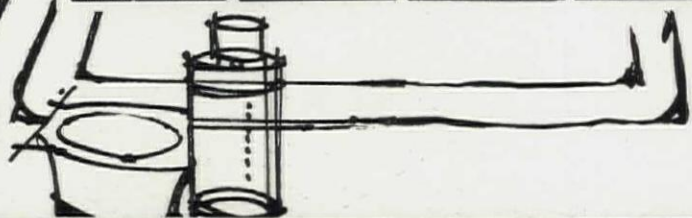
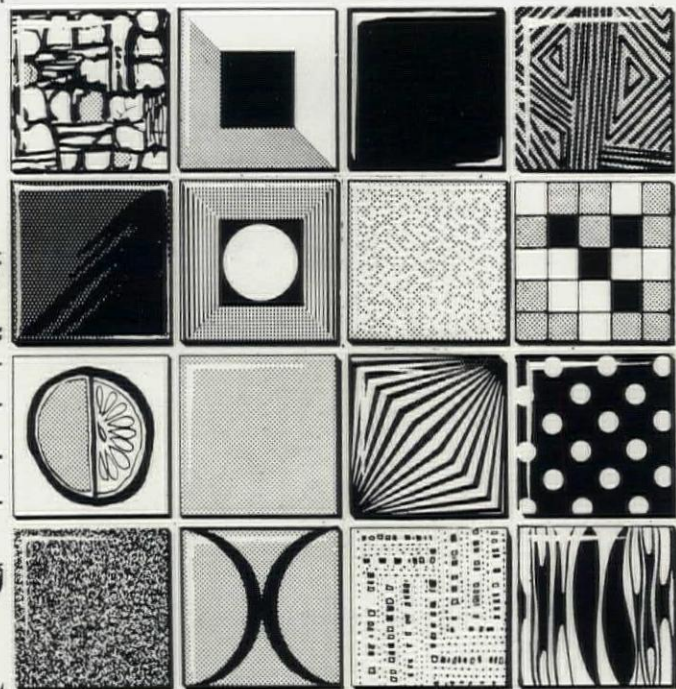


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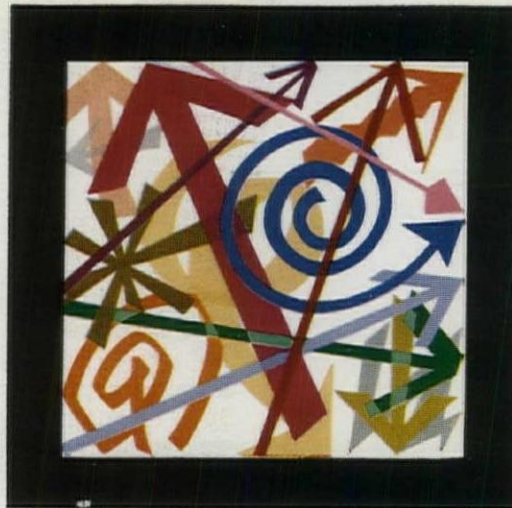
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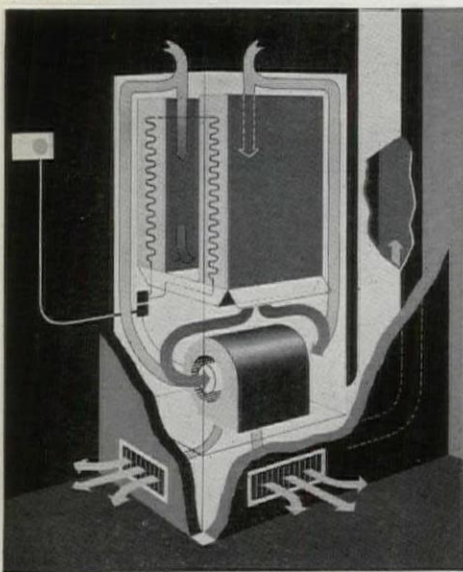
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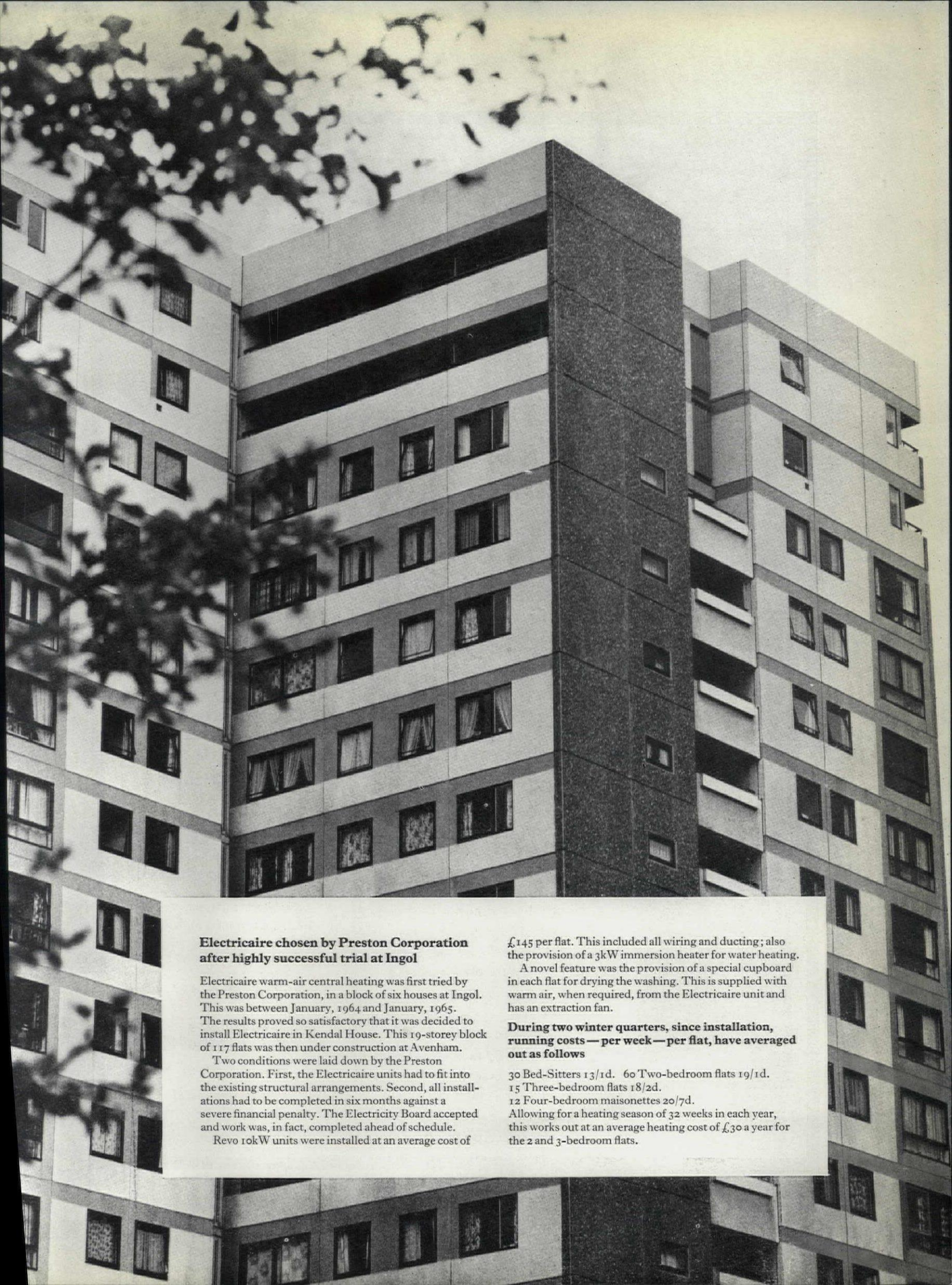
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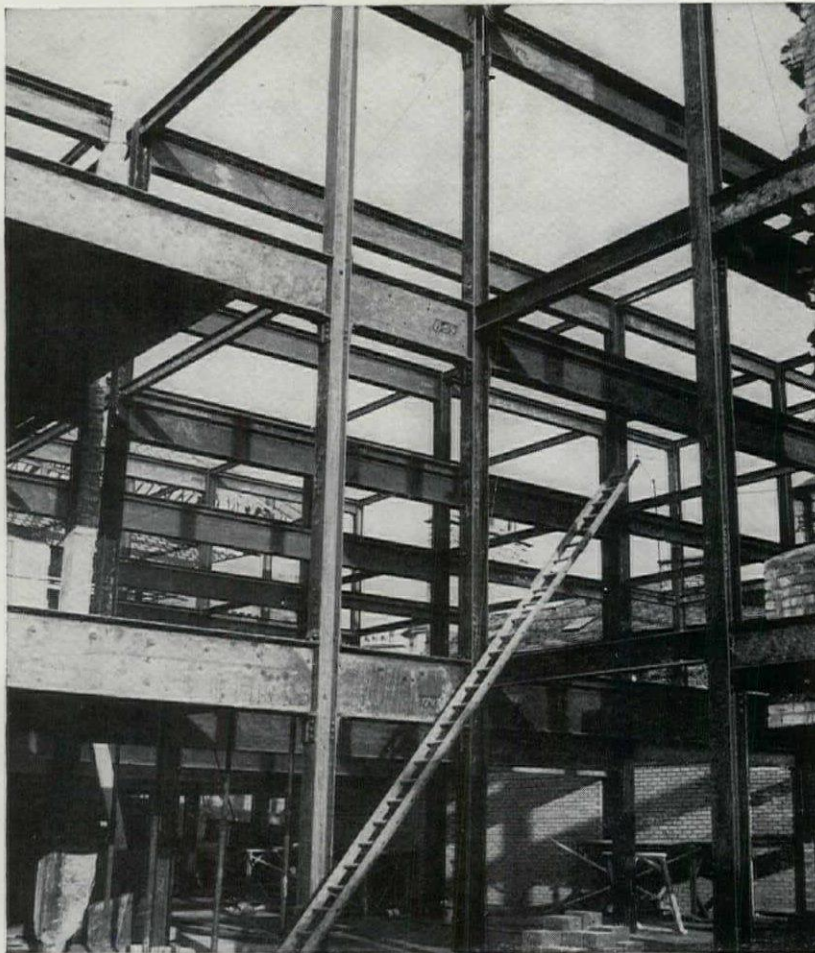
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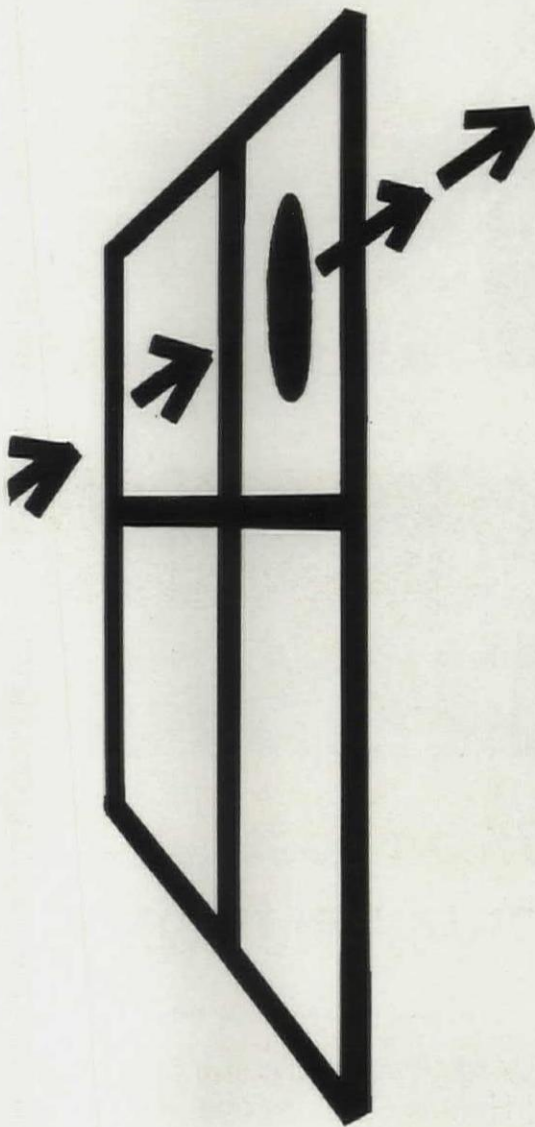
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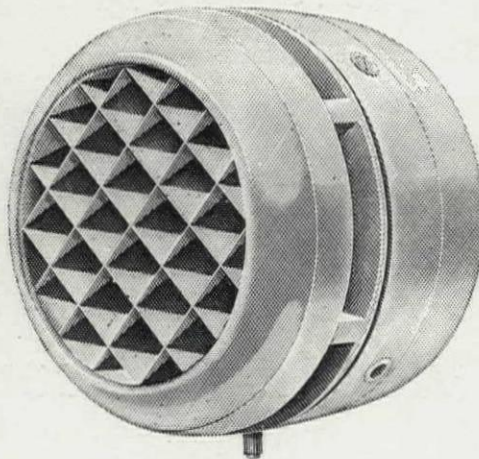
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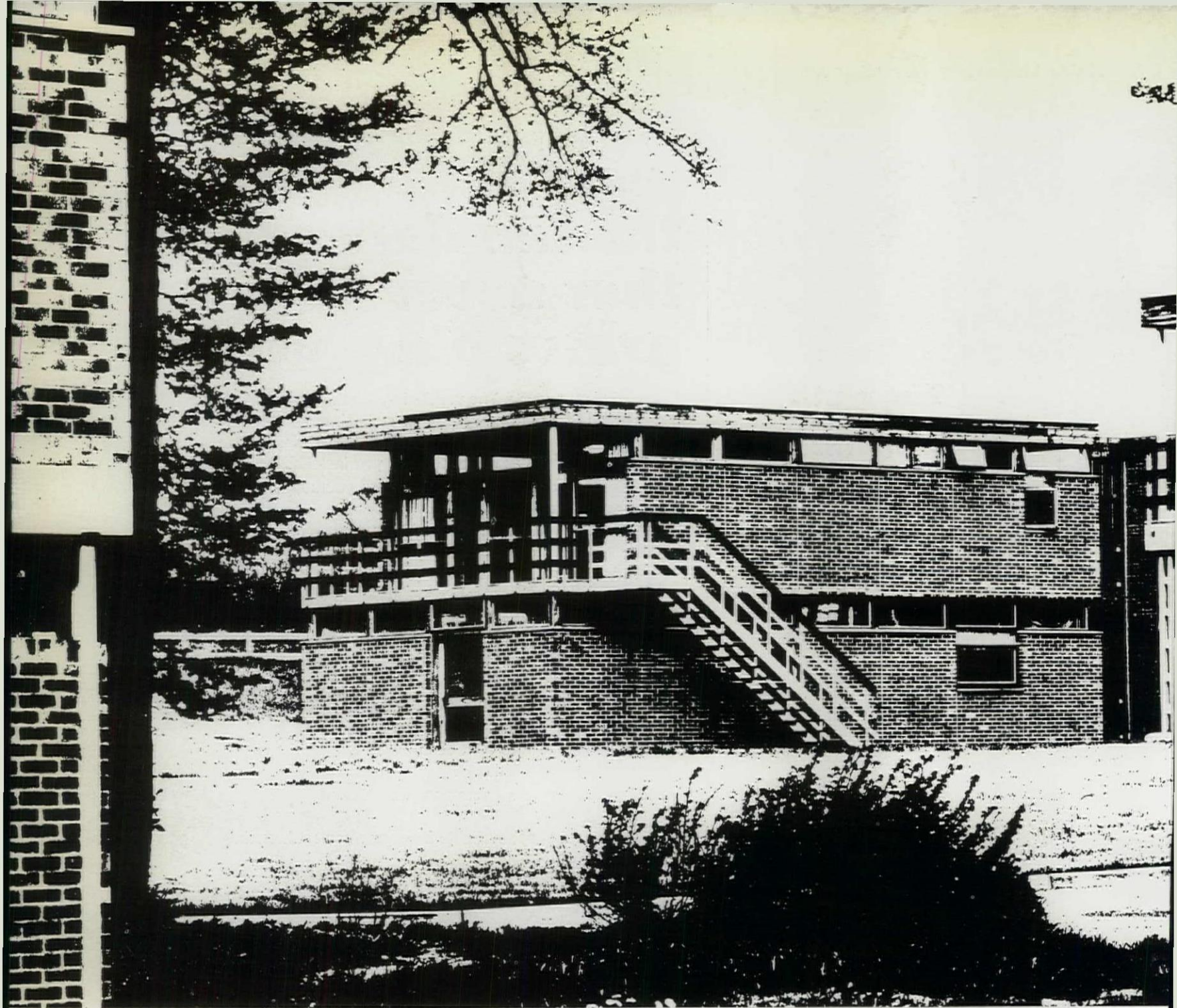
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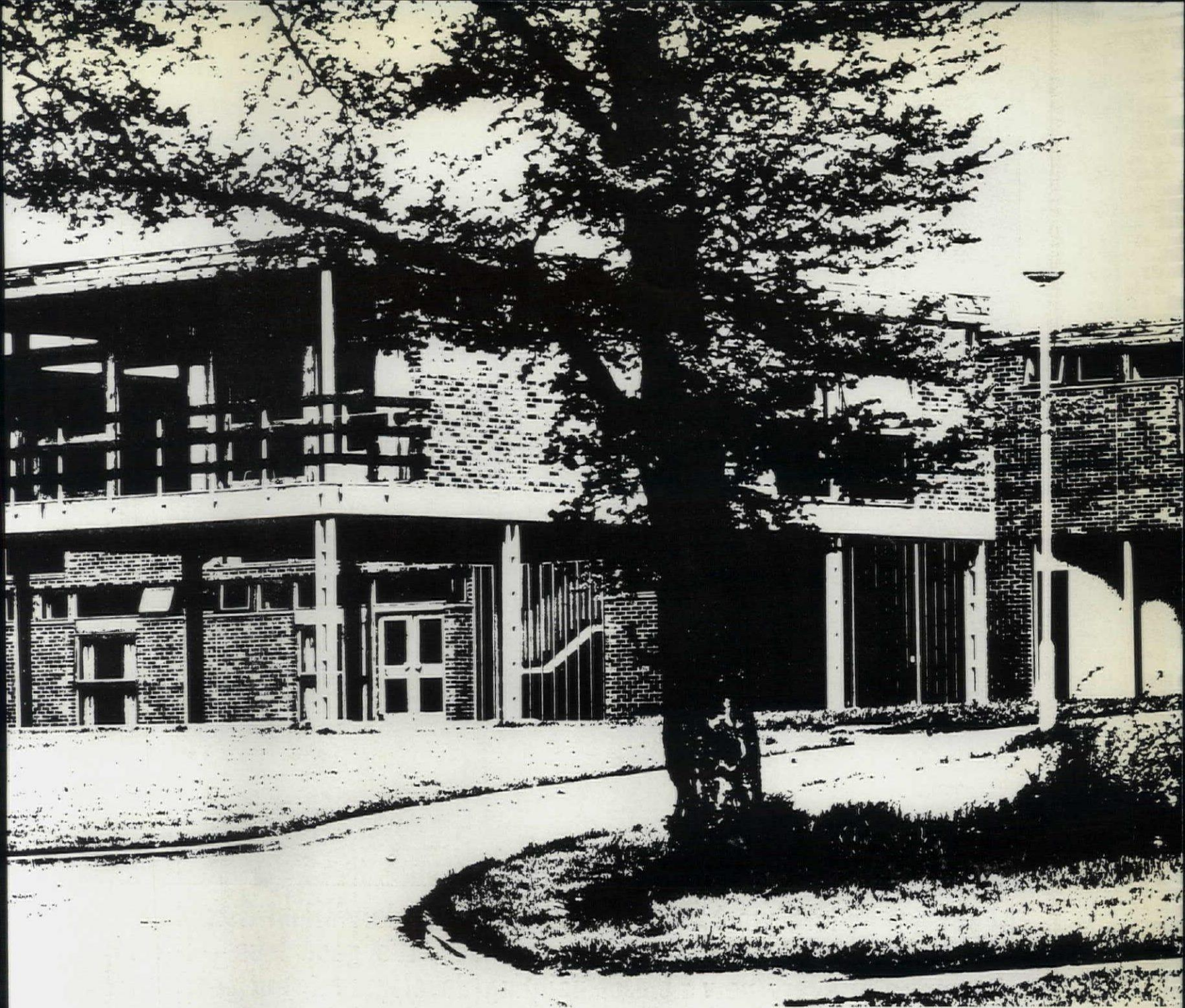
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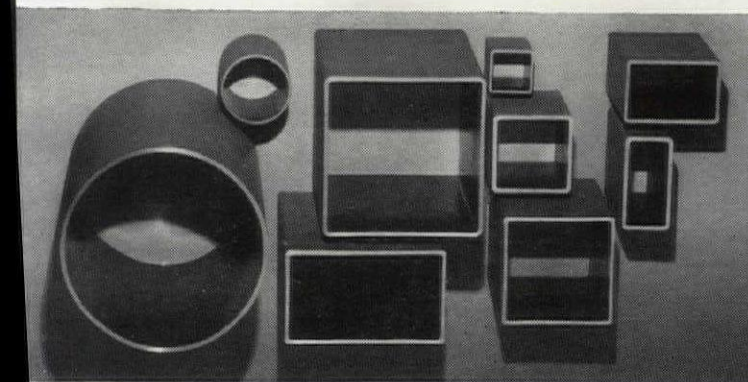
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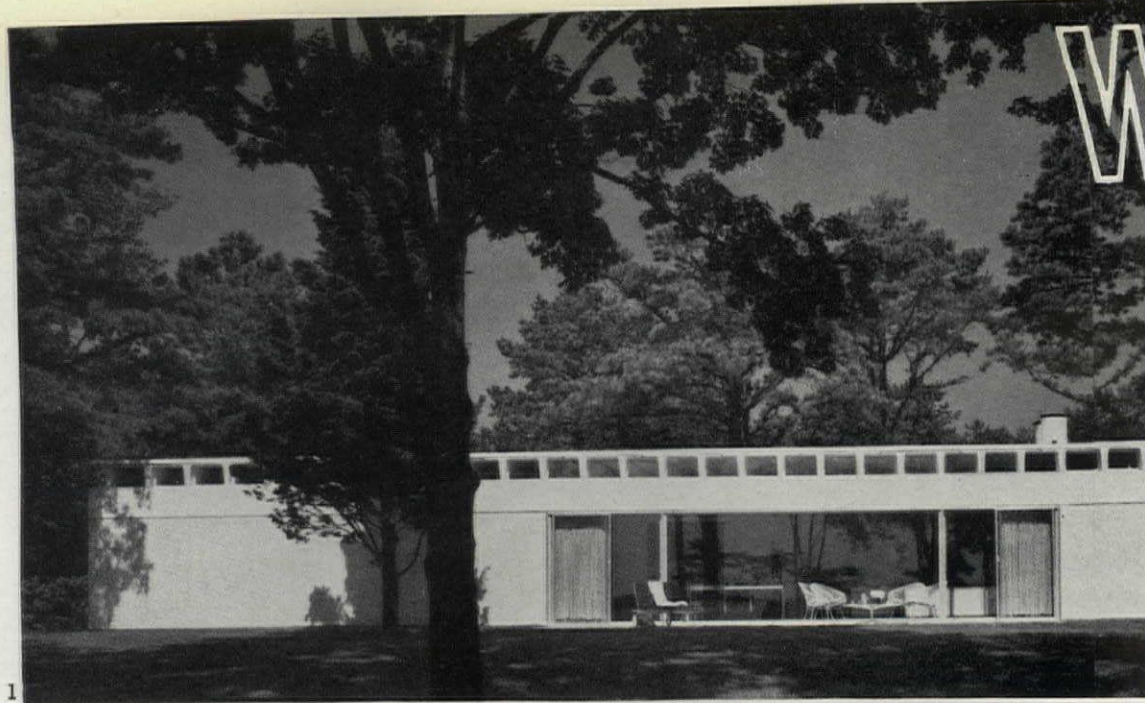
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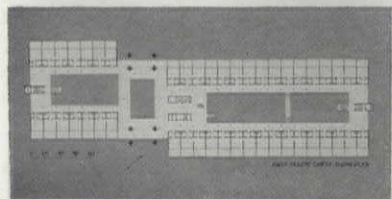
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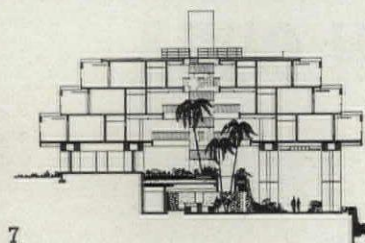


