by 1918 Kandinsky, the Suprematist Malevich, the Constructivists Tatlin and Rodchenko and others were in charge of the Government Section of Fine Arts with a brief to re-organise the entire artistic life of the nation. Artists had never been given so much power. In 1920 Anatoly Lunacharsky, People's Commissar of Enlightenment, founded UKHUTEMAS, the Moscow studio geared to produce "artist/constructors" (designers). The constructivist architects Moisei Ginzburg and Aleksei Gan worked here and later founded the OSA (The Union of contemporary Architects). In his book "Constructivism" (1922), Gan argued that Constructivism would literally revolutionise society.

For five years between 1922-27, Constructivism *was* serous Russian architecture. Even "traditional" architects copied the style. OSA published *SA* which was the only Russian architectural magazine during the period 1926-30. Such was the passionate dedication to integrity and intellectual honesty that in *SA* 1926 (No.3) Ginzburg criticised Le Corbusier for using pictures of aeroplanes in a purely formal way without indicating any understanding of the mechanics of flight. Formality for the Constructivists was a very sensitive matter. They developed design methodology as it was later called, the notion of form following function from the inside out, the social activity, TEKTONIKA generating the design. And Modernism in Russia was *successful*, outstanding buildings were built. Following the writings of Engels in "The Dialectics of Natural Sciences" they were trying to connect the essential spirits of Nature and Man.

But in the context outlined at the start of this review it simply could not last. In 1929, VOPRA (The Organisation of Proletarian Architects) denounced Constructivism as a "reflection in architecture of the psychology and ideology of large-scale capitalist elements of the bourgeoisie." Later in the



D. Bush, A. Khomyakov and D. Podyapolsky, 'Glasstonehenge'. Glass International Architectural Design Competition. 'A Monument in Honour of The Year 2001', 1986.

"Isolation and spirituality are assuming great importance today – no wonder then that the interior is our main concern. The way to free the individual is by overcoming individuality, breaking through the wall of banality built from the bricks of self-expression."

(Dmitry Bush. Statement accompanying "Glasstonehenge" Glass International AB Competition 1986.)

thirties, Stalinist journalists like Grishakin writing in "Zhurnalist" criticised Rodchenko's photography as "distortion" and "anti-revolutionary." Ironically, in the light of Ginzburg's criticism of Corb, Osip Beskin in 1933 published "Formalism in Painting" attacking various Constructivist artists and by implication architects as "formalist" (now synonymous with Western bourgeois decadence). One of those attacked was the painter Alexander Drevin. By 1938 Drevin was arrested and never seen again. Immediately after his arrest, his wife Nadezhda Udaltsova destroyed every one of her own works still in her possession. A kind of artistic suicide. As early as 1929, Vladimir Maiakovsky, poet and literary constructivist friend of Ginzburg from the old LEF magazine days, had committed suicide in fact. In the same year Lunacharsky had resigned.

Some, like Tatlin and Rodchenko, survived in penury, disillusioned and bitter. The architect Leonidov was rediscovered in the 1950s working in the model-making department of the Moscow School of Architecture.

Others survived by producing "paper architecture". Iakov Chernikhov, originally one of the Constructivists, retreated, during the Stalinist thirties and forties, into a world of Russian fables and folk-lore; a fairyland of ancient buildings. His son Andrei described the

"Architecture of urban wasteland is contemporary ... like wandering acrobats, coming from nowhere, self-elevating, and constantly repairable, poor proletarian rather than well-off; paper absurd rather than panelled real. This it today's reinterpretation of 1920s avant-garde."

(Yuri Avvakumov et al. "A style for the Year 2001." A + U Competition 1984.)

"Each has his own world ... the thesaurus of each is the prism of perception of space and time; the identity of the subjectivity of each gives rise to the objectivity of all, which in its turn moves the history of each people, filling or emptying the thesaurus of each and all. Therefore in architecture, there cannot be a universal capable of making everybody happy or being an absolute for all."

(Dima Velichkin. Statement to Andrei Cheltsov. October 1988.)

Constructivists as the "froth on the revolutionary wave". They anticipated "a new Utopia which to them already seemed to have dawned and precisely here lie the causes of the avant-garde's dramatic eclipse in the mid-thirties."

This is a sinister interpretation of the demise of Constructivist art and architecture and it is a fitting introduction to a sinister book "Nostalgia for Culture", published to coincide with a recent exhibition of contemporary Soviet "paper architecture" at the Architectural Association in London.

Despite the fact that Mikhail Bulov in his introduction to the book acknowledges that for the West there has been no serious Russian architecture since 1930, Catherine Cooke in her section entitled "A picnic by the Roadside or Work in hand for the Future" states that the primary crisis of contemporary Soviet architecture was in 1955 when Kruschev effectively reduced architects to the margins of society and replaced them with building engineers who could manage large panel industrialised housing. Ms. Cooke describes the horrified professional shock as the graduate school of the aspirantura was disbanded and with it the *ideinost* of Socialist Realism, "the critical assimilation of the heritage."

Nevertheless, in the limited tacit glasnost occasioned by Kruschev's brief thaw, students in the fifties, contemporaries of the poet Yevtushenko, discovered the alternately forbidden and "non-existent" copies of *SA* and hence the work of the 1920s avant-garde as well as the work of Le Corbusier, Gropius, Wright and so on.

This led in the sixties to the NER or New Settlement group of Alexei Gutnov, Zoe Kharitonova and Ilya Lezhava (the last now Vice-Rector of MArhkI, the Moscow Institute of Architecture). The late Gutnov, assisted by Kharitonova, managed to set up his own design studio within the Moscow City Planning Office and succeeded, by dint of Herculean efforts one suspects, to get one small preservation and pedestrianisation project around Arbat Street in Moscow through the bureaucracy of Brezhnev's "stagnation". It appears that this was the only project of the new Soviet architecture that was actually built.

Unable to get real work, young Soviet architects followed the fantasy or "paper" trail of Chernikhov and competed in the seventies with their equivalents in the West, mostly AA graduates and teachers like Rem Koolhaas, the Kriers, Nigel Coates and Bernard Tschumi, all equally disenchanted and frustrated with the Western equivalents of Kruschev's system-built, engineers' architecture. Recent Soviet success in *AD* and *Japan Architect* sponsored competitions and their joint interest with the AA post-modern apologists in ditching the aforementioned systems building for historically different but practically similar reasons – their own professional redundancy – led the young Soviet architects to establish an unholy alliance with their new Western colleagues under the banners of "anti-elitism" and "populist architecture." However, their loyalty was less to Jencks's camp fascination with architectural "references" than to Dalibor Vesely's and the Kriers' interest in "classicism", in the eternal or at least long established human sympathy for and familiarity with terraced housing, streets, squares, bridges and so on. This, of course, was also not a million miles away from Socialist Realism, the protagonists of which Kruschev had cast into the outer darkness not thirty years before. Maybe Stalin was not so wrong after all. One could imagine all kinds of theories about babies and bath water.