5



6

Skidmore, Owings and Merrill are sometimes written off as mere precision instrument-makers of a beautifully conditioned nightmare; so it is salutary to experience two works of pure fantasy recently completed by them, at extremes of scale and situation. On the one hand, shrouded in deep woods at the eastern end of Long Island, 1, is the residence of Mr. and Mrs. Gordon Bunshaft, that is to say, the home of the chief designer in SOM's New York office. On the other hand, 2, as *Interiors* magazine put it ecstatically, 'Paradise is a man-made oasis on a lava-rimmed shore. Laurance Rockefeller built it in Hawaii. Skidmore, Owings and Merrill designed and furnished it.' This is, to put it more bluntly, the hotel at the Mauna Kea resort designed by Edward C. Bassett of the San Francisco office. Both buildings are classical in discipline (mainstream SOM), but soar into a kind of sans-seraph heaven by their communion with their surroundings and with their contents. Travertine-faced walls and clerestory lighting between the ends of prestressed T-beams, 3, are the setting for the growing Bunshaft collection, ranging from Picasso,



7

Le Corbusier and Henry Moore to 'Mrs. Bunshaft's own work . . . of smiling faces painted on pieces of local stone.' Paul Weidinger's structure and SOM's own landscape, 4, combine effortlessly with the existing pond and trees; full glazing breaks out in the bedroom at each end and in the central living area. Mauna Kea is, if possible, an even finer achievement, in view of



the pitfalls of tropical escape. SOM have shirked nothing—almost entirely from other parts of Hawaii was previously a desert spot—contents—collected on a 'special safari' by David Allen of New York office—being played full. The secret, as in all architecture, was the selection of a fundamentally convincing plan form, 5, of a view (out to the sea or in Mauna Kea volcano), 6. The stepped section, 7, gives an astonishing interpenetration of ruin overgrown by a jungle even though the planting

THE ARCHITECTURAL REVIEW

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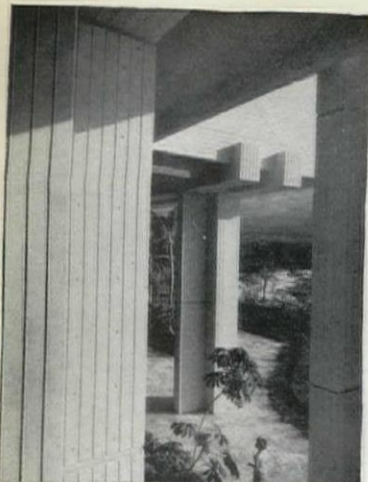
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AUGUST 1966

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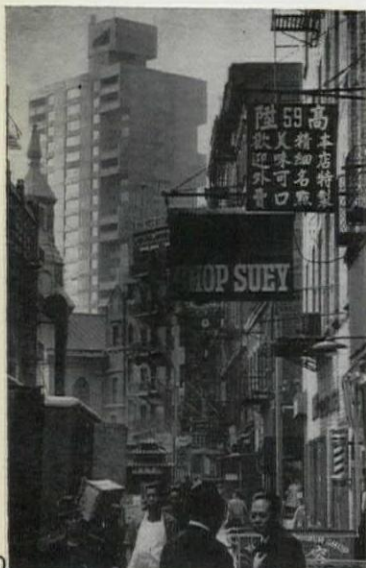
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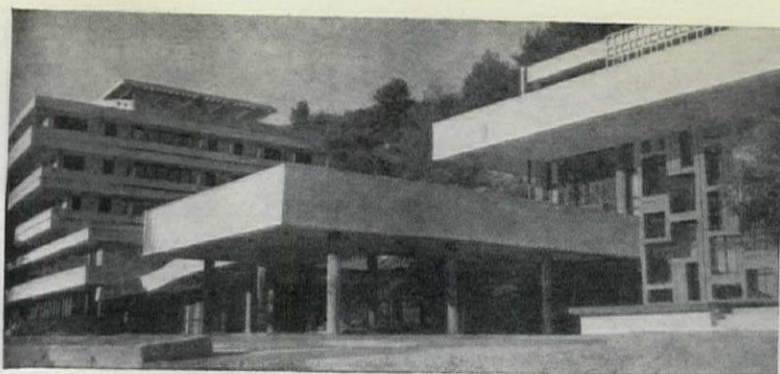
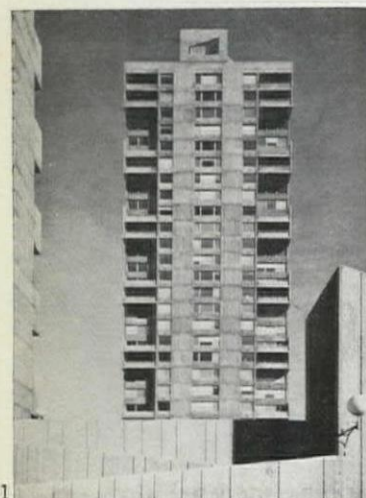
MAVNA KEA

started to grow. Beneath it all is the massive concrete structure, 9, with its sand-coloured paint over ribbed form-work ('We are not accidental architects,' Bassett is quoted as saying).



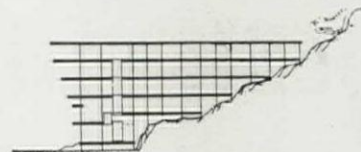
REALISM

After 'LCC for the Rich' in Washington, DC (AR World, May 1966), we present 'LCC for the Bourgeois' in the admirably tough Chatham Towers scheme in Lower Manhattan, 10, designed by Kelly and Gruzen for the Association for Middle Income Housing, Inc. The rough-shuttered modelling, 11, is reminiscent of Colin Lucas's recent Canada estate at Bermondsey for the LCC.

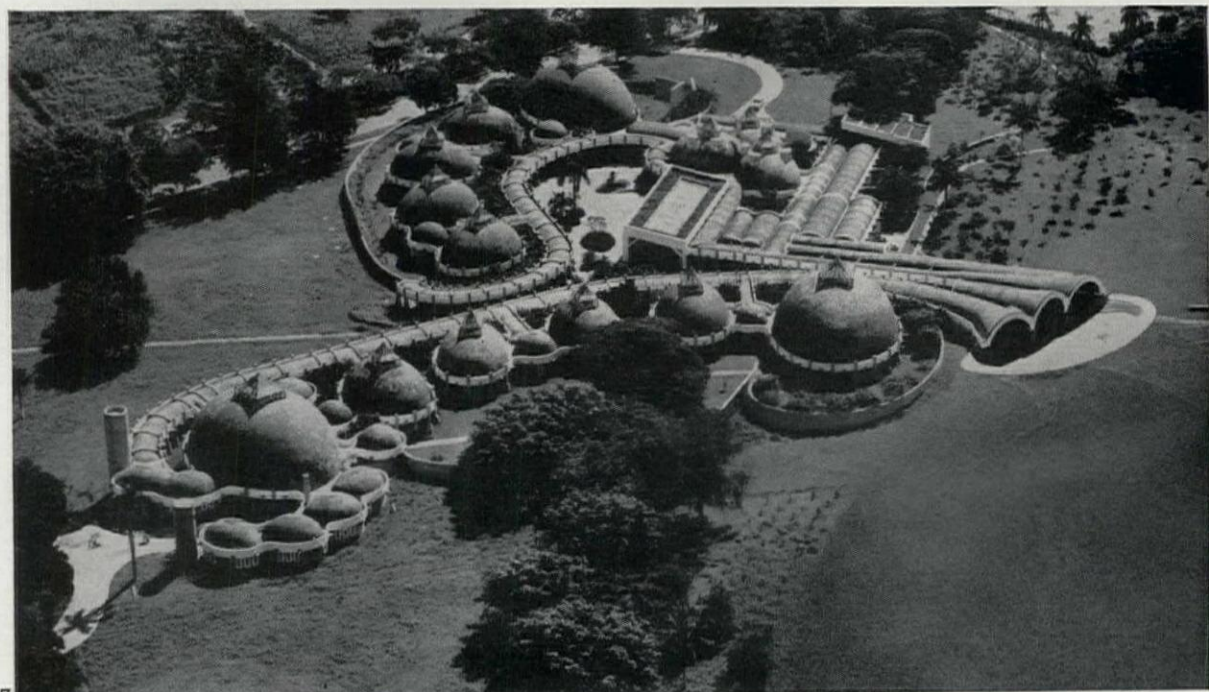
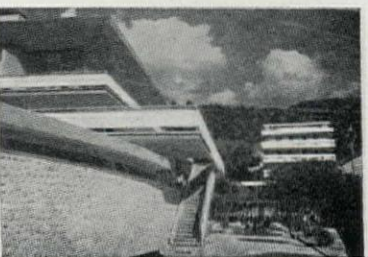
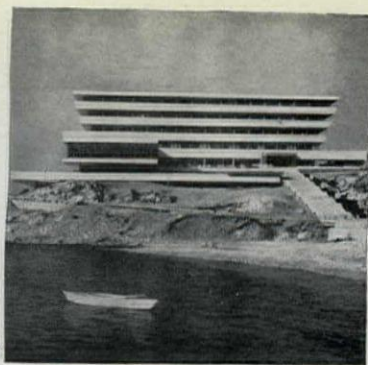


KUPARI

It is in hotels that Eastern Europe is making most concessions to originality. The Yugoslav magazine *Arhitektura* has enthusiastically defended against accusations of formalism David Finci's excellent Hotel Gorica, 12, and Hotel Pelegrin 13, which are grouped round a small bay, 14, in the Adriatic resort of Kupari. The latter



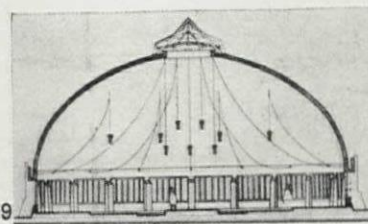
has its bedrooms given perfect privacy by flaring them out as an open courtyard from a solid public base; the former has the two parts laid out as separate pavilions, with similar cantilevering in the bedroom wing and dining terrace. Finci's relaxed control of the building masses in relation to the landscape and to each other, 15, is carried through sectionally with considerable boldness; in the Hotel Gorica, 16, the bedroom wing has its five-and-a-half storeys built into the hillside so that the top floor has direct access to the ground. 'In this unhappy situation of our actual architectural moment,' says *Arhitektura* in a remarkably outspoken article, '... success or downfall of Finci's enterprising spirit might have a deep and far-fetched impact for our calling.'



EROTICISM IN CUBA

It is over two years since the AR first drew attention (in J. M. Richards's 'Report from Cuba,' March 1964) to the remarkable freedom of invention, not just for a Marxist state but for any state, being shown in the architecture of Castro's Cuba, particularly in the group of five art schools which now occupy the site of the Havana Country Club. *Forum* has just published a splendid aerial photograph, 17, of Ricardo Porro's School of Plastic Arts, with its worm-like corridors twisting round domed studios and a single contrasting block of rectilinear workshops. Porro apparently does not justify his Catalan vaults, 18, merely

on grounds of economy (perfectly true in view of the shortage of steel and cement at the time) or for their suitability for studios, 19, although the dais for models sits conveniently beneath the skylight and hanging spotlights. He specifically claims 'erotic



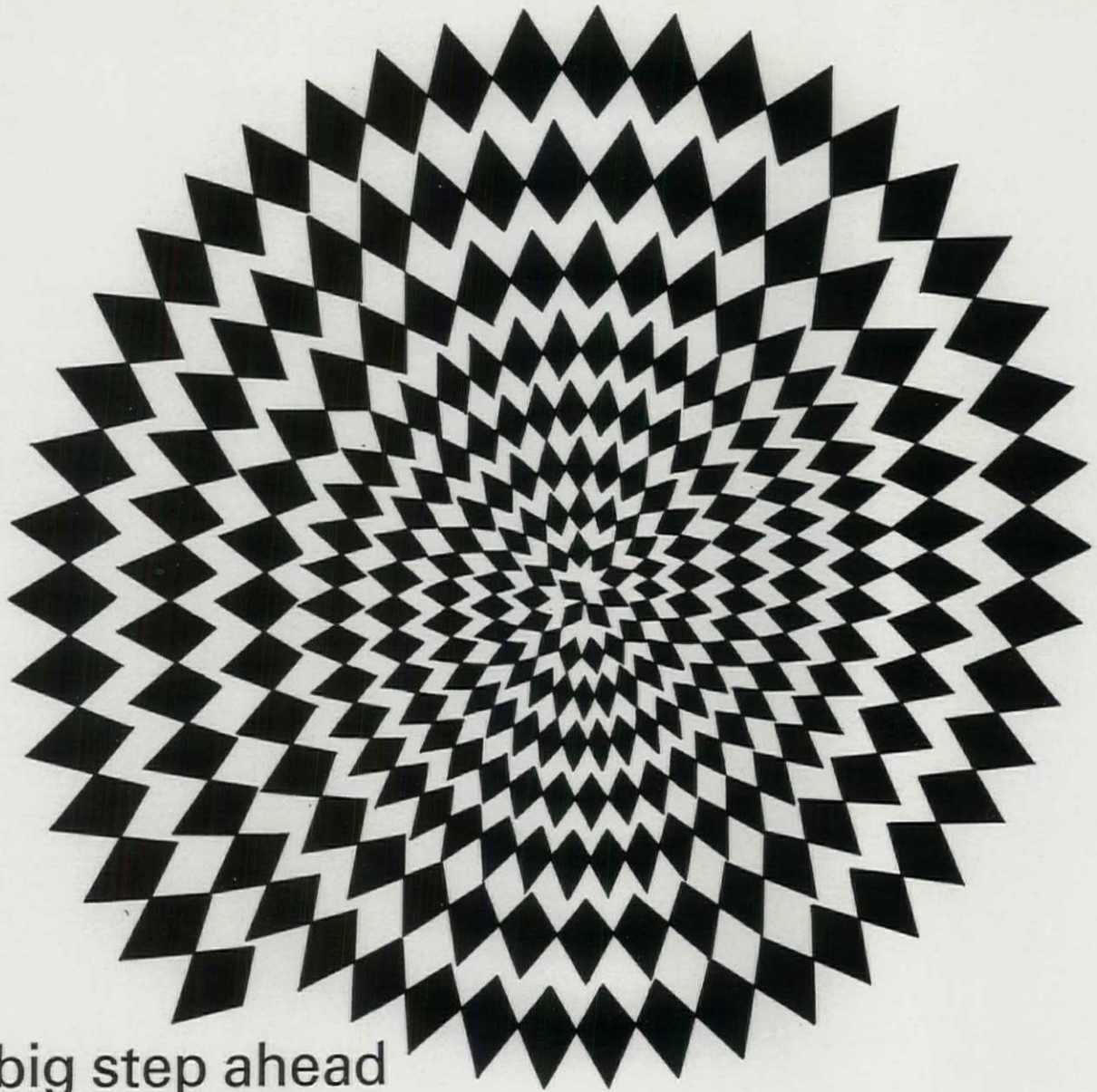


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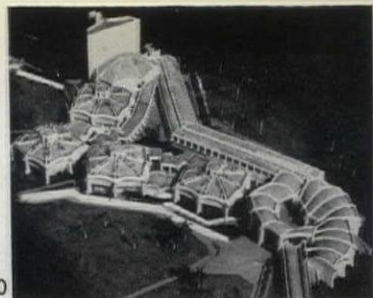
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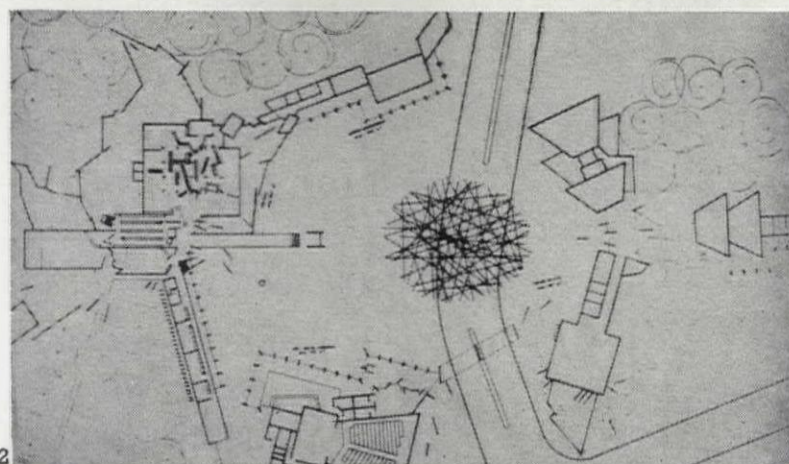
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RICARDO PORRO

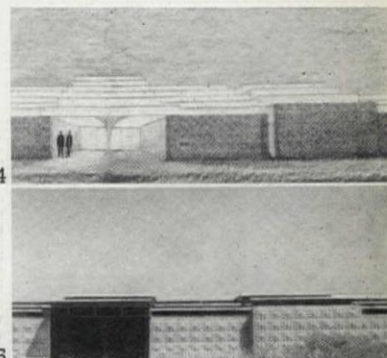
hues,' saying that 'the vaulted passages are full of vaginal suggestion and the domes resemble breasts and eggs.' This does not, he hastens to add, express mere 'primary instincts' but is 'a conscious symbol of life and fer-

tility of the creative impulse as opposed to the forces of destruction.' Vegetable forms appear in Porro's School of Modern and Folkloric Dance, 20, where planting boxes have been used to emphasize the radial pattern of the vaults; apparently the sharpness and angularity here are intended to express the 'exultation' and 'anguish' of the revolution. Something utterly different again is seen in Porro's proposed cultural plaza for the town of Levisa, 21 and 22, where, according to *Forum*, 'the long broken axes and massive fragmented wall planes suggest ruined cities, the aftermath of epic struggle.' Certainly in an age of planned obsolescence it seems sensible to design an empire with its own built-in Decline and Fall.



THINKS ... RETHINKS

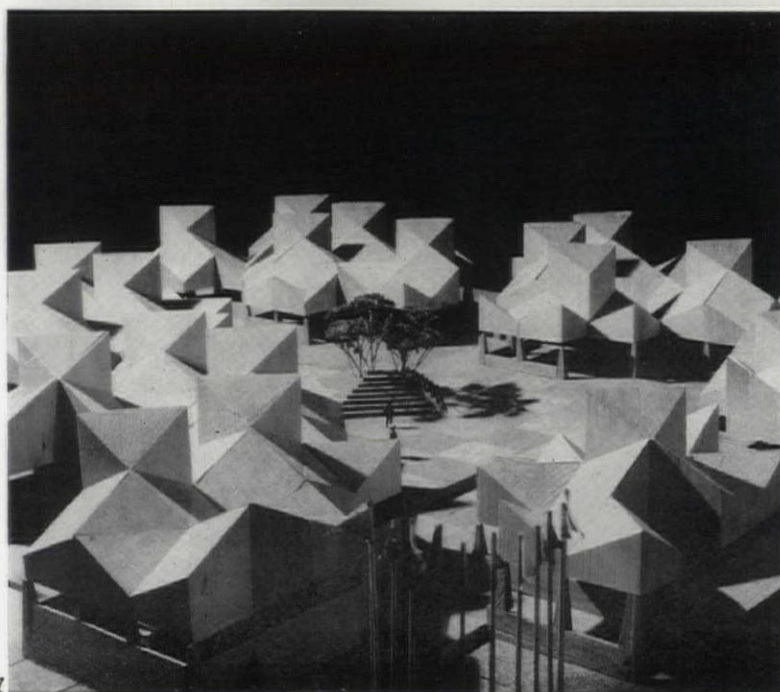
Those who have competitive confidence in American capitalism's culture (compared with Castro's) must have been shaken by *Forum's* painstakingly fair exposure in its March issue of IBM's rethink over architecture. It is a long way from the proud monuments of Saarinen and Breuer, which made IBM (with Eliot Noyes as director of design) the architect's best friend, to the dreary appearance of such recent package-deal contracts as the products development laboratory at Poughkeepsie, 23. Late in 1963, with 70 per cent of the US computer market in its hands, IBM decided that an 'image of wealth' had become a liability in its increasing price war with the smaller firms. So, for example, the stepped pyramid clerestory of Victor Lundy's Garden State branch office at Cranford, New Jersey, 24, was reduced to a fringe along the edges, 25. Yet its



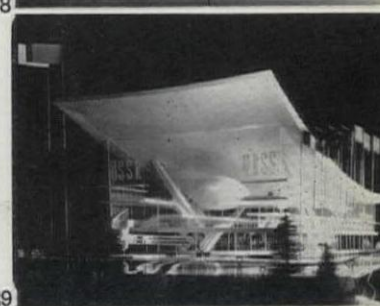
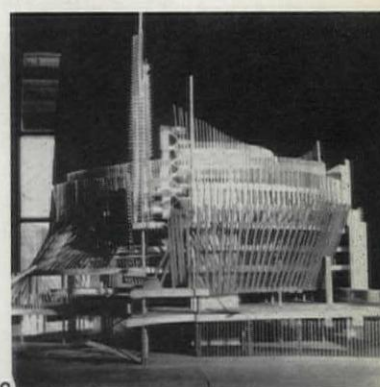
exotic brick walling, derived from the Mayan city of Uxmal, was allowed to remain, as was the vaulted 220 ft. square interior, 26 (similar in its ribbed mushrooms to other recent Lundy work, such as the Unitarian Church at Hartford, Connecticut).

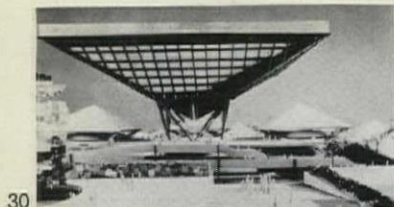


PAN-AFRICAN VILLAGE AT MONTREAL EXPO



At the latest count the Montreal Expo was finding room on artificial islands in the St. Lawrence River for fifty-nine national pavilions, as well as those of twenty-seven Canadian industries and ten Canadian provinces. More than eighty countries are taking part; the discrepancy in the number of pavilions is explained by the intelligent grouping of several countries in single schemes. In the case of the twenty-six African countries who have been invited, the result is the creation of a piece of genuine townscape, 27, designed by E. Fiset with, as consultant, John Andrews, the young architect of the brilliant Scarborough College *massif* in Toronto (to be published shortly in the AR). Within four main structures (corresponding to political groupings) and two smaller ones (right of 27) for independents, the individual nations are defined by changes in floor level internally and by prefabricated plywood rooflights and ventilation scoops externally. Walls are of red brick. Jean Faugeron's fascinating bundle of sticks for France, 28, and Russia's 29





30

MONTREAL EXPO

giant prefabricated canopy, 29, designed by R. R. Kliks, A. A. Mndoyants and A. N. Kondratiev, are among those which (like the US and German pavilions, AR World, October 1965) show an escape from the glass box conventions of Brussels. Russia's has suspended platforms illustrating space exploration, with a 'Cosmos Hall' in which weightlessness can be experienced. Canada itself, 30, displays the weightlessness of a huge

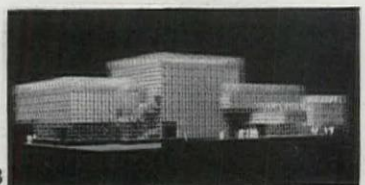


32

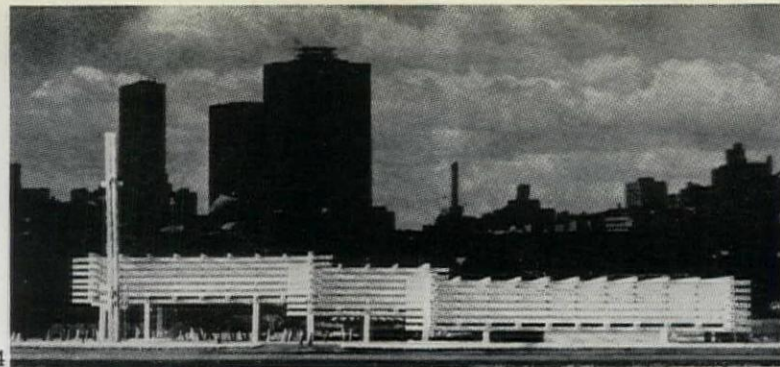


31

inverted pyramid, designed by Ashworth, Robbie, Vaughan, with Williams, Schoeler & Barkham and Z. Matthew Stankiewicz. Italy's creation, 31, by A. Antonelli, M. Greco and F. Piro, with Mrs. S. Rossi, includes Carrara marble floors and three giant sails which are said to be 'the first application of $\frac{1}{8}$ in. steel membrane conoids.' Of the glass boxes, the most promising are those of the Netherlands, 32, by W. Eijkelenboom and A. Middelhoek, and Czechoslovakia, 33, by Miroslav Repa, a



33



34

young theatre architect, and Frantisek Cubr, the architect of their Brussels Grand Prix winner, who is doing only the interior here. Nationalist China, 35, is nationalist and Chinese. Japan, 34, has a rectilinear structure of prestressed concrete beams (made in Japan and shipped over), designed by Yoshinobu Ashihara.



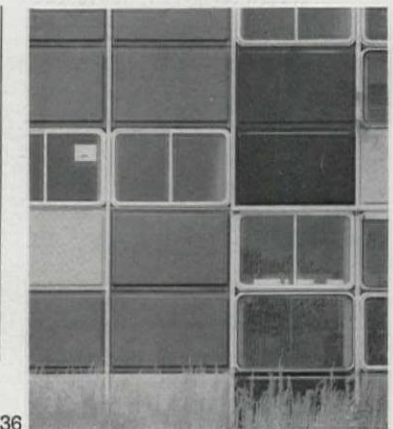
35

PROUVE SCHOOL

In an otherwise institutional issue of *Techniques et Architecture* on schools, the curtain wall on the cover, 36, an unmistakable work of the Equipe Jean Prouvé, with its brightly coloured infill panels and its elegantly rounded corners, stood out as a humane contrast. The miniaturizing of scale by having

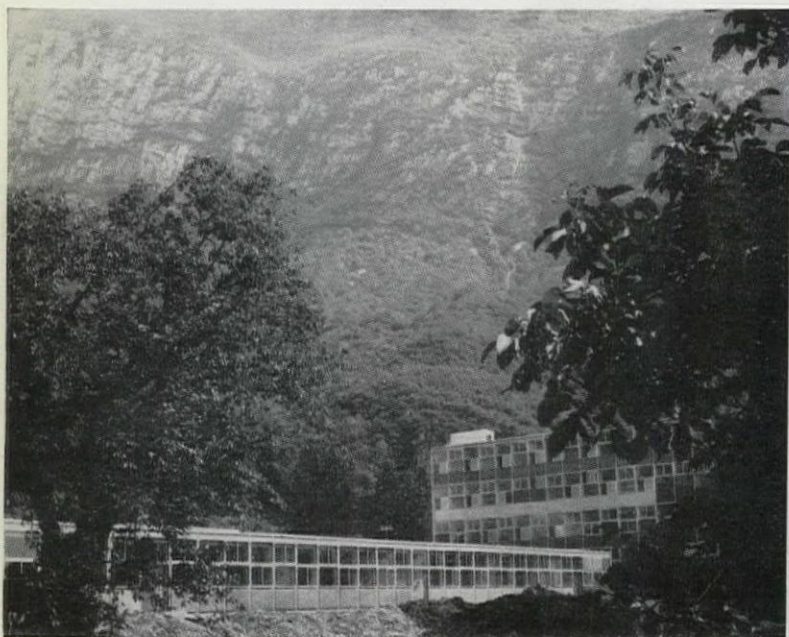


37

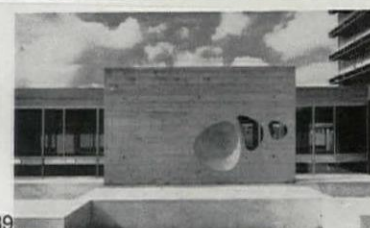


36

three panels to each storey height gives an appropriate diffuseness of emphasis to a concrete-framed interior with movable partitions, 37. This district secondary school at Saint-Egrève (Isère), has a rugged Pyrenean backdrop, 38.