In any case, "paper architecture" was the straw they clutched at – and it worked. In the recent Congress of the Union of Architects, the third to be held, (the first confirming Socialist Realism in 1937, the second in 1955 being Kruschev's perestroika of architecture) a new model of architectural practice was formulated full of the obligatory references to glasnost, perestroika and chelovechesky (individualism) with "partnership" between state and "independent self-responsible design team studios etc".

A new President, Yuri Platonov, was elected, his predecessor Anatoly Poliansky thanking the Congress for their useful criticisms as he stood down. Significantly, all this was achieved without a single specifically architectural statement. They weren't going to make the mistake of declaring manifestoes – no hostages to fortune there. They remembered what had happened to the

Konstruktivisty. But crucially, the architect was once again ... "head of the building team and has full responsibility for working out all parts of the design and for their aesthetic and technical quality."

They had come out of the cold and with the honourable exception of Gutnov's Arbat Street scheme without having built a single building representing the new spirit.

The second half of the book, "Voices from the courtyard" by Brian Hatton is a resumé of architectural fantasies, "paper architecture", in the Soviet Union. Tarkovsky's theories and his films "Solaris" and "Stalker" provide a kind of obligato accompaniment to the work of many of these young architects and their search for innocence and integrity, represented by the image of the woodland dacha at the end of "Solaris", the idyllic escape from the relentless technology of modern society. Tarkovsky's writings and films and the studios and workshops of MosFilm seem to provide a methodological ideal for the younger generation of Soviet architects.

Hatton identifies recognisable styles among the Soviet fantasists; first the Agitarch group with their "Constructivist" (actually "deconstructive") and then the national historicism of Filoppov and Bronzova evoking Italo Calvino's "Invisible Cities" or as Hatton describes:

> "Urbanism as an enchanted tale, the analogical city as a wistful fable of innocence". Or in Rilke's words "bits of eternity, protruding into time."

Hatton emphasises the importance of this reversal of time.

> "What could be more science fiction than this reversal of historical time in the 21st century? Only for Filippov "Solaris" is the Earth itself, an alien and profaned planet awaiting spiritual recolonisation."

But is this work categorically different from Chernikhov's nostalgic fantasies of a medieval Russia under Stalin? And indeed, Hatton warns of the dangers of "pamyat", repressive myths of superior national authenticity, which can so easily degenerate into national socialism.

The Agitarch group is comparable on the other hand, maintains Hatton, to the "urban fringe" interests of Rem Koolhaas, Nigel Coates's Gamma City group and Bernard Tschumi.

And there are the violent and demonic visions of Alexander Brodsky and Ilya Utkin.

But whether it is violence or the dreamlike yet forbidding classicism of Andrei Dmitriev these are images of escape and impotence. The very language itself, clotted and abstract, is a form of that swaddling already referred to. As Hatton implies, one is trapped in the very range of possibilities:

> "(The search for infinity) is less a Suprematist release into the boundless universe than a vertigo of exponential plurality."

The message is you cannot move, there is nowhere to go. Only in sleep is there freedom. But in sleep there are also dreams. This is Hamlet's kingdom and the ghosts of the still essentially unrecognised Konstruktivisty haunt these gloomy monochrome pages. In a rare flash of honesty, the Russian poet Andrei Voznesensky, ex-architecture student, refers to this "paper architecture" as: "the sublimation of despair."

His honesty is encouraging. He reminds us that it is the Soviet writers and not the architects who represent the authentic spirit of glasnost. Glasnost is Bukovsky's furious progress through Vladimir prison, his resistance to anguish and loneliness, his playing off the KGB against the MVD to get books, clothes and razor-blades. His fiery fighting spirit, his determination to burst out of the swaddling bands of Russian society and become a whole man are sorely missed in these sad pages. □

References
"Art of the Avant-Garde in Russia" Rowell & Rudenstine. Published by The Solomon R. Guggenheim Museum, 1981.
"Russia Avant-Garde Art & Architecture". Edited by Catherine Cooke AD No 53 1983.
"Nostalgia of Culture" Text 6. Published by Architectural Association, 1988.

(In the punishment cell in Vladimir prison, north-east of Moscow Bukovsky finds a little tobacco in a crevice in the wall. He has no match so can only light it from the light bulb set in the ceiling twelve feet above the floor.)

"I could no longer feel anything neither cold, nor pain, nor hunger – there was nothing left but desire, a desire that was outside of me and apart from me: an overwhelming desire to climb that damn wall and reach that blasted light-bulb. I no longer knew why I needed it anymore, so that when, during the fourth day, after a series of unimaginable exertions – leaping, elbowing and grabbing – I suddenly found myself under the ceiling, with my fist fastened on the grill, I discovered that the splinter with the rag fastened to the end of it had long slipped from my teeth and was lying on the floor. And there I was dangling, hanging on to the grill for dear life, within six inches of that light-bulb, with tears pouring down my cheeks."
(Bukovsky. Ibid.)

"As we drove to the airport terminal, I couldn't rid myself of a strange sensation – as if, thanks to a blunder by the KGB, I had carried out something very precious and important, something forbidden, that should never have been let out of the country. Something no search could ever discover."
(Bukovsky. Ibid.)

Rietveld inspecting the model of a 'core house'. This was not built.

The Rietveld Schröder House

Gerrit Rietveld's *Schröder House* in Utrecht, Holland was built in 1924 for Mrs Truus Schröder-Schrader, who lived in it until her death in 1985. The house is open to the public and run by the *Rietveld Schröder House Foundation* who have published a book about this small icon of modernism.*

The book makes clear that although the design of the house was Rietveld's in essence, the early published articles credit Schröder as a joint designer; indeed the further development and maintenance of the house was the result of a rapport between Schröder and Rietveld.

Perhaps the most interesting aspect to the book is the interview with Mrs Schröder because she puts this icon into the context of real life. Thus the walls were hung with van Doesburg's paintings but they would be framed by the clutter of day to day.

Mrs Schröder had trained as a pharmacist, she married a lawyer who died in 1923, and, like other middle class, comfortably off intelligent women she saw patronage and participation in the progressive arts as a way of self-fulfilment. She enjoyed debate, art and ideas and the commissioning of this house was an extension of her socio-cultural ambitions. She was good for Rietveld in several ways, as the almost ideal client, and, to an extent as a mentor for she encouraged Rietveld to read more widely and to write.