38

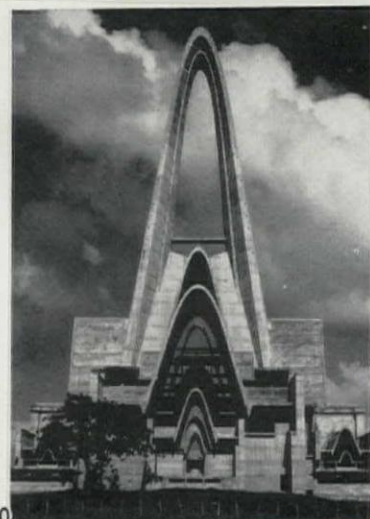


39

ARTWORK

The new pilgrimage cathedral at Higüey, San Domingo, is from afar, 40, in the sensational South American tradition of Niemeyer. At closer range, 41, its architects, A. J. Dunoyer de Segonzac and Pierre Dupré of Marseilles (who won the competition as long ago as 1947), seem to have made their own Corbusian brand of 'built-in bomb damage'—appropriate to a church which is still unfinished after twelve years' building.

The purer gospel of Corb shines forth in the new teaching hospital at the Hôpital Saint-Antoine in Paris, designed by André Wogenscky and Jean Maitre. Here the generous artwork, including a concrete wall by Martin Pan and Antoine Grand, 39, is not allowed to confuse the problem of providing on a minimal site sufficient laboratories and teaching rooms for 850 students (in a thirteen-storey slab) and attendant services (in a four-storey wing). The principal accents externally, 42, are provided by the differing *brises-soleil* for west and south aspects.



40



41



42



see page 90

modular sizes



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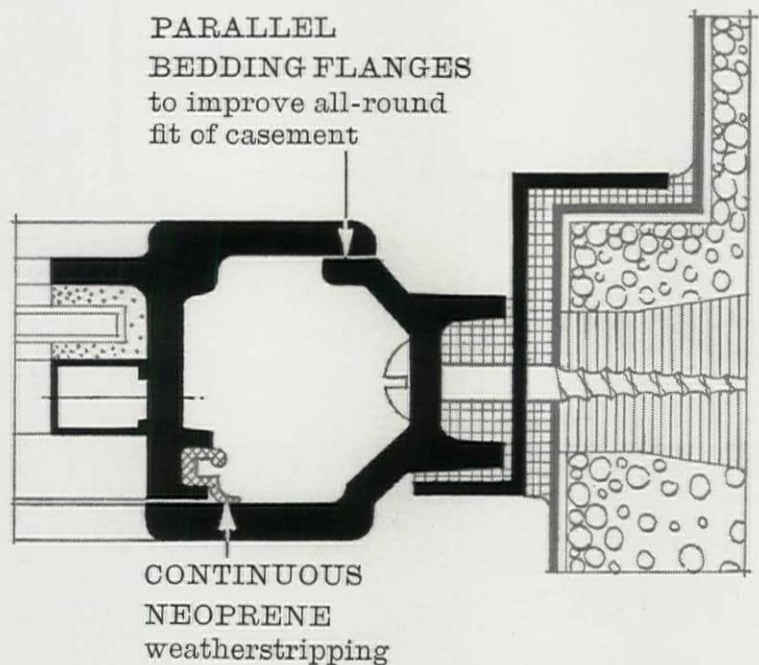
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VIEWS AND REVIEWS

marginalia

PARADISE

The superb eighteenth-century landscape garden at Stourhead in Wiltshire, created by Henry Hoare the long-lived banker (1705-85) at a place traditionally known as Paradise, will be familiar to readers of the AR, but its detailed history has long been the subject of discussion among historians. Now at last what must be the definitive account (at least as regards the complicated building chronology) has been written by Kenneth Woodbridge and published in the American magazine *The Art Bulletin* (March, 1965).

In *Henry Hoare's Paradise*, Mr. Woodbridge first sets Hoare in his Palladian setting as kinsman of the Bensons, discusses the influence of Kent and defines the participation of Henry Flitcroft. 'The garden,' he concludes on the basis of surviving correspondence, 'was the result of creative friction in which Flitcroft provided the form (of individual temples) and Henry the iconography.' This iconography provides the principal area of exploratory interpretation for Mr. Woodbridge and, with copious quotations from letters, he traces the influence of Claude and Poussin (in the context of Hoare's own art collection), of Virgil's *Aeneid*, and—more boldly—of Hoare's own personal psychology, encompassing his father's paternalism and the many family bereavements that, from the death of his wife in 1743, seem to have turned his face towards the landscape. His own letters, from the collections at Stourhead, Savernake and Hoare's Bank, are a continual delight, illuminating the strange unity of patriarch and parvenu, Protestant banker and pagan gardener, which he expressed in his visual delights.

Mr. Woodbridge's massively researched and admirably illustrated article—an investigation by an Englishman which is carried out with the kind of seriousness now found more frequently across the Atlantic—is available as a reprint, at the generous price of 6s. plus 9d. postage, from The Custodian, Stourhead House, Stourton, Warminster, Wilts.

FACSIMILES

Under the heading 'Reprints,' the May AR drew attention to the important subject of reprinting architectural classics, to the activities of the Gregg Press in particular, and to the work of Mr. John Harris, Keeper of Prints and Drawings at the RIBA. Mr. Harris has now kindly supplied us with the following explanatory article, and also

a list of architectural reprints, forthcoming as well as published:

A post-war phenomenon of the publishing industry has been the reprinting of rare, out-of-print, or prohibitively expensive books. With the fantastic explosion in university demand for libraries of source collections, it has now been recognized that original editions can only be acquired under immense financial duress. Although prices have risen in all fields it is probably true to say that architecture before 1820 has gone up faster than any other subject. As an investment it has been, and still is, a better bet than stocks and shares, but only a happy few anticipated just how steeply the price graph would rise.

In 1949 a mint copy of Alberti's 1485 *De re aedificatoria* could have been bought for £80, today it is priced at £1,500, and in five years time no one will blink at seeing it in a catalogue for £2,000 or more. The turning point occurred at Christie's Stirling-Maxwell sale in 1958, when an investment of £1,000 would have quadrupled in seven years. For architecture, however, this has not necessarily reflected a spontaneous interest on the part of buyers; for it is now an accepted fact that one well-known London bookseller has created this demand by the application of scholarly expertise in the compilation of his catalogues, and this directly affects the decisions of university librarians, many of them unfamiliar with the needs of architectural scholarship. In the USA and Canada, for example, Yale, Harvard and Columbia possess fine architectural libraries of mature age, whereas Nova Scotia, Montreal and Pennsylvania are creating new prestige collections. Yet at the other end of this scale, it is a seemingly sad fact that the University of Texas, with its great financial resources, can still apparently ignore what will obviously become a pressing future need.

Reprint publishing is therefore very much a corollary of this library demand; for facsimiles of rare books, reproduced at a comparatively low cost, can enable libraries that function on low budgets to acquire the nucleus

of a first-rate research collection. But reprints have a value beyond the mere acquisition of a book that would otherwise be priceless; for every librarian must think of posterity, remembering that rare books cannot stand up to continual handling in a general library. This point at once raises the question of bibliographical accuracy. For the scholar it is absolutely necessary that a facsimile be complete even to the inclusion of a half title. In 1931 and yet again in 1959 Robert and James Adam's *Works in Architecture* were produced without the original text and prefaces; today that exclusion would be recognized as indefensible.

The flourishing state of the reprint business is well illustrated by Miss Renate Ostwald's *Nachdruckverzeichnis von Einzelwerken, Serien und Zeitschriften aus allen Wissensgebieten* (Reprints), published in 1965 by Verlag Günter Nobis of Wiesbaden, and listing 6,075 titles up to mid-1964. Today we should probably have to add about 1,500 more to her list, an accumulation in less than two years' activity. Miss Ostwald's book is an invaluable tool for the librarian, but suffers, I believe, from the absence of any subject index, for it took me just two hours to discover what was available in the architectural field. This means that we must still rely on the advertisements and prospectuses of publishers, who make no certain claims that the books announced will ever appear, for they naturally depend on receiving a viable number of subscriptions.

The list that follows, culled from a pile of such catalogues in front of me, is by no means complete, omitting as it does, the complex problem of reprints of modern architectural classics. An asterisk indicates that the volume has already been published.

JOHN HARRIS

- *Alberti, *Ten Books of Architecture*, 1726. Tiranti, London.
- Androuet Du Cerceau, *Les Trois Livres d'Architecture*, 1559-82. Gregg, London.
- Bernardo de Dominicus, *Vite dei pittori, scultori ed architetti napolitani*, 1742-43. Labor, Milan.
- *Bibiena, *Architettura e Prospettive*, 1740 (reduction). Dover, New York.
- Bibiena, *Architettura e Prospettive*, 1740. Gregg.
- Blondel, *Cours d'architecture*, 1771-77. Olms, Hildesheim.
- Blondel, *De la Distribution des Maisons de Plaisance*, 1737-38. Gregg.
- Blum, *Von der fünf Sulen, Grundtlicher Bericht*, 1561. Olms.
- Borromini, *Opus Architectonicum*, 1720-25. Dell'Elephante, Rome.
- *Borromini, *Opera e Opus Architectonicum*, 1720-25. Gregg.
- Briseaux, *L'Art de Bâtir des Maisons de Campagne*, 1761. Gregg.
- Brockhaus, *Bilder-Atlas*. Blom, New York.
- *Cataneo, *I Quattro Primi Libri di Architettura*, 1554. Gregg.
- Chambers, *Plans... of Kew*, 1763. Gregg.
- Cordemoy, *Nouveau Traité de Toute l'Architecture*, 1714. Gregg.
- *Coronelli & Costa, *Ville Del Brenta*, 1750-60. Polifilo, Milan.
- Dal Pozzo, *Le Vite dei pittori, degli scultori e degli architetti veronesi*, 1718. Labor.
- Decker, *Fürstlicher Baumeister*, 1711-16. Olms.
- Dehio, *Die Kirchliche Baukunst des Abendlandes*, 1887-1901. Olms.
- *De l'Orme, *Architecture*, etc., 1648. Gregg.
- Dézallier d'Argenville, *La théorie et pratique du jardinage*, 1760. Olms.
- *Dieterlin, *Architettura*, 1598. Wissenschaftliche Buchgesellschaft, Darmstadt.
- *Erlach, *Entwurf einer Historischen Architektur*, 1725 (with English translation of 1730). Gregg.
- Félibien, *Des Principes de L'Architecture*, 1699. Gregg.
- Félibien, *Entretiens*, 1725. Gregg.
- Francini, *Livre d'Architecture*, 1631.
- Furtenbach, *Architectura civilis*, 1628-41. Olms.

This photograph, 1, is published here as an only slightly premature obituary of the Albert public house, Victoria Street, London, soon to be demolished to make way for new office buildings. It will be a loss, not only because it is an excellent example of the kind of robust all-of-a-piece Victorian public house that is fast disappearing, but because buildings like this are a foil to modern buildings, which without such foils look that much duller. 2, looking along Victoria Street, shows how closely new development is already creeping up on the Alb



Furtenbach, *Architectura martialis, navalis, Architectura universalis*, 1629-35. Olms.
 *Guarini, *Architettura Civile*, 1737. Gregg.
 Hirschfeld, *Theorie der Gartenkunst*, 1775-85. Olms.
 Jannitzer, *Perspecta Corporum Regularium*, 1568. Brieux, Paris.
 Kent, *Designs of Inigo Jones*, 1727. Gregg.
 Laugier, *Essai sur l'Architecture*, 1755. Gregg.
 Laugier, *Observations sur l'Architecture*, 1765. Gregg.
 *Ledoux, *L'Architecture Considérée*, 1804. de la Noble, Paris.
 Le Pautre, *Oeuvres d'Architecture*, 1652. Gregg.
 Lewis, *Original Designs in Architecture*, 1779-97. Gregg.
 Martin & Goujon, *Vitruve, ou l'Art de Bien Bâtir*, 1547. Gregg.
 Meissonier, *Oeuvres*, 1723-35. Blom.
 Neufforge, *Recueil Élémentaire d'Architecture*, 1757-80. Gregg.
 Paine, *Plans . . . of . . . Gentlemen's Seats*, 1767-83. Gregg.
 Pascoli, *Vite dei pittori, scultori ed architetti perugini*, 1732. Labor.
 Percier & Fontaine, *Palais . . . modernes à Rome*, 1798. Olms.
 Percier & Fontaine, *Résidences des souveraines de France d'Allemagne*, 1833. Olms.
 Peyre, *Oeuvres d'Architecture*, 1765. Gregg.
 Pozzo, *Perspecta pictorum atque architectorum*, 1693-1700. Olms.
 *Repton, *Norwich Cathedral*, 1798-1800. Gregg.
 *Scamozzi, *L'Idea dell'Architettura Universalis*, 1615. Gregg.
 Semper, *Wissenschaft, Industrie, Kunst*, 1851. Florian Kupferberg, Mainz.
 *Serlio, *Tutte l'Opere d'Architettura*, 1619. Gregg.
 *Shute, *The First and Chief Grounds of Architecture*, 1563. Gregg.
 Tassi, *Vite dei pittori et scultori ed architetti bergamaschi*, 1797. Labor.
 Temanza, *Vite dei più celebri architetti e scultori veneziani*, 1778. Labor.
 Vardy, *Some Designs of Mr. Inigo Jones and Mr. William Kent*, 1744. Gregg.
 Vasari, *Le Vite dei più eccellenti architetti*, 1550. Labor.
 Viollet-le-Duc, *Discourses on Architecture*, 1877. Grove Press and Allen & Unwin.
 Vitruvius Britannicus (5 vols.) and continuation by Richardson, 1715-1810. Blom.
 Vries, *Architectura*, 1577. Olms.
 *Walpole, *A Description of Strawberry Hill*, 1784. Gregg.
 *Ware, *The Four Books of Architecture of Andrea Palladio*, 1738. Dover.
 Wren, *Parentalia*, 1750.
 Zaist, *Notizie storiche dei pittori, scultori ed architetti cremonesi*, 1774. Labor.
 *Zatta, *L'Augusta Ducale Basilica dell'Evangeliista San Marco*, 1761. Gregg.

correspondence

THING OR SYMBOL?

To the Editors.

SIRS: Re your April issue and its cover, I send you a photograph of the Minotaur symbol in Knossos, which the Cretans have used as their state symbol throughout their buildings and walls. I think it is somewhat too cheap if we architects use symbols, which had originally a deep spiritual content, for aesthetic purposes only, beautiful though they may be.

Yours, etc.

WALTER GROPIUS

Cambridge, Mass.

To the Editors.

SIRS: It is unusual for THE ARCHITECTURAL REVIEW not to couple instruction with amusement. I refer to the *Thing* on the cover of your April issue. This *Thing* is not, of course, from outer space but from Crete. No doubt your august editorial board and many of your readers are already familiar with this symbol from Knossos, but perhaps for those who are only amused you may like to add a word of instruction, together with a note that Vincent Scully's *The Earth, the Temple and the Gods* deals with the antecedents of the *Thing* and gives a picture of it (restored) on the site. You may agree that this is an instance where it is as well to be wise about a folly.

Yours, etc.,

GEORGE BALCOMBE

Professor of Architecture,
Halifax, Nova Scotia.

WHOSE REDUNDANT CHURCHES?

To the Editors.

SIRS: Your flattering reference to my work at St. John's, Ousebridge, York, needs some footnotes. Whilst I was intimately concerned with saving the structure of the church, the credit for designing and detailing the interior arrangements belongs to Dr. Singleton, the first Director of the Institute of Advanced Architectural Studies. I would also like to make some comments on the general issues raised by your March article.

Harsh economic facts may make inevitable State maintenance of certain redundant churches, but it would be a grave error to imagine that this is a development to be encouraged or welcomed. The latter-day agnostic William Morris will find that the qualities—the numinousness—and the visual delights, not to mention the subtle smells, they love to find in churches, will have departed; leaving in their stead coldly petrified national monuments, admission two shillings and sixpence.

The control of church fabrics by the Church of England Faculty Procedure, and the part played by D.A.C.'s and the Council for the Care of Churches, is excellent. It is utterly naïve to suppose that there would be any improvement by substituting some form of State control; especially if such control were to follow the present set-up for secular ancient buildings and ruins and the grant system for secular historic buildings.

The Church has always been able, and is still able, to inspire architects to work for it at the highest level and in a *sense of vocation*. Nothing can replace this; certainly not State money and administration. The loving, humble, disciplined, economic, lively and aesthetically based conservation which these dedicated architects practise on behalf of the Church contrasts most favourably with the arrogant, heavy-handed, impersonal, loveless, museum and archaeological-exhibit basis which is unavoidable in the repair work of an official body.

Too much money is spent and too extensive repairs are done to buildings and ruins maintained by the State. It is idle to suppose that redundant churches would escape the petrification which follows 'meticulous repair' or 'controlled decay' as practised on buildings and ruins now maintained by the State. The Church is largely shielded from these errors by the salutary discipline which fund raising imposes and by the skill and experience of the architects working for it. Much of the present agitation for State grants for the maintenance of cathedrals and churches stems from the desire of a few churchmen and vocal but ignorant laymen wanting to *do too much too quickly to these buildings*. An architect really skilled and experienced in the highly specialized subject of repairs to cathedrals and churches in living use, is able to correctly assess the *priority* of repairs and to set down a time-scale based, not on the span of one generation, but of *five*. With the order of repairs, especially to stonework, spread as it should be over a century, fund raising is less daunting, and fine churches, whether ancient or less ancient, are spared unnecessary and mischievous attention.

What aesthetic joys are to be found in the majority of ancient buildings in, say, Italy, Spain and Eire,* where money is available for only desperately urgent repairs and a long-period time-scale is properly observed. But what contrasts and cautionary tales are illustrated by too much money causing over-repair, especially when coupled with an archaeologically rather than an aesthetically based approach, in, say, the eastern parts of Ewenny Priory compared with the neighbouring churches in the Vale of Glamorgan; in Rievaulx compared with Fountains; in Tintern compared with Corcomroe; in Mount Grace Priory compared with the Friary in Adare Park; in Bury St. Edmunds Abbey compared with Hadrian's Villa, Tivoli. These contrasts are not as loaded as Pugin's and the true principles enshrined in the cautionary tales cannot be gainsaid.

Yours etc.

GEORGE G. PACE

York.

WHOSE (SCOTTISH) REDUNDANT CHURCHES?

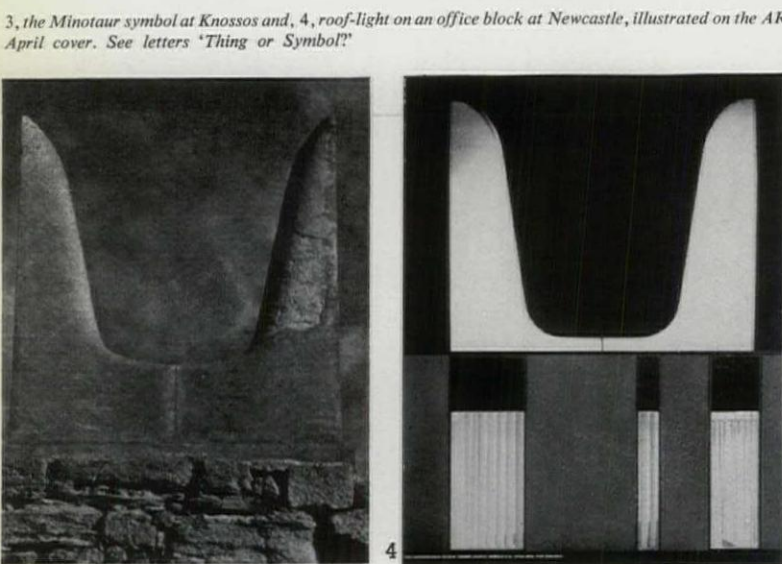
To the Editors.

SIRS: Scotland is glutted with church buildings. Major schisms took place in 1733 (the Secession, which fragmented and then recombined as the United Presbyterian Church) and again in 1843 (the Free Church), so that almost

every parish had two churches and a large percentage three or more. The older country Secession churches, which have great character, suffered badly after the union of the UP and Free churches in 1900, the younger Free Churches being regarded as a better maintenance prospect; austere high-windowed Secession rectangles can be seen rotting (haysheds at best) throughout the land. In 1929 the United Free Church (as the Frees and UPs had become; a small UF rump continued) and the Established Church re-united and churches of all denominations became redundant.

The country Free churches were seldom of really great merit but were younger than the Established churches; which were generally of eighteenth- or early nineteenth-century vintage, and in many districts local prejudices or a simple calculation in depreciation resulted in the older church being abandoned. The situation is worst in Easter Ross where the finest and least altered of Scottish eighteenth-century churches are to be found rotting into their own graveyards. Shifting population has also played its part; the old Established churches often found themselves in the wrong place, and parishes found themselves too depopulated to maintain a kirk.

In the cities the position is no better or rather worse; in Glasgow the UP and Free Churches expressed their triumph over the Established Church in tremendous architectural rivalry in the central area and the west end. Today the central ones are going fast and the west end ones are beginning to follow them; Ewing Place, St. Matthew's Free, St. George's and St. Peter's, St. John's, Renfield and Wellpark have already gone in the last decade or so; Elgin Place Congregational and Renfield Free (City Temple) are going any day now; John Baird's noble classical Secession church in Albion Street is a Corporation salvage store; the future of John Street (congregation only fifty!), Barony North, St. Matthew's Blythswood (sold as a site for a new church although the existing one is magnificent inside and out), Park (site worth £100,000, demolition held up by the Corporation but future still not solved) and even the mighty three-towered Trinity College, the Free Church's monument to its triumph over the Established church (rumours of a modest new college nearer the University) is doubtful; even St. Andrew's, the only early Georgian Scottish church which can look St. Martin's-in-the-Fields in the face, has a congregation of only 480 and an income of but £2,252 a year. Of the great central churches, only St. George's Tron, the Barony, St. Paul's and St. David's Ramshorn and St. Vincent Street Church (long sold out of the Church of Scotland but now being repaired by Glasgow Corporation) have any assured future. United congregations usually decide which church is to be retained by obtaining a report of a strictly practical nature: and unless the congregation is a very well-to-do one, great porticos and tall spires are now seen as nothing but a maintenance burden. In difficult cases a panel of arbiters is set up; when lately at the union of no less than four churches in Perth an arbiter ventured to ask the planning authority for its views, and it was



3, the Minotaur symbol at Knossos and, 4, roof-light on an office block at Newcastle, illustrated on the AR April cover. See letters 'Thing or Symbol?'

*See also 'The Churches of Famagusta' (AR, April 1966). Eds.

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Redland



RB.31

pointed out that one church was vital to the river front because of its noble spire, and that demolition of the other three would greatly facilitate redevelopment problems, the presbytery complained that such views should not have been expressed until after the arbiters had reached their decision as it would tend to prejudice their judgment! There is no real counterpart to the DAC's in Scotland, though there is an advisory committee on artistic questions which can give its views—when asked. Occasionally it has to rubber stamp an aesthetically bad decision for practical reasons, as in the case at Comrie where the choice lay between a beautiful white-walled Georgian parish church and a singularly hideous Free one, which although in need of equally extensive repairs and acoustically difficult, had a good suite of halls incorporated. The parish church here has since been saved by energetic local effort and HBC aid but it was lucky in its parishioners, Comrie being a fairly well-to-do area.

In Edinburgh the position is for the moment less acute than in Glasgow though there is a small hard core which illustrates different aspects all too clearly. St. George's was rescued first by an appeal and then by the Ministry of Works who managed to find it a job; but Rowand Anderson's noble Romanesque Catholic Apostolic Church is shut up and desolate (as is A. W. N. Pugin's smaller Gothic one at Glasgow) while Edinburgh Corporation bought the unsecured future of the Tron (1637) very dearly at £35,000 in compensation for *loss of profits* under the preservation order to the speculators who bought it for about that sum. As will be gathered, Scottish preservation orders have hitherto differed in their terms from English ones; consequently local authorities will not make them, with the result that there have not been twenty in the last nineteen years. Aberdeen saved its North Church only by buying it but there is a limit to what a local authority can buy up and with fast-rising rates it is increasingly accepted that little of the Scottish heritage without Ministry guardianship, the National Trust or HBC assistance (the Scottish HBC has only £65,000 a year) can be saved.

The Church has its problems; it lost virtually all its endowments at the Reformation and the landowners had to be relieved of the burden of maintaining the parish churches in the 1920s; it does not properly own half its churches, many of the old UF churches being held by local trustees without any restrictions regarding consents of Presbytery, General Assembly or anything else; it continues to finance a very wide missionary network established in the Livingstone era. But as regards its dilapidated and redundant churches, it has been reluctant to see it has a problem; notwithstanding George Hay's excellent book on Post-Reformation Churches and an ever-increasing awareness that some Victorian churches are very good indeed after all, they still see the problem as a purely *medieval* one, or perhaps find it convenient to do so, for here their problem is by English standards negligible indeed. Incredible as it may seem to English eyes, they

own only forty-odd medieval churches (of which half a dozen are very fragmentary and several almost completely renewed) and some seven towers; of these a list is given below.* Almost all have had major restorations this century or the end of last, and only ten of them are of any great size. Most are quite small; the problems of Scotland are but a fraction of those of the Diocese of Bath and Wells. The Episcopal and Catholic Churches own another five; the others are all in ruins or disused and in guardianship; Dunblane and Glasgow Cathedrals are Crown monuments with the Church as tenants. Thus with individual appeals it has so far been just possible for congregations to maintain their medieval buildings. A few years ago when Linlithgow was repairing, the dormant files on state aid for churches were re-opened, but the then Minister of Works was perturbed at the Church's reluctance 'to show willing' and nothing materialized except rancour at the HBC's 'discrimination' against the church.

No charitable trust or central fund for historic churches of any age exists in Scotland; the church has not encouraged such a thing, as it fears it would diminish the flow of cash for other activities. When discussions on redundant churches took place more recently they again declined to admit that such a problem existed in Scotland, and inevitably that made their decision that of the other denominations also. Thus there is no help for Butterfield's Episcopal Cathedral of The Isles re-roofed at the expense of the Earl of Glasgow last summer, but in need of further repair, any more than there is for the churches of Glasgow or Easter Ross.

For Scotland the possibility of aid in 1968 would be late enough, but it seems there will not be a 1968 for Scotland's ailing and redundant churches. Selling churches, as Glasgow Renfield has just shown, is a temptingly lucrative business for a church always desperately short of money for its other schemes, and the temptation to hang on to old-fashioned ideas of architectural importance is, if regrettable, easy enough to understand. Our Victorian forefathers built their best churches in such expensive places.

Yours etc.

ALEX THOMSON

265 St. Vincent Street,
Glasgow.

*List of Scottish Medieval Churches in use. (Key: F, fragmentary. L, large church. R, largely renewed. T, tower only. *, work in hand or about to be undertaken.)

CHURCH OF SCOTLAND: Symington, Stobo, Legerwood (F), Ladykirk, Whitekirk, Coldingham (F), *Haddington (L), Pencaitland, Crichton, Duddingston, St. Giles' Edinburgh (L, R), Greyfriars Edinburgh (1612) (L), Corstorphine, Mid Calder, Kirkliston (F), Dalmeny, Abercorn, Uphall, St. Michael's Linlithgow (L), Biggar, Bothwell (F), Paisley (L), Holy Rude Stirling (L), St. John's Perth (L), Dunkeld Cathedral (choir only), Aberdeen, Largo, St. Monans, Culross Abbey, Crail, Holy Trinity St. Andrews (L, R), Leuchars (F), Fowls Easter, St. Vigean's (R), Brechin (R), Arbuthnott, St. Machar's Old Aberdeen (L), Cullen, Tain, Dornoch Cathedral (R), Lismore Cathedral (F), Iona Cathedral, Pittenweem (F), Inverkeithing (R), Anstruther Easter (F), Anstruther Wester (F), Markinch (F), Cupar (F), Kiltenny (F), Dunning (F), Monymusk.

EPISCOPAL CHURCH: Roslin (L), Carmelite Church South Queensferry, Douglas (F).

ROMAN CATHOLIC CHURCH: Greyfriars Elgin, *Pluscarden Priory (L).

COLLEGE CHAPELS: St. Leonard's St. Andrews, St. Salvator's St. Andrews, King's Aberdeen.

CROWN: Glasgow Cathedral (L), Dunblane Cathedral (L).

KIRK WALL TOWN COUNCIL: Kirkwall Cathedral (L).

book reviews

RELIGION WITHOUT ROOFS

THE OPEN-AIR CHURCHES OF SIXTEENTH-CENTURY MEXICO. ATRIOS, POSAS, OPEN CHAPELS AND OTHER STUDIES. By John McAndrew. Harvard University Press-Oxford University Press, 1965. £6.

Much discussed by specialists, since in 1927 the Mexican art historian Manuel Toussaint coined the term *open chapel*, the open-air churches have become the subject of claims to their purely American origin. The present treatise, by far the most complete, tries to interpret them as a Christian adaptation of the Indian way of open-air worship. Chapel and forecourt, which together form the open-air church, would thus correspond to the precolumbian temple atop its flight of stairs, preceded by either terraces or sunken courts. The four chapels for the use of outdoor processions, called *posas* (i.e. halts), marking the angles of the walled court, are likened to the corner shrines of the enclosed Aztec temple area.

To prove this point the book has resorted to a complete discussion of sixteenth-century Mexican architecture. The author is surely right in pointing out that the combination of a small gridiron city-plan with a vast central plaza dominated by a church, sometimes raised and always preceded by an atrium and its *posas*, is a peculiarly Mexican pattern of urbanism. He is wrong in denying its European sources.

The mendicant establishments, originally located at the edge of the medieval town or even outside it, by their gradual integration into the expanding Mediterranean cities contributed towards the formation of such urban schemes. Santa Croce in Florence, raised on stairs and at the head of a rectangular plaza, considerably antedates the conquest of Mexico. Raised churches belong to a minor but persistent medieval tradition. Above all there exists the revered archetype of St. Peter's. The theories of Alberti and the ensuing practice in Mantua and Rome concurred in strengthening such developments. In Mexico the newly founded villages and towns are but functions of their churches: that is what the plans teach us.

Although in the overcrowded European cities of the late Middle Ages *atria* were disappearing, enough survived to carry on the tradition. Many Andalusian churches moreover kept the ample courts of the former mosques—'no true parallels' for the author.

Consequently *atria* existed on the Antilles (Cathedral, Dominican convent at Santo Domingo) before mendicants could have drawn on precolumbian architecture. The only elements the author accepts as of European origin are the *posas*. In discussing urbanism Mr. McAndrew is reluctant to interpret Mexican grid-plans as part of that medieval practice, slightly modified by Renaissance theory, that reaches from the Italian fortress-towns of the twelfth and thirteenth centuries, the French and English *bastides* and *villes neuves* and the foundations of the Spanish Reconquista, to the colonization of the

Antilles and the Isthmus of Panama. The author convinces most when dealing with the single monuments. The experimental types (1526–c. 1540) have been distinguished skilfully from the standard forms of Indian chapels (1540–1580). But again Mr. McAndrew is unwilling to accept European forerunners either for the 'church without sidewalls'—Early Christian and Byzantine examples are of typological interest—or for those 'balcony-style chapels' incorporated into the upper facades of church or convent (the medieval model of balconies for the showing of reliques has been discarded as not intended for mass; Spanish examples equipped for it, published by Bonet, have not been taken into account). The *Capella di Piazza* in Siena and similar instances are dismissed as offering no regular service, which is hardly an argument where adaptation is concerned. Once transplanted into the New World this secondary European tradition developed with great independence.

An artistic isolationism which makes Europe a kind of American pre-history, or which claims open chapels for Mexico exclusively (disregarding any Central or South American examples), shows occasionally also in the author's aesthetic evaluations. Palladio is likened to provincial architecture, because... both lack originality; on the testimony of the loggia at his palace in Cuernavaca Cortés is credited with a feeling for landscape not matched since Enea Silvio Piccolomini. Those who are not irritated by such carefully nursed bias will be rewarded by the excellent observations of a true connoisseur. This reviewer, although *pars in causa*, acknowledges gratefully. Combining the unorthodox approach of the traveller with the discipline of the scholar, the book is of a quality that has become rare in architectural writing. A great number of new plans, drawings and sketches illustrate the text.

ERWIN WALTER PALM


GROTTOES AND GARDENS

ENGLISH GARDEN ORNAMENT. By Paul Edwards. Bell. 35s.

This book is a layman's history of garden ornament in England from Tudor times to today. It consists of chapters on buildings, furniture, sculpture, topiary, water ornament, gates and treillage, and a most useful bibliography. Not surprisingly it is at its best when dealing with the Picturesque, when the rare enthusiasms and general dottiness of our ancestors made for delightful reading as well as amazing gardens. Mr. Edwards does not actually quote those advertisements for hermits which he mentions, but the contemporary approach to the achievement of pleasing melancholy in grottoes, prospect towers, ruins and everything that went to the making of a thoroughgoing romantic property, and comments on the results, give a lively picture. It is satisfactory, too, to be given a section of an ice-house (from Loudon) and to know just how our great grand-parents cooked up that treacly varnish for rustic summer-houses which so surely prevented pleasing decay.

ELISABETH BEAZLEY



The proud silhouette of a *Unite d'Habitation* above the trees at Bricy-en-Foret,  photographed here by Sam Lambert, is a suitably picturesque summary of what went wrong, and right, with Le Corbusier, that last form-giver who wrote the symbolic and emotional programme for twentieth-century urbanism, but usually finished up designing isolated monuments that look better in rural surroundings. But, if his ambitions were frustrated, his influence helped to change the face of the human environment wherever architecture is practised. His triumph was in his influence as much as his architecture, and Reyner Banham discusses both on pages 97-108, to mark the anniversary of his death.

Manfredi Nicoletti

FLASH GORDON

AND THE TWENTIETH CENTURY UTOPIA

One single parachute brings them down together, the Hero and the fragile girl, while the plane goes down in flames. It is raining. Humanity is terror-struck. The earth is doomed. A mysterious planet is approaching at a vertiginous speed. Together they land near the take-off ramp of a rocket built by a moody scientist who has decided to save humanity at the cost of his life by crushing his space-ship against the celestial body. Compelled to join in this suicidal journey, the fatal impact is avoided at the last minute by the Hero who takes command. The rocket flies over the tapered mountains of the planet, and, before performing an unorthodox landing, enjoys the sight of a beautiful gleaming metropolis.

This is the beginning of a story which is about a third of a century old. The name of the mysterious planet is Mongo, the metropolis is the capital of the cruel Emperor Ming, the name of the Hero is Flash Gordon, and the author is Alex Raymond, a New York comic strip writer. It is not mere chance that the famous Flash Gordon cartoons encountered immediate and unparalleled success in 1933. It is also not mere chance that these cartoons—when recently republished in most European countries—have once again found an equally large and enthusiastic public.

One of the reasons for such a revived success can be found in the new critical interest that has recently been concentrated on the production of comics considered as one of the most powerful mass communication media of our culture. Another possible reason is that Raymond, even in his time, had intuitions about such future aspects of technology as rockets, flying saucers and space flights. Nevertheless, these explana-

tions are either too intellectual or too weak to justify by themselves the revival of a strong popular interest. The fact is that in Raymond's story there is something much more than just a forecast or a subject for critical interest. There is the design of a UTOPIA: a Utopia of a Superman, of the destiny of a super-technologically advanced world, and also within this world a Utopia of a Super-Architecture. A Utopia has in itself—always—something shocking, and a universal—a poetic—appeal, which, as for any poetry, is hard to define. Utopia is something that has no place within the framework of reality. It is a mental model built outside any historical present or future, or rather placed in some uncertain time to come. Nevertheless, Utopia is part of the present reality in which and from which the Utopia is born.