Rietveld was a furniture maker and designer; he had worked on shop and interior conversions and it is argued that it is because of Rietveld's experience as a *maker* rather than a designer that he designed with cardboard models. There is an interesting quotation from the Russian artist and designer El Lissitzky, (he visited the Schröder house in 1926), 'He does everything with models, feeling things with his hands; and therefore his product is not abstract. One cannot judge such works by photographs, since by photographs we see only a view and not the life of the form.'

What still seems curious is how Rietveld became such an innovative leader in modernism; he was not, at any rate, not initially, an intellectual and yet he had a very clear view that he did not want to be anything other than a modernist. One is tempted to conjecture that the pioneering work of Frank Lloyd Wright (especially Wright's furniture) had a greater influence upon Rietveld than appears to be acknowledged in this book.

Rietveld's *Red and Blue* Chair, first designed and built in 1917, was something of a tour de force. It looks as if it is the elaboration of a theoretical position rather than the result of thinking which begins with making (as opposed to drawing). And Frank Lloyd Wright's early furniture has a congruence with Rietveld's slab and batten chairs.

Of course, the puzzle can be overdone. Rietveld was a craftsman but it is still unfashionable to make much of this because of the division of work, especially pronounced in this century, between designers and craftsmen. The one category thinks, the other makes. This distinction is a nonsense in practice (and certainly in history). Rietveld may happen to be an example of how foolish are the rigid distinctions between craft, making and thinking.

Before he designed the house Rietveld was familiar with the work of Theo van Doesburg, the architect, designer and painter who started the magazine De Stijl. Paul Overy, one of the contributors to this book, explains that De Stijl was not a manifesto but described (and revised) attitudes to a way of life. This is an important reflection, particularly in the light of a remark made by Rietveld that 'Function was an

The Rietveld Schröder House
co-written by Paul Overy, Lenneke Buller Frank den Oudsten, Bertus Mulder
Published by Butterworth Architecture, London

First floor bedrooms dovetail one into the other and can be separated by partitions. Note the Hanging Lamp.

South west and south east facades of the house today. The house when originally published was rarely, if ever, seen in context.

East facade showing how house appears much larger out of context with the other houses in the street.

First floor child's bedroom showing complex use of sliding partitions, built-in furniture and colour used like a painting.

View through from the living room to child's bedroom, showing how spaces flow into one another, and Rietveld's custom designed furniture.

Looking out into the garden (and motorway) from the living-dining area.

accidental, casual need that would change with the time and indeed always changes in the course of time.'

That understanding of function as process, as something which alters with the flux of change, applies (to an extent) to the Schröder House, which was designed with change in mind. However, as Mrs Schröder explained in an extensive interview before her death, the space was not infinitely flexible. Rietveld was not interested in designing the kind of space where anything goes – it required you to make a decision about what you really wanted.

For example, with relation to the first floor, Rietveld did not want partitions but Mrs Schröder felt she needed something and a compromise was made with sliding partitions. She said that Rietveld always regretted the interference. There have also been some maintenance problems, leaks in the roof, flooding in the cellar and Mrs Schröder seems never to have minded; she was almost in thrall to Rietveld and his ideas: 'Personally I was not the slightest bit interested in De Stijl, it left me cold. I did like the fact that those people had new ideas, but that wasn't what I was concerned with. I wasn't interested in De Stijl, I was interested in Rietveld! In him as a person, in his personal vision.'

A good thing: modern design often demands a commitment from the client and some cultures encourage more people with this commitment than others. In some countries, an overtly empirical attitude does not encourage many people to fall in love with the spirit and intellectual aesthetic of an object.

And we must not let hindsight blind us. This was an extreme design. A lot of glass, for example, is used on the upper floor. Large windows were very unusual then and Mrs Schröder explains that they felt unusual, odd and absurd. Today the 'absurdity' is different. When the house was first built it over looked green pastures, today it overlooks an urban elevated roadway. The responsibility of the house fell also on younger shoulders, one of Mrs Schröder's young daughters returned, crying from school, because children had mocked her for living in a 'loony' house. In fact it would probably be the same today, fragile though the house may look it is still on the extreme of the popular imagination.□

S KIRIK MONASTERY PROJECT

Restored entrance front to monastery.

Central to the activities of the International Academy of Architecture is the School of Advanced Architectural Studies housed in the restored monastery of S Kirik, situated twenty four kilometres south east of Plovdiv. The monastery provides teaching facilities and residential accommodation in a setting conducive to creative thought and dialogue free from the everyday distractions of urban life. The idea of an isolated retreat from which to rethink ideas dates back to the founding of the monastic system itself in fourth century Egypt.

The first CIAM conference was held on a ship, while Thomas Mann's greatest philosophical outpourings, contained in The Magic Mountain, are delivered by characters resting in an isolated sanitorium high up in the mountains. The summer schools at S Kirik offer students, teachers and practicing architects a chance to get well away from their normal surroundings, to meet international colleagues and to work together on live projects, many of then concerning pressing problems of housing and urban renewal in the poorest parts of the world.

Sited six hundred metres above sea level in the Rhodope mountains S Kirik has led a chequered history. The monastery has been prey to the whims and destructive tendencies of successive waves of invaders. The monastery was finally abandoned at the beginning of this century although the delightful and largely unspoilt church in the centre of the courtyard complex continued to fulfil its function until after the Second World War. The monastery buildings, badly bodged, were used for various purposes – an asylum, a camp for political prisoners during the occupation and so on – until in 1972 the National Institute of Cultural Monuments listed what remained of the buildings. Finally in 1982 the Metropolitan Diocese of Plovdiv entrusted the care of all the buildings except the church to the Union of Bulgarian Architects.

The architects chosen to rebuild the monastery and to provide the new teaching rooms and accommodation were Lubomir Shinkov and his son Hristo. Shinkov has had considerable experience in the restoration of old Bulgarian towns and since 1981 has been chief architect to the historic town of Bansko.

Shinkov's problem in restoring the monastery was firstly a lack of original drawings or photographs. In fact there was only one engraving to hand which gave some idea of the monastery in its heyday. However, S Kirik is a classic Bulgarian monastery. Its design is based around a seventy five metre square. Using traditional materials – brick, timber, clay tiles and smooth plaster – Shinkov has recreated the essential form

S Kirik is a traditional Bulgarian monastery, but much has been altered with time.

Courtyard

of the old monastery. The new buildings, however, are constructed on a modern concrete frame. The new accommodation comprises six teaching studios, a library, conference hall (seating two hundred), a museum, exhibition hall, administrative offices, 10 bedroom suites, thirty five single rooms, a 130 seat restaurant, a private dining room, a cafeteria, club room, gymnasium, sauna and two open air tennis courts.

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- Events linked to the World Biennale of Architecture.

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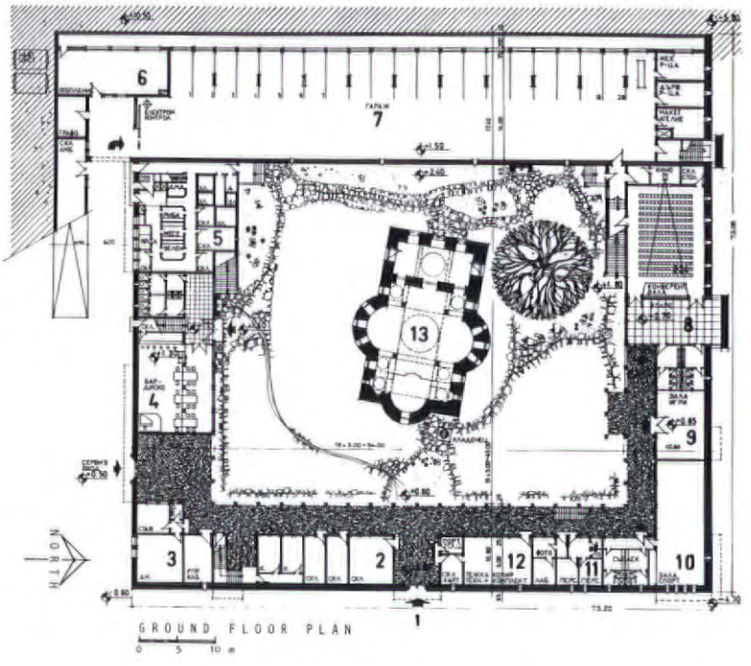
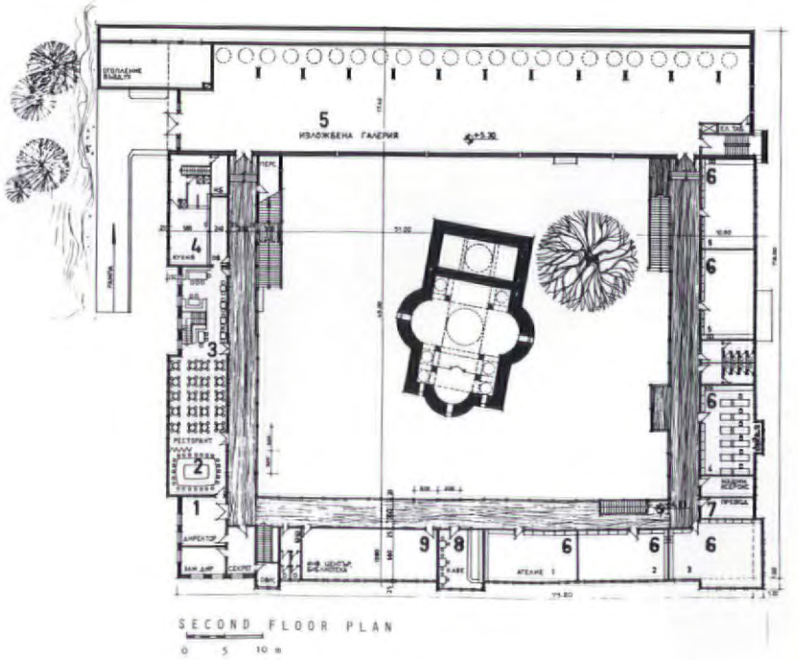
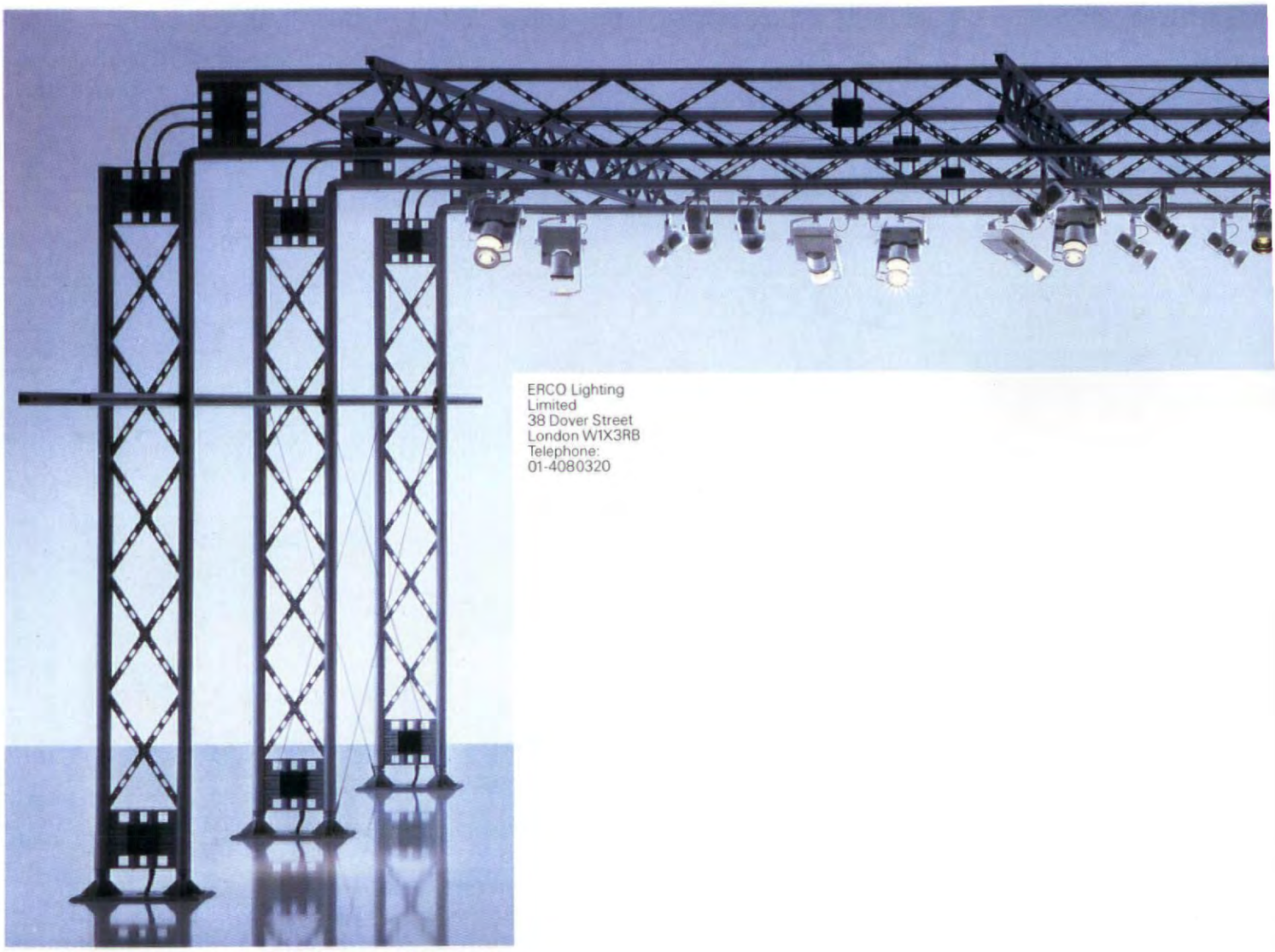