By tradition Utopias belong to contradictory moments in history—to moments of incertitude, anxiety or frustration. In them great hope for the future and distrust for the present are symmetrical. The present seems to be too bare or hostile to nourish our ideals. The flow of history seems to have arrived at a dead end. It seems impossible to build on this present a satisfactory project for the future. And yet—all our lives, the history of civilization itself, are based on a system of premonitions. It is in critical moments that people turn for help to the Oracle, to the Horoscope, to the Poet—to the Utopia. With it, in a flash, all present difficulties seem to be left behind. A picture of the future is achieved; and then, maybe, concrete action can follow.

There are certain differences between a forecast, a project and a Utopia, in spite of the fact that all three

are based on present experience. A forecast is a rational model of the future derived from the assumption that history repeats itself. As a consequence forecasts are often wrong. The present margin of error in the interpretation of statistics is a proof of that. A project by contrast is the result of a desire to shape history in a new and original way, a programme of concrete action to give form to the future according to a given ideology. A project must be confronted with reality at each stage of development. The result can be different from what was foreseen but will bear the imprint of a principle.

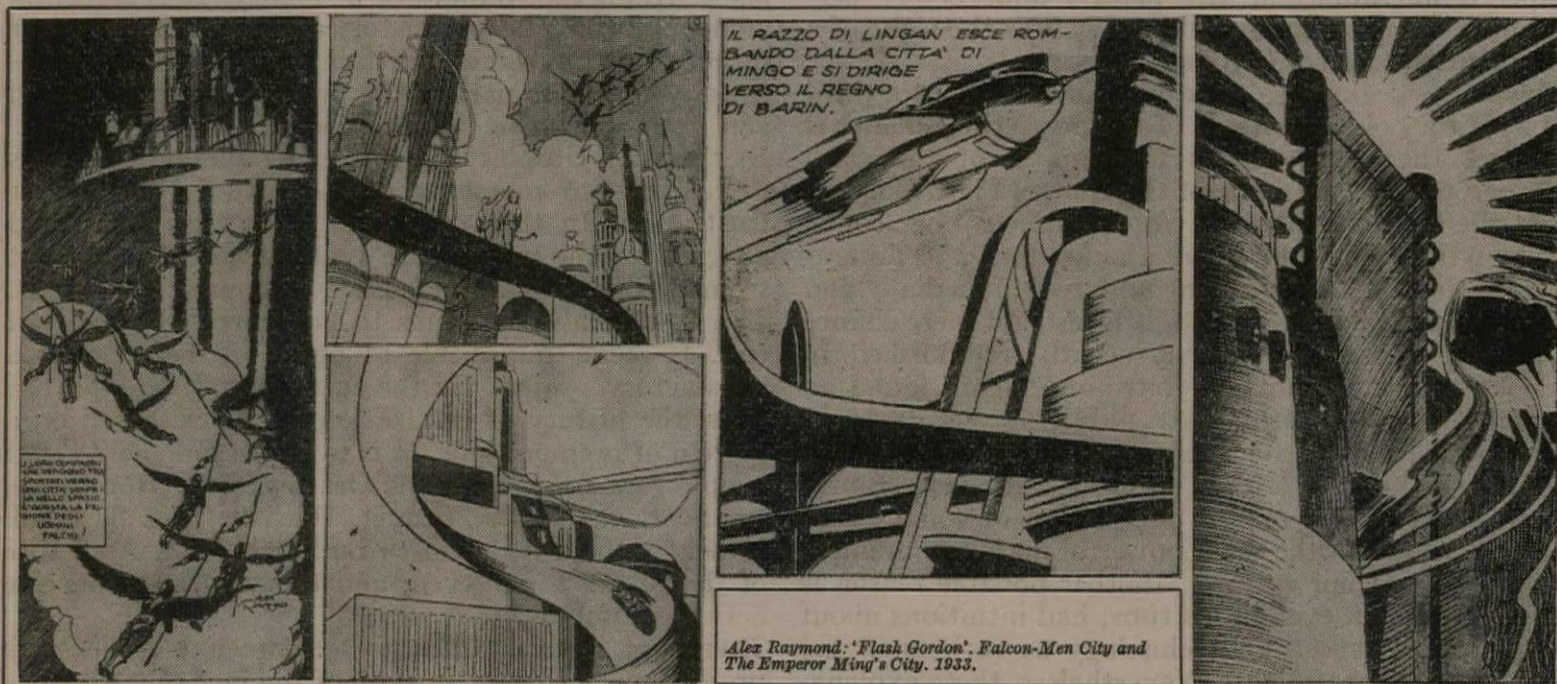
A Utopia starts by extracting some concrete facts from the general context of reality which are then developed independently from any circumstantial occurrence, like an experiment in a laboratory. A Utopia may be rational, but its rationality cannot be appreciated from external points of reference. Like a dream, it has its own logic: it is a self-enclosed and a self-enclosing reality. Like a dream, a Utopia is better judged from a psychological point of view, and from this standpoint its primary function is to give some kind of reassurance about the unsatisfactory tendencies of the present. Nevertheless, Utopia is not always escapism. It can be a lyrical poetic glance into the future. Like poetry, Utopia will influence reality in its own way—not by becoming real, which is impossible—but by bringing into the open the innermost strata of a certain human condition.

Raymond's Utopia was born at a moment when feelings of awe and distrust had become insinuated within the enthusiasm with which people had welcomed the marvellous conquests of science and technology. It was the year 1933, a critical year, full of ambivalence and uncertainty—the year of Hitler's conquest of power. The first waves of political refugees were already arriving in the United States, where a tremendous impulse of building activity was following the Depression. In New York the Empire State Building, the Chrysler Building and Rockefeller Centre were creating the emblematic images of the future metropolis. By contrast Frank Lloyd Wright had designed his own Utopia, the anti-metropolis of Broad-Acre

City—a nostalgic return to Nature, a modern Arcadia. The products of technology were thus regarded simultaneously with attraction and repulsion. In Hollywood screen writers had started to mix science and horror in the first cycles of pseudo-scientific films; so the gloomy legends of Dracula and Frankenstein entered into popular culture at the same time as that image of a new hero—FLASH GORDON.

Unlike his grim colleagues of the cinema, Gordon does not display any repugnant features. He is instead a typical All-American, blond, loyal, athletic. It is his inner dimension which is disquieting: he is a Superman. Like the potential power of science and technology, his power is also without limit. Raymond was clearly fascinated by the vision of a super-technical civilization, and it was to become the milieu of his story. But the implications were too explosive, the dimensions beyond any human control. He was cautious enough to place the action outside any realistic frame of reference, outside the Earth itself, on a mysterious planet called Mongo. He describes the conflict between the Superman-Hero and cruel technological power, symbolized by the Emperor Ming. The scheme follows the basic pattern of Jules Verne. The moral conclusions, though, are quite different. For Verne the final triumph of the good characters is unavoidable or, better still, the bad ones are destroyed by the very same technology that they have misused and betrayed. This is the case with Captain Nemo. Verne's technology has an inner sense of ethical principles. For Alex Raymond, however, technology is a servant allied to everybody, and, its power being limitless, nobody will ever prevail in the struggle. In his story there are no winners; no one is defeated.

In Mongo everything is a stage set, a commentary on the hero's adventures. Architecture shows no relativity of moral standards; whether they belong to the enemies or to the friends of the hero, the cities of Mongo look very much alike. There is one exception: the cities of Gordon's allies are all suspended in mid-air. The Falcon-Men City rests on light beams and the Forest-Men City on the branches of a colossal tree. Detachment from the ground is used to symbolize rejection



of reality, in this case the fictitious super-technological reality of Mongo. In this context, it is interesting to compare Raymond's drawings with some German Utopian fantasies of the 'twenties by Bruckmann, Karl Krail and Wenzel Hablik, who also literally floated their cities above the clouds—a parallel retreat into an ivory tower.

Such an attitude was to be the crucial distinguishing mark of the architectural Utopias of the 'twenties. The Futurists in Italy, the Expressionists in Germany, the Constructivists in Russia and Le Corbusier in France, all contributed towards this Utopia. All four started from the same dream: the new technology would give happiness to mankind. All four started from the same struggle: the breaking down of academic barriers. But a strong line of demarcation can be drawn between Le Corbusier and the others with respect to their attitude towards technology. For Le Corbusier technology was above all a tool to create a new social order reflected in an urban organization, of which architecture was an integral part. This programme is clearly symbolized in the city for three million inhabitants of 1922. With the 'Artificial Park' of the ribbon-like building for Rio de Janeiro of 1929, he went beyond this point. Technology would enhance the dignity of the individual who would be able to build his own environment. A method of design called every citizen, as an individual and as part of the collectivity, to participate in an architectural experience which, being spread on a larger basis, would be a 'learned and shared' process, thus belonging to culture.

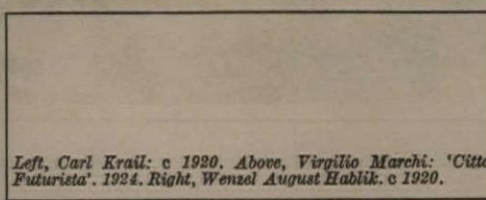
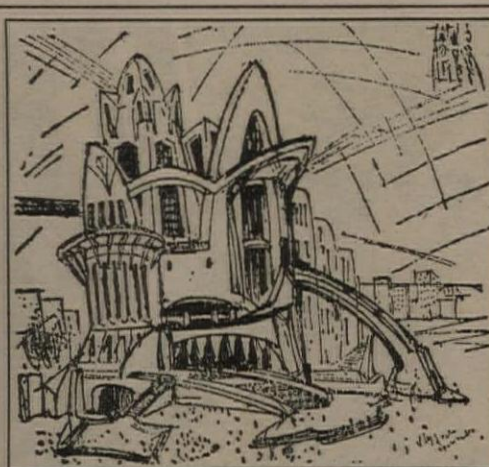
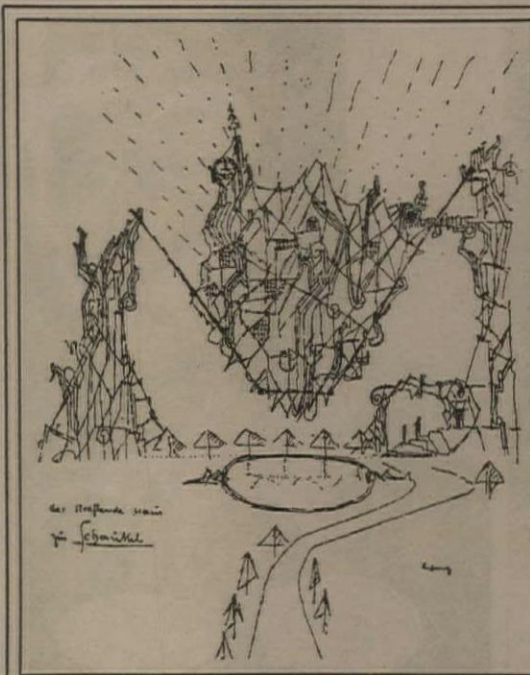
For the Futurists, the Expressionists and the Constructivists, the new technologies were seen, instead, from a metaphysical point of view. The limitless new potentialities would make architecture free from all the physio-technical restrictions of the past. Buildings would then become a pure, cosmic symbolism of man's emotions and ideals. But these buildings, conceived as monuments to mankind, were dreamed without man. Sant'Elia's city is dynamic but unorganized and unpopulated; the 'Planites' of Malevich, the maze of Tatlin, the apocalyptic forms of Mendelsohn are

independent of any scale of reference: they could become giants or paperweights.

Concentrating their interest on the emotional value of form, these utopists avoided the exploration of urban problems and, above all, the definition of any design method. They tied architecture to a full response only to occasional passions. In contrast with Le Corbusier's social dream, they produced a merely formalistic Utopia detached from the social dialectic of their time. The destiny of such Utopias was clear, in its lack of understanding that technology had the possibility of transforming the structure of society by its own power and in its own way, if not otherwise directed. Therefore, when technology and industrial production decided that it was more convenient to become servant to a dictator, the end of all the metaphysical dreams had come.

In 1932 Stalin abolished the free architectural groups in Russia, the Bauhaus was closed in 1933 and at the same time Mussolini imposed in Italy the 'Imperial Style.' Strangely enough, Flash Gordon's extra-terrestrial Utopia was born of the forms invented by the formalistic Utopias of the 'twenties. We recognize the 'twirliness' of Tatlin, of Hermann Finsterlin, of Virgilio Marchi, the dynamic power of Mendelsohn and Sant'Elia, the magniloquence which was peculiar to this formalistic Utopia. In the cartoons of Alex Raymond, the Futurist, the Constructivist and the Expressionist dreams find a new life or, rather, they gain life for the very first time. These buildings, conceived as hallucinating architectural deserts, are finally populated by Raymond. The inhabitants are the incredible extra-terrestrial races of Mongo's planet: the Falcon Men, the Frog Men, the Lion Men, all of them people who are men plus something else—in other words, caricatures of human beings. No one could have found a sharper architectural criticism.

The most ironic side to all this is that the true background of Raymond's story is Fascist. The Hero needs apocalyptic deeds and useless struggles in order to prove himself. In a democratic society he could not have existed, nor exhibited his super-mannish qualities. The enemies of the Hero are marked with



Left, Carl Krail: c 1920. Above, Virgilio Marchi: 'Citta Futurista'. 1924. Right, Wenzel August Hablik: c 1920.

racial prejudice: they are yellow-skinned individuals. The population of Mongo is sent to bloody massacres for futile reasons. There is no respect for the individual, who is a mere number. Finally, everybody, wearing the most pompous revivalist uniforms, is saluting everybody else with unmistakably Fascist salutes.

Maybe the virus of Fascism was already present in the formalistic Utopia. The monumentality, the superficiality, the heroic appearance at any cost, the lack of, or rather the indifference towards, the human scale, all these are quite obvious. Probably these Utopias, willing to open a magic door to a better future, prepared unconsciously the stylistic revival of the European dictatorships.

Raymond's fantastic world, born at the end of the last Utopian season of Europe, is reappearing again today when a sudden outburst of architectural Utopias is filling a gap that has lasted almost one third of a century. In our contemporary life, more and more often, there seems a need for some magic component to compensate for a condition of increasing insecurity and alienation. The use or misuse of technology is still the great unknown. Architecture is facing a conflict between mass planning and individual expression, the tantalizing problem of our democracy. The increase of population, of mobility, of almost everything in every field of human activity, requires comprehensive planning. Yet the individual right to share in the welfare of the country, following individual impulses, must be protected and exerted. To cope with this problem architects find themselves with tools already built before the Second World War and since then never developed or sufficiently sharpened: the rationalistic and organic trend which today appears to be exhausted as a source of method or inspiration. Architecture is in a stage of confusion—hence the need for Utopia.

Today we can recognize four different Utopian trends: the technical; the revivalist; the formalist; the social. The first two—the technical and the revivalist—are not Utopias in the true sense of the word, but are illusions, too realistic to be Utopias.

The Technical Utopia: Our architecture legitimately

expects the most precise planning forecasts and the greatest resistance with the minimum physical effort. Machines are therefore called upon to make actual decisions and to carry on the development of projects. They are either push-button electronic machines or huge mathematical or cybernetic organizations. The aim is to achieve the greatest possible exactness in design. There is nothing wrong with that, except when exactness becomes an abstract ideal independent of the real aim of architecture—to serve human life. But life is too rich and unpredictable to be visualized without some degree of flexibility. Exactness could then become not a tool but a Utopia itself—a sort of escapism to cover a lack of inspiration or, worse, a disinterest in human life. On the other hand, it is known that our technology has the possibility of increasing its own standards independently of any other standards of human values. Therefore, well-engineered technological dreams have a great chance of being translated into reality. This is what happened with Buckminster Fuller's structures which in the 'thirties were considered unrealistic. The same will probably be true with Frei Otto's work. These 'dreams' are sufficiently 'self-contained' and independent. On the other hand, the proposals of future city patterns, like the Motopia of Jellicoe or the Tokyo Plan of Tange, have far less likelihood of success, because they are based on the utmost development of a single technical detail: motor traffic, which is much too much conditioned by economic and social output.

The Revivalist Utopia: This is the Utopia of complete escapism. Reassurance has to come from something well known, such as a style of the past. Therefore we have vain efforts like the Huntingdon Hartford Gallery by Edward Stone in New York, the Opera House in Lincoln Centre, the University of Moscow, the Stalin-alley in East Berlin, which show distrust of present values and an attempt to gain respectability through a superficial repetition of historical forms. Erudition is accompanied by sterility.

The Formalist Utopia: Here, in the dreams of designers such as Venturelli, Jacques Bernard, Martin Pincis and Walter Jonas, architecture becomes some kind of



Above left, Frank J. Malina: 'The Cosmos. No. 66'. Kinetic Mural. Lumidyne System. 1965. Above right, interior view of Kinetic Mural. Right, Marcel Duchamp: 'Roto-relief'. 1934.

extravaganza. The social context is ignored. The problem is left on the surface. Unfortunately, such schemes are often formally appealing.

The Social Utopia: One of the prominent sculptors of today, Nicolas Schöffer, dreams of a society that will have horizontal sleeping quarters because people sleep horizontally, vertical working sections because people work standing up, and sexual recreation centres in the form of a bosom. This is the height of confusion. Paolo Soleri has a dream of a society dedicated to Buddhist and philosophical studies and other amenities. Such schemes have a gloomy, if very imaginative, formalistic appeal.