First floor plan





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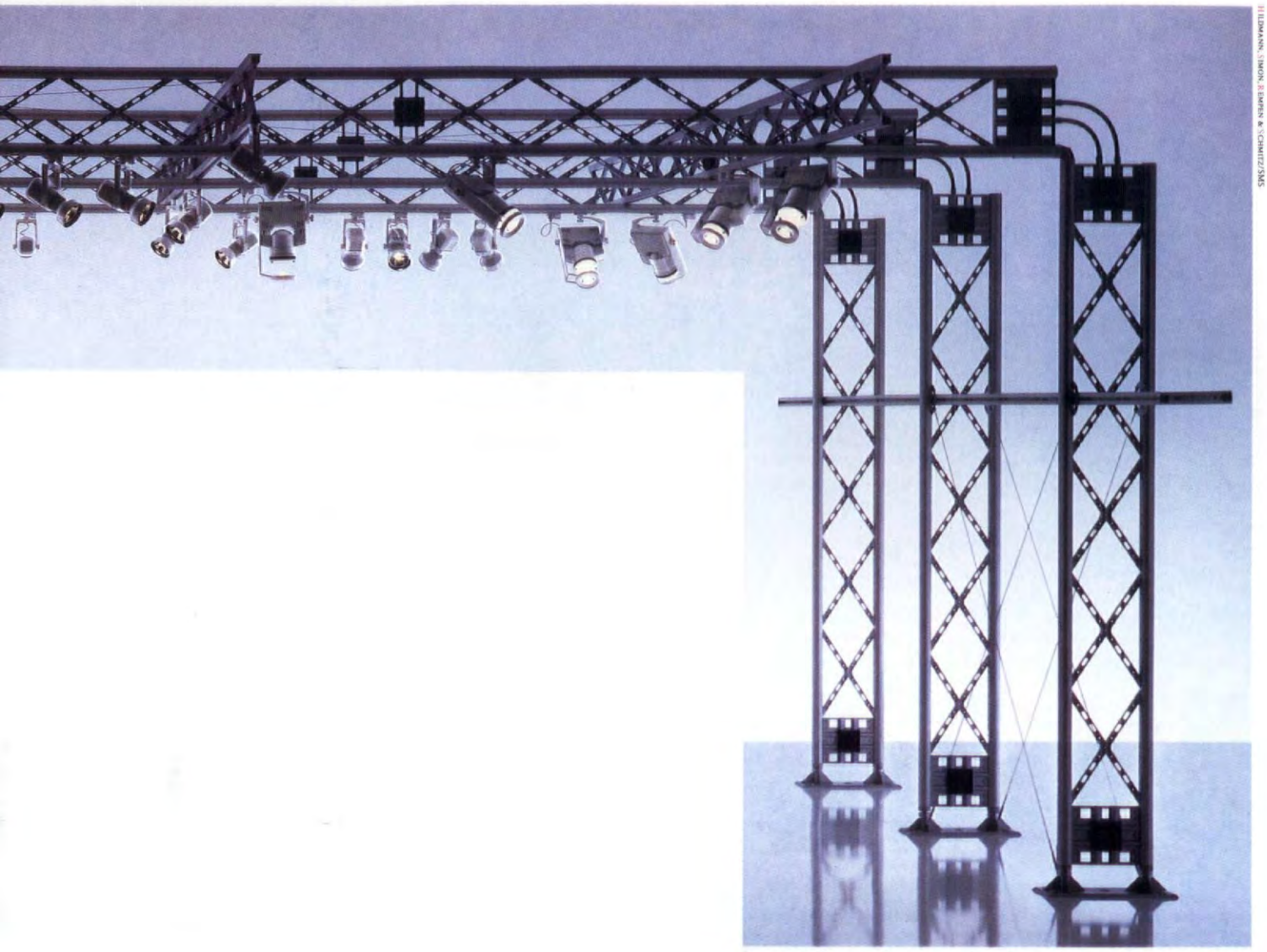

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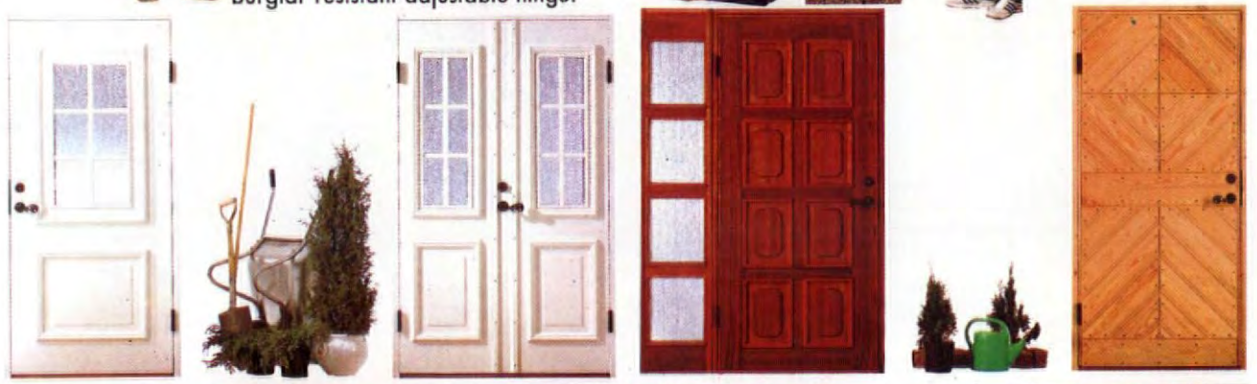

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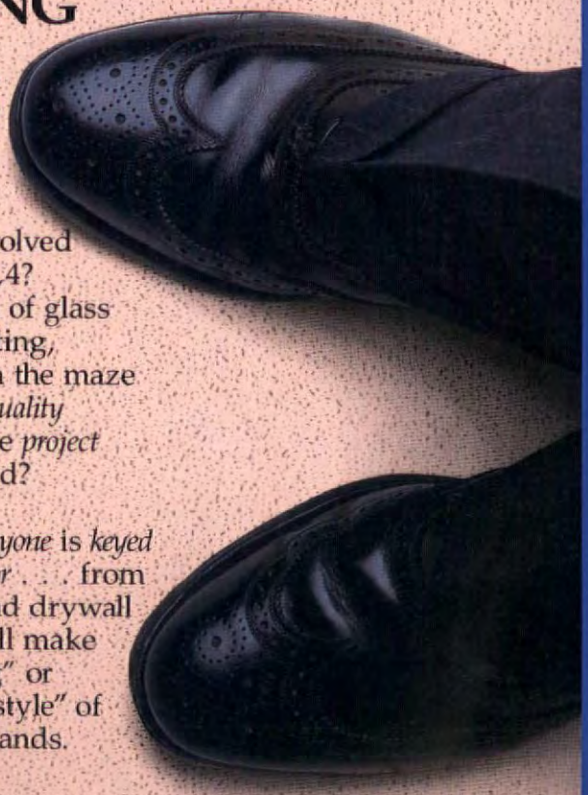

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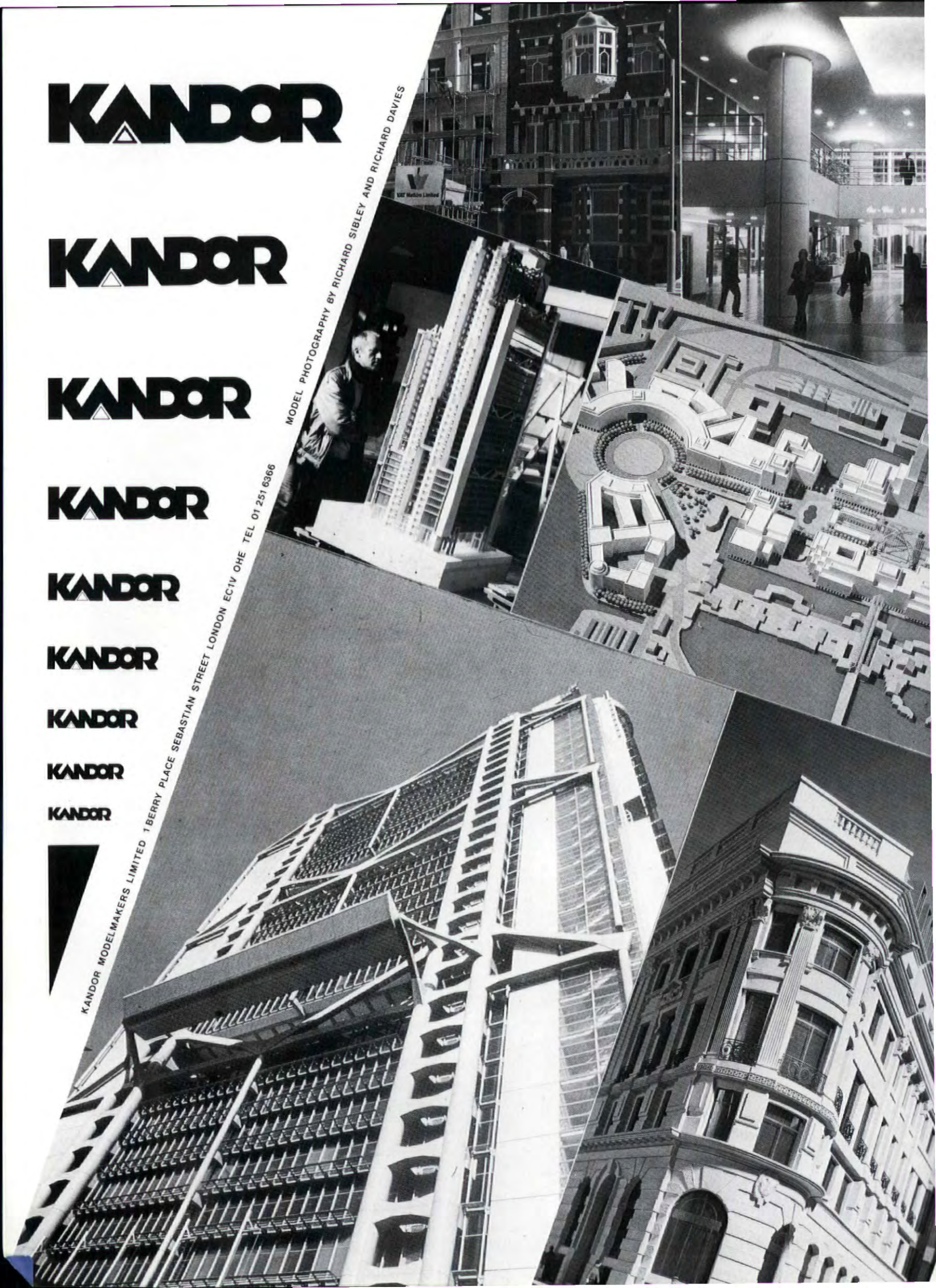

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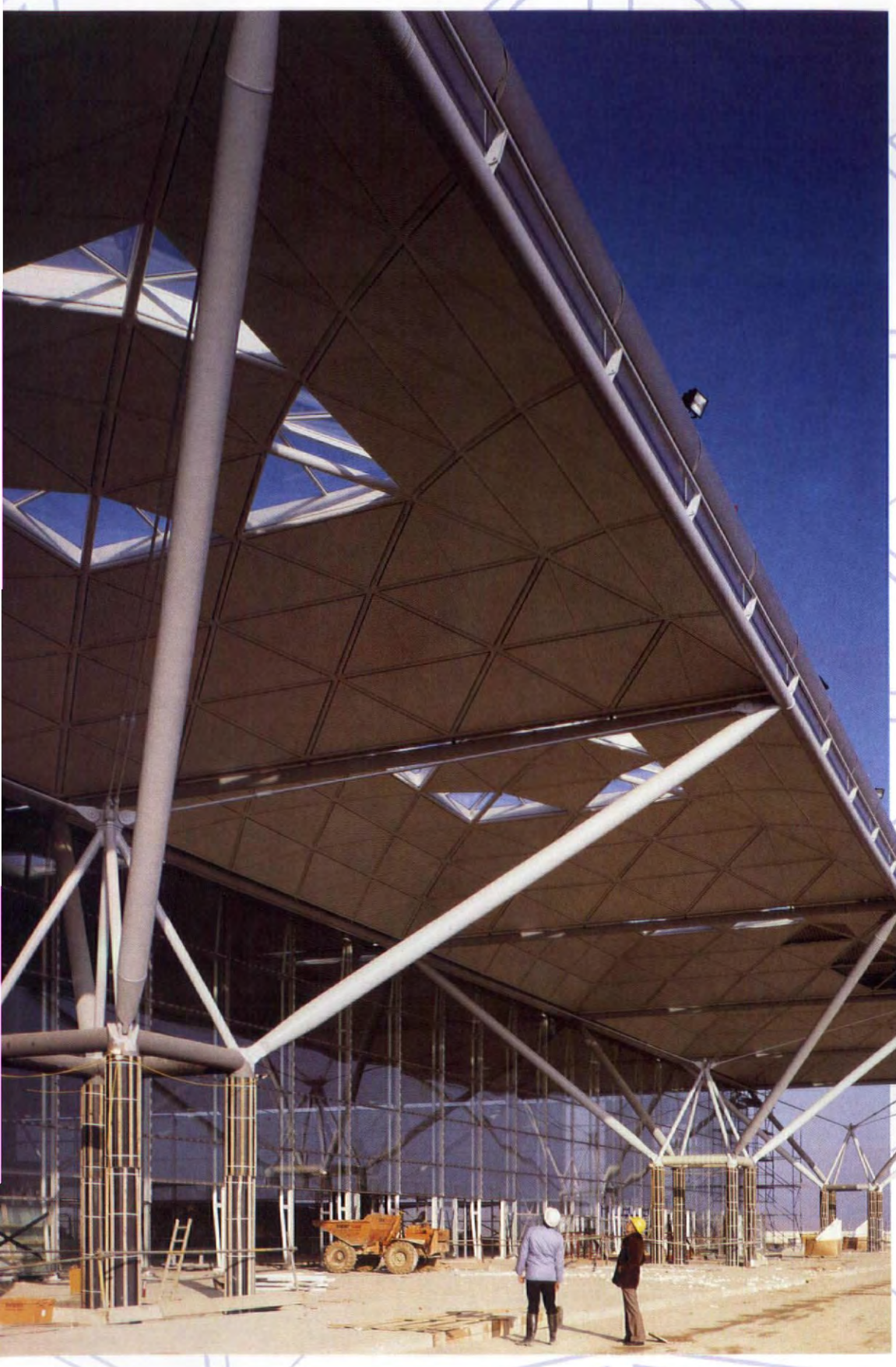