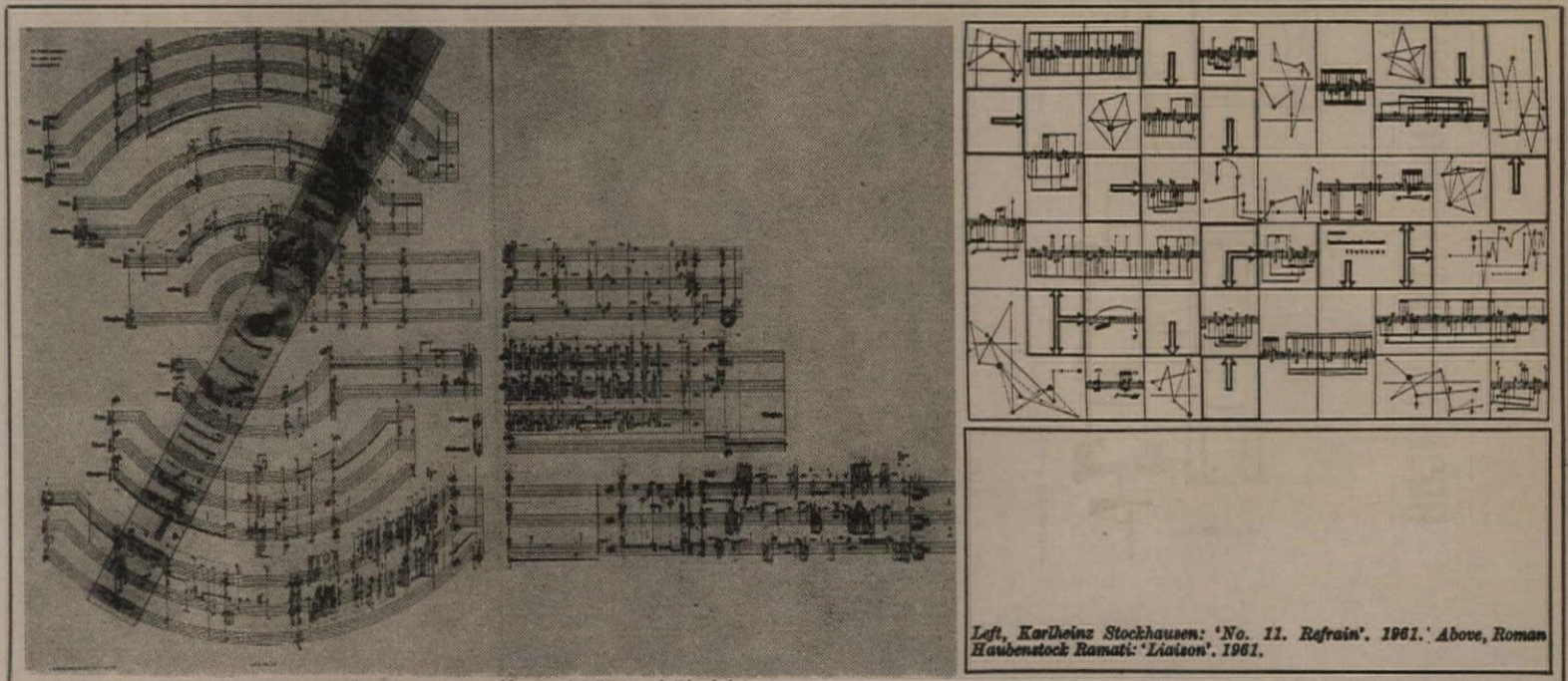
The trend of 'Social Mobility' is seen in Paul Maymont's plan for Tokyo—a constellation of floating islands each one containing a large living section. These would be connected, disconnected and moved around as needed. City organization itself has been made the subject of questioning. It could be transformed in space and time. In the Plug-In-City, the dream of Peter Cook, Warren Chalk and Dennis Crompton, the city is formed by a maze of primary structures. Cranes lift and move around living units, following the desires of the occupants. Tubes rush traffic up and down. We can only hope that all this traffic is taking people somewhere.

Then there is the Space City of Yona Friedman and Schulze-Fielitz, a diagrammatic expression of a fully mobile society where everything is transient, both social institutions and architectural settlements. The problem of obsolescence is faced. Unfortunately, Yona Friedman does not consider his work as a pure diagram, but wants to translate it into real structures. Nevertheless, the schematization is clear and, therefore, positive. The New Babylon of the Dutch artist Constant is the vision of a society completely free from the slavery of daily work, now undertaken only by machines. Society is mobile, with no material possessions, no monetary circulation, no fixed residences, a continuous gypsy-like 'swinging around.' Maybe this is the most convincing Utopia of all the recent ones, if only because it is intended as a revolt against social regimentation, against the mythological exactness which is the lazy bourgeois reassurance of today.

Conclusions are hard to draw. We are much too close to our present Utopia to pass judgment on it without passion. But we must not accept everything blindly either. From the Utopia of the present we must be able to extract some suggestions for an ideology and for a method of design. In the other arts there has been a continuous attempt to draw into the process of reactivity those who until now were mere passive spectators, or receivers. Aleatoric music asks the performers and the audience to participate in the composition which is left open with respect to the performance.

This is the case, for example, with Stockhausen, Evangelisti, Bussotti and Logothetis. Methods and strategies are consciously and carefully developed. Kinetic sculpture and painting and op art have quite successfully explored similar possibilities. Movement, either virtual or real, demands a continuous discovery of the art-object and proposes a multitude of new rapports between the object and the observer. The manipulations of Agam or Duchamp in effect ask the public to build its own work of art. The spectator is not an outsider any more; he is pushed inside the work of art itself. The same process is advocated by the Theatre of Action. These trends can be considered as a parallel to the Utopia of Social Mobility which, after all, is derived from Le Corbusier's scheme of 1929 and from Saint'Elia's intuition that the increased speed of obsolescence, and therefore of change, will transform our way of thinking about architecture. Such a Utopia, exerting the right of the individual expression in a fast changing society, seems to be the most promising of all.

But such recognition of the individual's rights is not enough. A consistent method of design, valid for everyone, for the architect and for the users of architecture, must be found. The alternative is to populate our dreams with Flash Gordon and his Falcon Men. The destiny of the formalistic Utopia of the 'twenties has been explicit enough. The opening of society and architecture to the problem of masses as well as to those of individuals is no doubt our main target now. A serious search for a method of 'Open Planning' must follow the parenthesis of the Utopia.

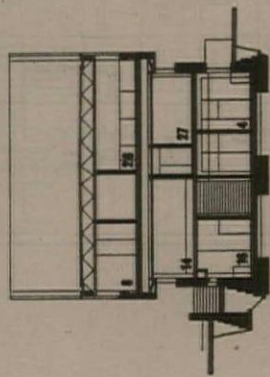


Left, Karlheinz Stockhausen: 'No. 11. Refrain'. 1961. Above, Roman Haubenstock Ramati: 'Liaison'. 1961.

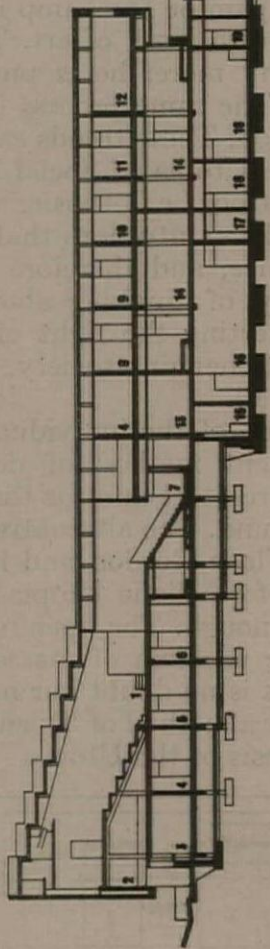
HOSPITAL EXTENSION, EDINBURGH

architects

MORRIS AND STEEDMAN



cross section



longitudinal section

- key
- 1, staff conference room
 - 2, air-conditioning room
 - 3, clerks and records
 - 4, consultant
 - 5, clinical secretary
 - 6, women's cloak
 - 7, entrance foyer
 - 8, secretary
 - 9, examination
 - 10, film records
 - 11, workshop
 - 12, pathology
 - 13, principal
 - 14, classroom
 - 15, dark room
 - 16, x-ray
 - 17, clients
 - 18, wound dressing
 - 19, stump store
 - 20, reception and waiting
 - 21, women's fitting
 - 22, women's planter
 - 23, office and filing
 - 24, prosthetic research
 - 25, storage and packing
 - 26, electro-diagnosis laboratory
 - 27, library

The extension to Princess Margaret Rose Hospital at Fairmilehead (the first phase of a plan to double its size) lies on a difficult site, long and narrow, with a longitudinal drop of about 10 ft.; it prolongs the central corridor and pavilion system of the existing hospital of 1932, designed by Dr. Reginald Fairlie. It is designed to fit into the landscape, which is open to the south towards the Pentland Hills. Three different departments are incorporated: out-patients on the ground floor, nurses training unit on the first, and clinical unit on the second. The slope is used to give out-patient reception direct access to the roadway with its own ambulance centre, the training floor a covered link with the main hospital and the clinical unit an enclosed bridge to lifts in the older building.

The major space of the clinical unit, the staff conference room, gives the building its serrated silhouette. The unit is primarily for research and exchange of information between various specialists, and the conference room is steeply raked for the display of leg and foot (orthopaedic) cases. Seating is widely spaced to allow easy access to the platform for members of the audience, and acoustics are arranged to allow two-way discussion. A lectern is provided on each side of the platform, with controls for projection of slides or cine film, call systems, artificial light dimming control and curtain control. The screen behind the platform has a masking device so that one or two pictures can be projected; blackboards can be pulled up in front from below floor level. On either side, next to the wooden grilles over loudspeakers and air-extract

equipment, are two doors for bringing patients to the platform; when closed these can also be used as blackboards, with fluorescent chalk and an ultra-violet source above each door. The room behind the platform is used for photographing and as a waiting room for patients, who are brought on trolleys or wheel-chairs over the corridor bridge from the existing hospital. There are consulting rooms on the west side, and a series of specialist laboratories on an island and wall bench system.

The nurses' training unit has two classrooms divided by a movable partition, a demonstration room, and a foyer which is shared with the staff conference room above. From the foyer a staircase also descends to the out-patient department, which has covered ambulance space, automatically opening doors and a reception desk placed to record every patient's arrival. Examination rooms are arranged in suites around a consultant's room. The patient undresses in a cubicle opening straight on to the examination room, but in order to prevent him overhearing consultants' remarks, there is a solid floor-to-ceiling door between, and also a door to the noisier corridor with openings at top and bottom. There is an X-ray and wound dressing room opposite the examination rooms. At the south end are the artificial limb making and prosthetic research workshops. Patients may enter these directly from the main secondary waiting area.

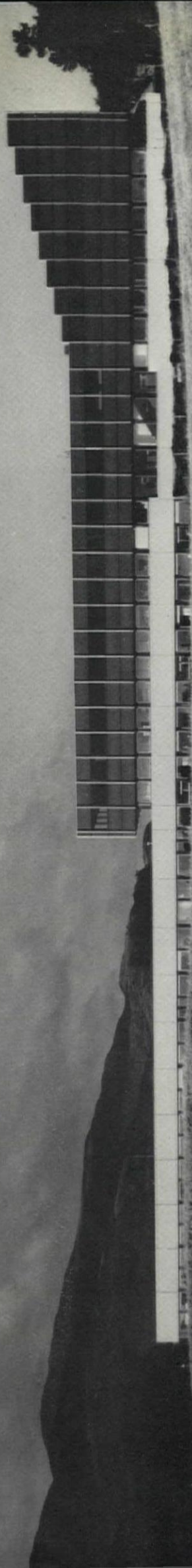
The two lower floors are strictly limited by the narrow site and their general appearance is governed by the need for ample lighting. They have an r.c. frame with

brick infill, cement rendered with a plastic sprayed finish, and the wooden pivot windows have special draughtproofing for the exposed site. On the top floor extra space is gained by cantilevering the building 4 ft. to east and west and 6 ft. to north and south; to reduce the load there is a light steel frame and curtain wall system. Ducts are enclosed in the open steel columns and in the cantilevered floor beams, giving total flexibility; the lightweight partitions are easily removable but have good soundproofing. The infill panels match the sliding aluminium windows, which are of dark Dutch glass, intended for rooms where a high natural light source is required without any glare. This glass also prevents overlooking of consultants' rooms from the existing hospital on the west.

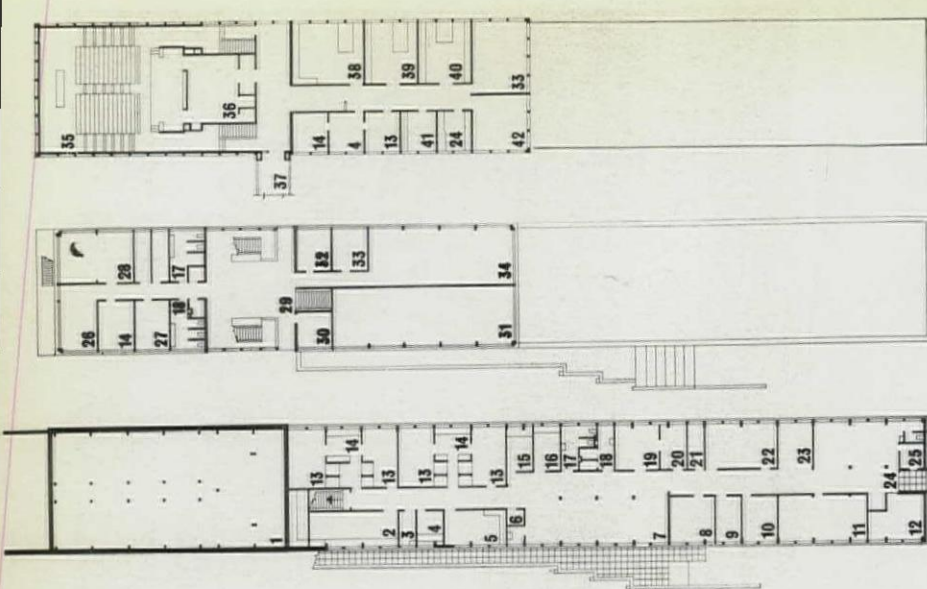
Internally, besides withstanding wear and tear and assisting cleanliness, the detailing is intended to give warmth to an otherwise clinical atmosphere, through extensive use of natural beechwood doors and panelling. The walls in the main spaces have plastic paint on cement rendering, with corners and door frames detailed in extruded aluminium for protection from trolleys. The staircase walls are clad in white ceramic tiling. Floors are of terrazzo in the foyer and of vinyl elsewhere—white in colour so as to encourage meticulous maintenance. Heating is by extension of an existing coal-fired system (though new oil-fired boilers are to be built shortly).

Quantity surveyors, James Gentles and Son. Consulting engineers, Ian Hunter and Partners. Civil engineers, Blyth and Blyth.

1, the hospital extension seen from the east, showing the relationship between the stepped conference room on the right and the Pentland Hills on the left, with the out-patient department providing a solid base.