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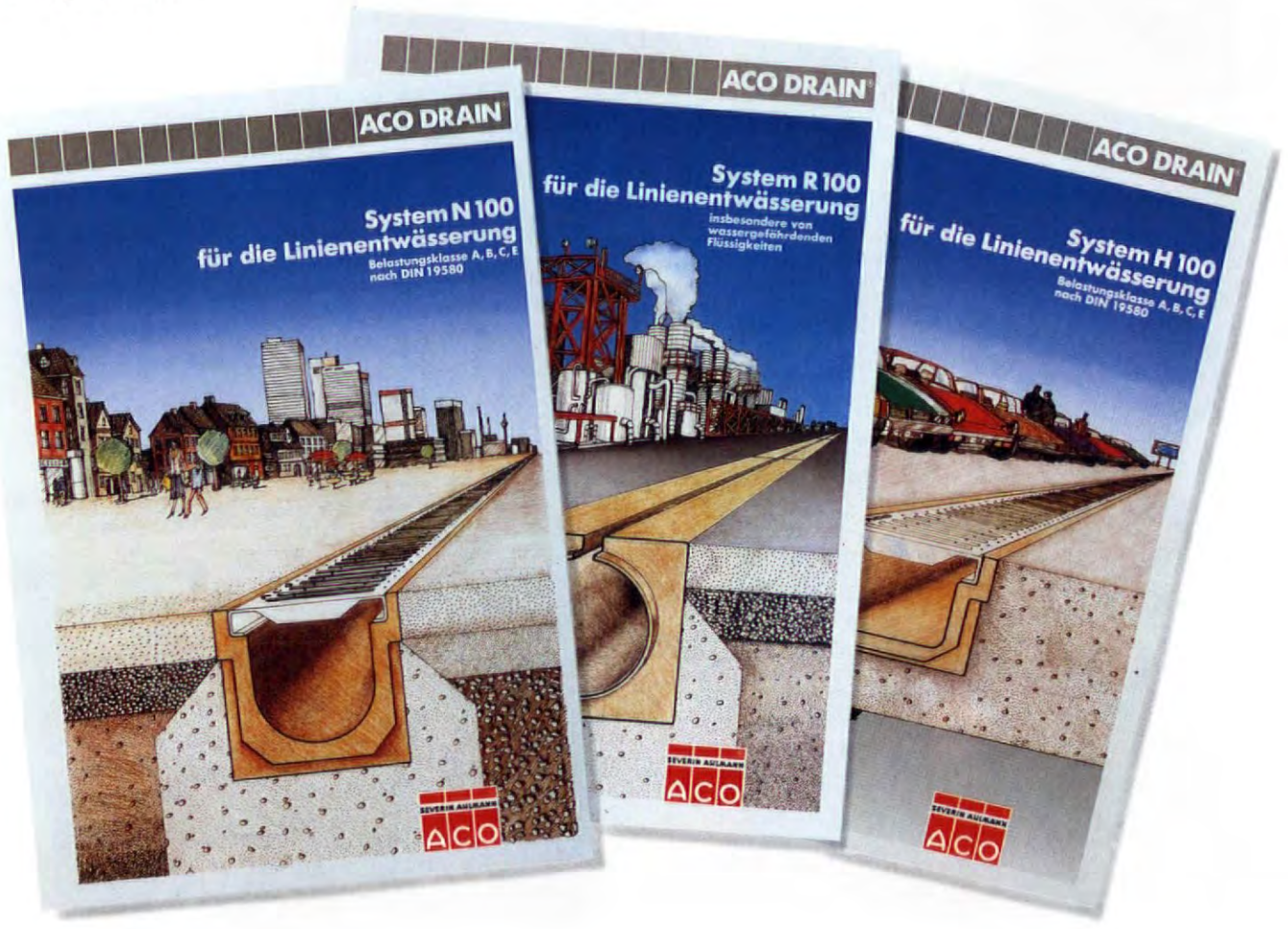

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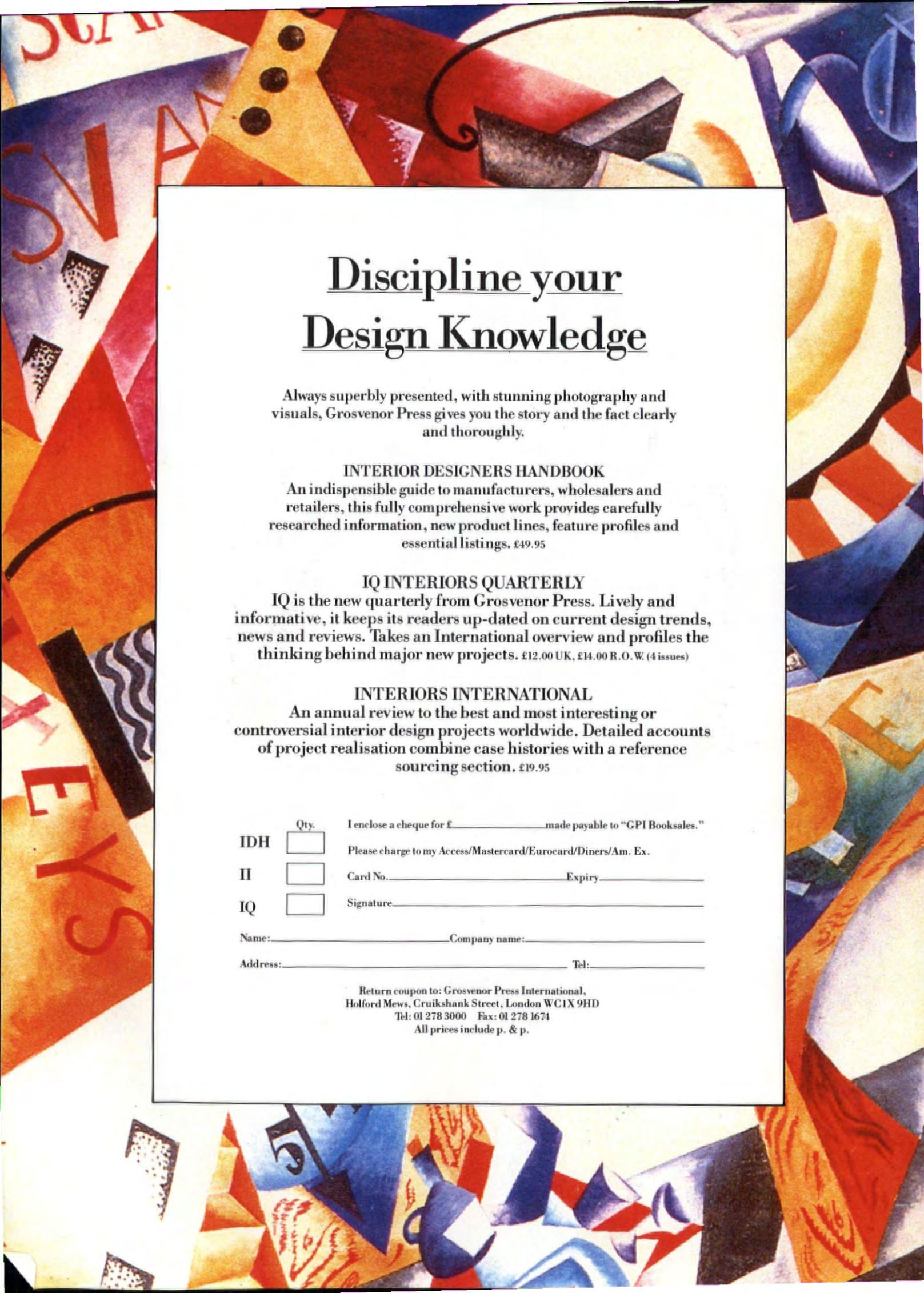

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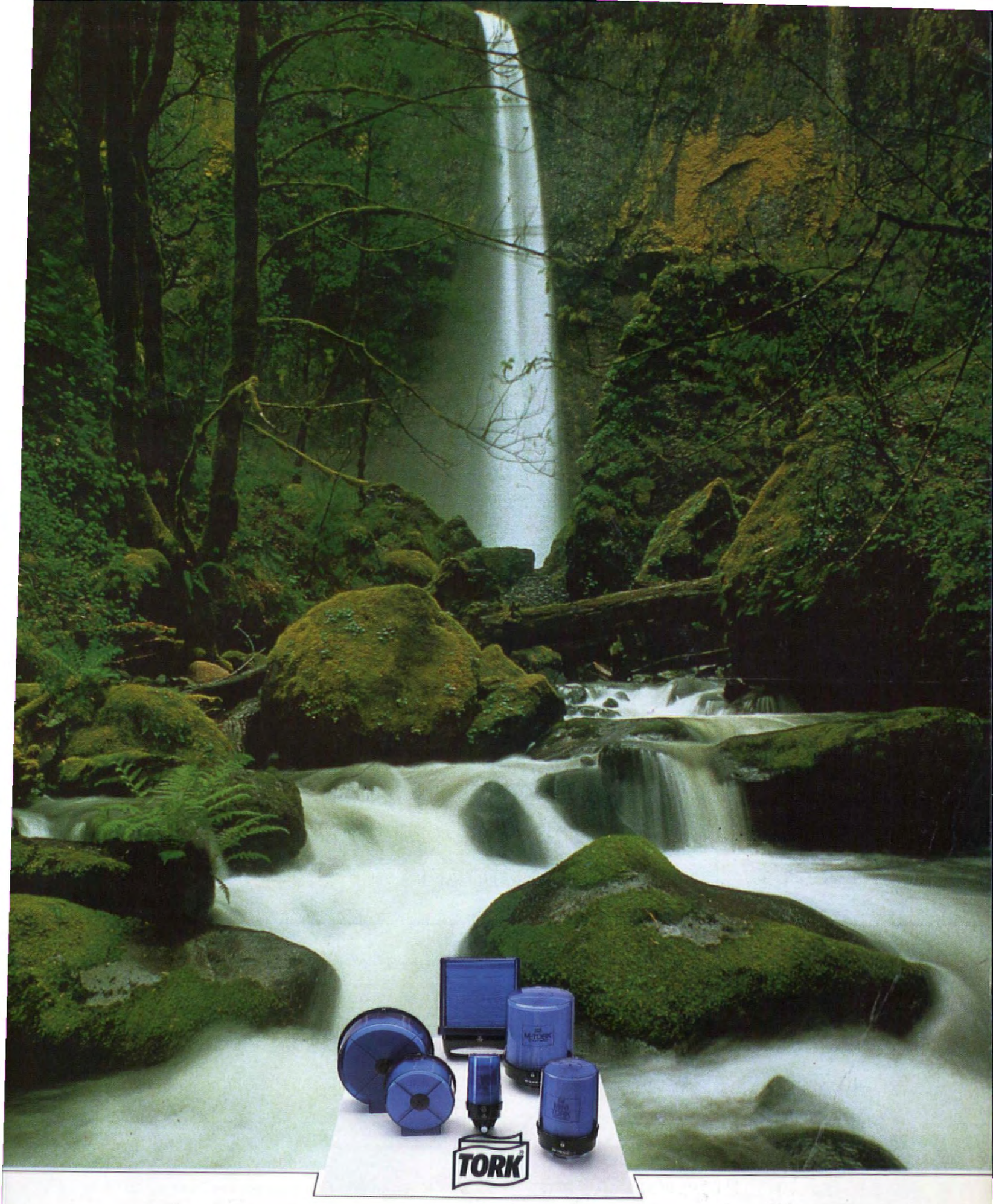

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