HILLSDISCHOSPITAL



- key
- 1, void
 - 2, x-ray
 - 3, clinic
 - 4, secretary
 - 5, wound dressing
 - 6, stump socks
 - 7, waiting area
 - 8, women's fitting
 - 9, women's plaster
 - 10, office
 - 11, prosthetic research
 - 12, storage and packing
 - 13, examination
 - 14, consultant

- 15, sister
- 16, almoner
- 17, men's w.c.
- 18, women's w.c.
- 19, men's fitting
- 20, men's plaster
- 21, staff
- 22, upper limb workshop
- 23, fitters
- 24, workshop
- 25, spray booth
- 26, clerks and records
- 27, clinical secretary
- 28, training
- 29, entrance foyer

- 30, principal
- 31, classroom
- 32, tutor
- 33, library
- 34, demonstration
- 35, staff conference room
- 36, photographic studio
- 37, link to existing wards
- 38, electro-diagnosis laboratory
- 39, vascular diagnosis laboratory
- 40, laboratory
- 41, film records
- 42, pathology



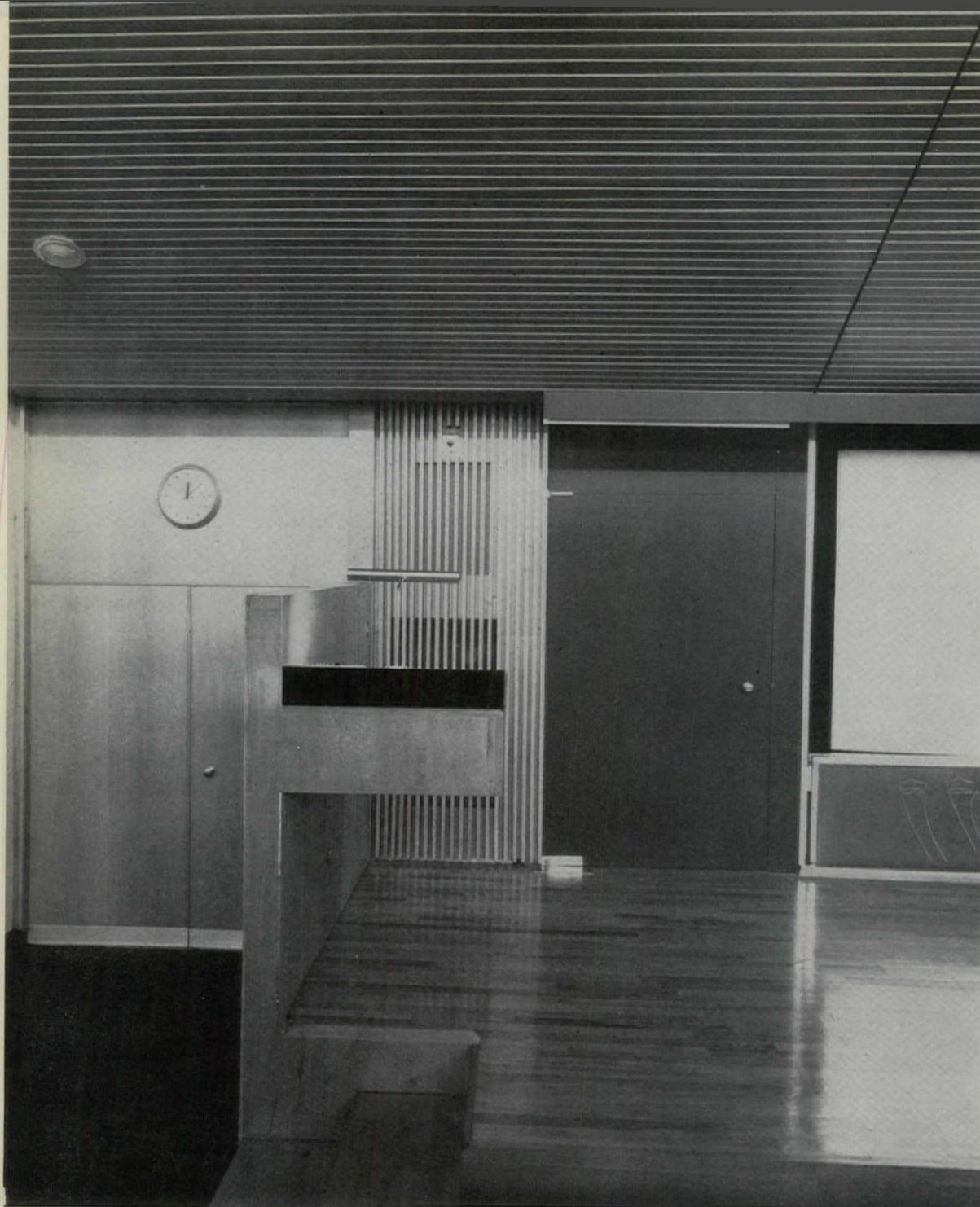
3

HOSPITAL EXTENSION, EDINBURGH

2. (facing page) detail of light steel frame and curtain wall system for the cantilevered clinical unit, at the staff conference room end. 3. first floor foyer of nurses' training unit, showing staircases clad in white ceramic tiling, which give access to the clinical unit. 4. the waiting area and reception desk (with extra top lighting) in the ground floor out-patient department.



4



5



6

5, detailed view of left-hand side of dais in the staff conference room, with a general view in profile below, 6. The aim is to give the whole audience a close view of the case under discussion, with push-button control of lighting, blackboards and projectors from the two lecterns.



THE LAST FORMGIVER

All genius is embarrassing, and never more so than in the immediate aftermath of death. Supporters of the deceased giant busy themselves with the public record to ensure that the good (in defiance of the normal entropy of reputation) shall live after him. Detractors, convinced that their hour has finally struck, emerge from the woodwork—only to find that everyone is applying the law of *de mortuis* to the last letter of *nil nisi bonum*. When the dead genius has attained a measure of acceptance as widespread, total and unquestioning as that enjoyed by Le Corbusier, when his supporters are in such total command of the media of communications as were Corb's, the chances are that the festering resentments of the detractors, when they finally burst through the crust of conventionalized approval, will provoke a reaction so destructive of his reputation that it may take a generation or more to set the record straight.

Apart from the deliciously truthful memoir of his domineering and satyrish attitude to women which appeared, amid gasps of scandalized horror, in *The Guardian*¹, the writers of Le Corbusier's necrologies have seemed determined, by their vacuity, sentimentality, name-dropping and ignorance, to make the reaction—when it comes—so explosive and disastrous that the reputation will be destroyed finally and forever. The gullibility, for instance, of those who praised his ability to 'extract lyricism from technology' (etc., *ad nauseam*) would be comparable to that of the courtiers who failed to observe the non-existence of the Emperor's new clothes, but for the fact that the non-observation of the demonstrably non-existent had gone on so long that the clothes had become old, the topic so boring that—apart from a few brave voices like that of Denys Hinton in his letter to *The Architects' Journal*²—small boys had given up trying to point out the obvious to their CIAM-besotted elders.

The observable facts of his built designs are that most of his most celebrated 'machine age' effects were achieved with very primitive building technologies, descending, in later designs, to plain fakery (those spray-on walls at Ronchamp, those sky-hooked vaults of the Law Courts at Chandigarh), what time the writings of his declining years revealed an ever-deeper ignorance of the intellectual disciplines that kept the technologies of his life-time moving, and he delighted himself (with the childishness of an old man) in such 'technological' discoveries as the interference patterns produced by superimposing two transparent grids³.

This discovery (*sic*) has little that is interesting, or even significant, to do with

THE LAST FORMGIVER

the progress of technology, but the fact that these patterns caught his eye five years or more before Op Art hit the galleries, points to something that is significant about Le Corbusier and interesting about the times in which he lived: he was the fashion-master of his age. He was ever first in the hearts of his fellow professionals because he was always first on the beach-heads of aesthetic (never technological) adventure. Just as the US marines never stormed an atoll or captured an island without finding *Kilroy was here* chalked on some handy surface, so no sudden rush of aesthetic adventure in architecture between 1925 and 1965 ever reached its objective without finding slogans in the old master's familiar hand already scrawled across the scene. As Alison Smithson once said, with the kind of resigned exasperation usually reserved for discussing elderly relatives, 'When you open a new volume of the *Oeuvre Complete* you find that he has had all your best ideas already, has done what you were about to do next.'

This is by no means a gift to be despised. To enjoy this kind of command over the quasi-conscious and semi-rational preferences and prejudices of men, has been the source of vast political power to some, immense wealth to others, has founded religions that brought empires to their knees. History has not been shaped solely by deep social ground-swells, inexorable economic forces, new sources of power or improved means of communication. It has also been decisively shaped by unforeseeable individuals (Lenin, Gandhi, Martin Luther King—but also Christian Dior, Elvis Presley, Jackson Pollock) whose power to utter the right word, turn the necessary gesture, has made great trends conscious and comprehensible, defined the forms in which history, and their contemporaries, could recognize the drift of events.

The *quality* of the utterance or gesture made by these historical formgivers has no bearing, it seems, on its charismatic effect. Gandhi could speak foolishly, King irresponsibly, Lenin stupidly, without their ceasing to be great and compelling leaders. Corb could be as flashy as Presley, as ridiculous as Dior or as mulish as Pollock on a bad Monday, and yet his slightest doodle would be as persuasive as his longest-pondered design to architects of most generations in most parts of the world. The bitterness of British architects seasoned in the service of the Raj, who complained that Le Corbusier was offering to solve the architectural problems of India on the basis of a merely tourist acquaintance with the sub-continent, was made the more sour by their helpless recognition that these solutions would impose themselves on practically everybody—including themselves, as like as not. Within the confines of architecture as currently practised, and the compass of architectural history as currently studied, his achievement is overwhelmingly clear—he was the outstanding formgiver of what may prove to be the last form-dominated epoch of architecture. He was, perhaps, less fundamental a form-giver than Auguste Perret, whose trabeated conception of concrete structure underlies even Le Corbusier. He was less radically inventive than Frank Lloyd Wright, but far more imitable. The evidence of the eyes is that for thirty years he discovered, codified, exploited, demonstrated—even invented—and gave authority to more forms than any other architect around. To walk across the grass at Alton West is to inhabit a total environment created largely and consciously in his image, but to drive down Sunset Boulevard is to be constantly reminded that men who never heard his name have been able to go to work on clichés borrowed at second or third hand from his notebooks. From him the modern movement in architecture learned most of its international language of architectural expression, and the fact that this language expresses practically nothing of interest for the second half of the twentieth century is the movement's fault, not his, and detracts nothing from his personal achievement in imposing it.

¹ *The Guardian*, September 11 1965. ² *AJ*, September 29, 1965. ³ As set out at some length in *Modulor II*



TOWARDS AN ARCHITECT

The young Charles-Edouard Jeanneret grew up and trained in La Chaux de Fonds in an ambiance that must have predisposed him towards a romantic view of art and nature: both are summed up in his earliest house, 1. His travels brought him up hard against men who were busily modifying and simplifying the classical tradition (Behrens, Perret, Loos) in reaction against the Art Nouveau. The solid grounding and faith in the grand old rules of classicism that he received at their hands is reflected in his late works in Chaux, such as the Scala cinema, 2, or the technically advanced Villa Schwob, 3, completed just before his departure for Paris in 1917.

In Paris, as an architect working for a primarily artistic clientele, he might have been expected to follow the tradition of romantic classicism exemplified by 4 (compare the porch with those in 2), or the Perret line indicated by this studio house in the Rue de Belvedere, 5. Instead, impelled by an artist's conception of a Machine-Age art, dreamed up by himself and Amedee Ozenfant, he emerged in 1922, in his new architectural persona of 'Le Corbusier,' as the designer of hard, keen, cool artefacts like the house at Vaucresson, 6, or the Ozenfant studio, 7 and 8.

On this, and subsequent pages, readers will doubtless recognize many photographs, plans and drawings from the volumes of Le Corbusier's Oeuvre Complete. They have been used precisely because they are familiar—they are the medium by which most of Le Corbusier's work became known to most of the architects who knew it, and were influenced by it. The Architectural Review wishes to thank Editions Girsberger of Zurich for permission to use these illustrations, and with them, Willy Boesiger, compiler of the seven volumes of the Oeuvre Complete, without which all study of Le Corbusier would be practically impossible.

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6	
7	

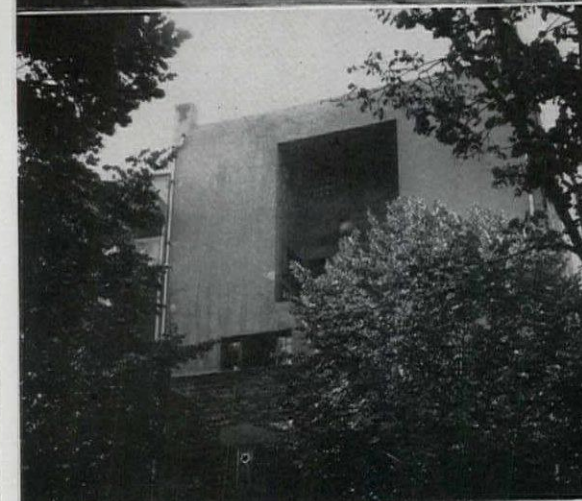
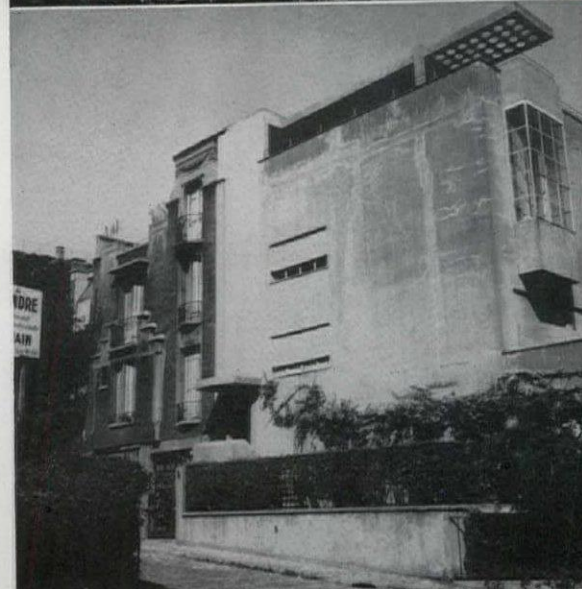
PEERS AND EQUALS

Working among his artistic clientele, producing houses like those in the Square du Docteur Blanche, 9, Le Corbusier in 1923-5 was no more than one of the boys, all practising a closely related style grown out of cubism, rendered construction, eccentric patronage and short cash. Andre Lurcat lined the Villa Seurat with his versions, 10, and ornamented the side of the Parc Montsouris with the striking Maison Guggenbuhl, 11. Rob Mallet-Stevens could inflate the style to palatial proportions, 12, but it was the same style to which all contributed, and which was to continue as a vernacular into the 1930's (see AR, August 1956) as in these studios in the Rue Gauguier, 13, which embody elements of Lurcat, Mallet-Stevens and, in the central building, a close version of the boxed-out window of Corb's Vaucresson house (6, on previous page).

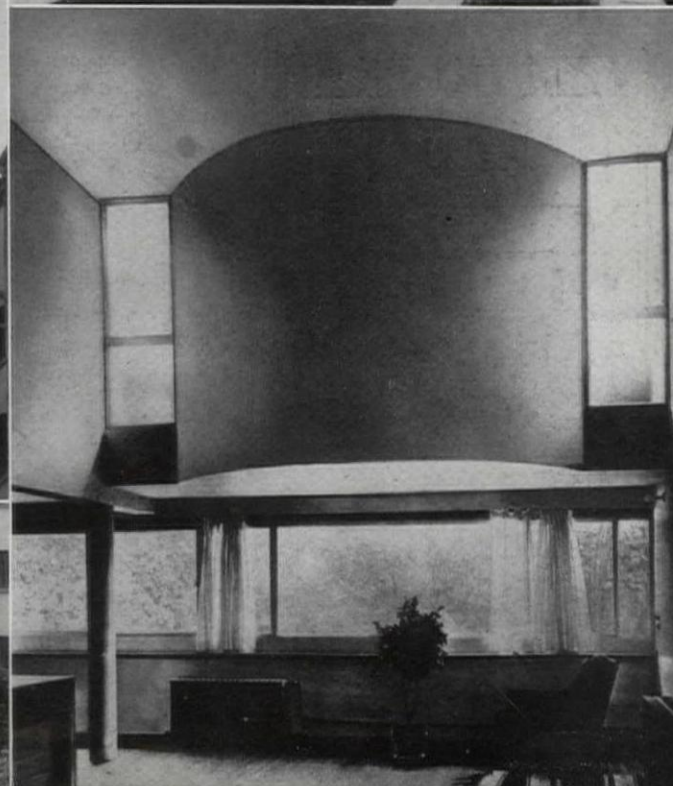
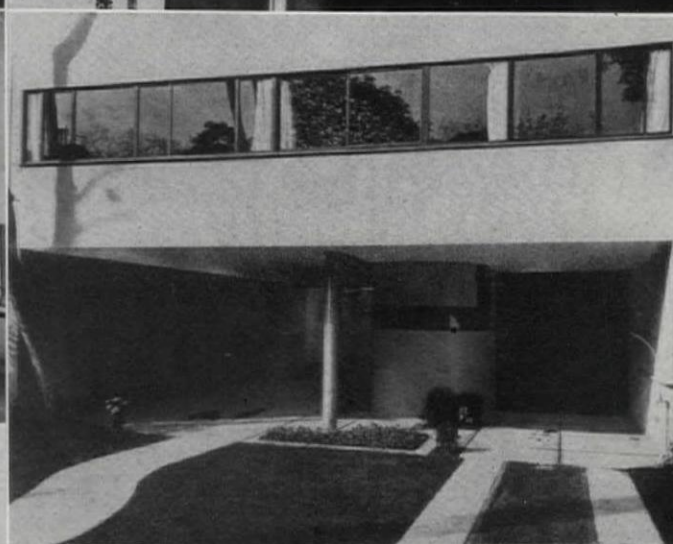
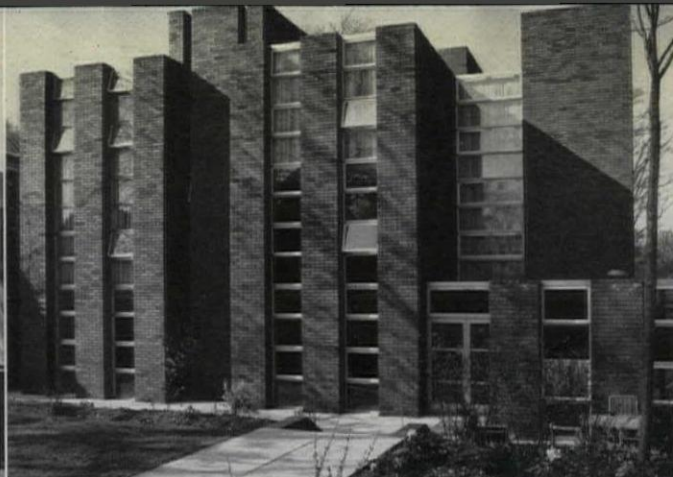
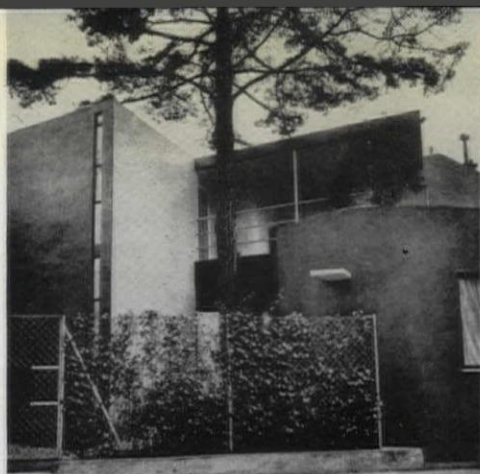


13

Some of Le Corbusier's relationships with his elder contemporaries are more equivocal. With Perret he quarrelled sharply in print, with Adolf Loos he executed a stately game of stylistic swaps—14 is the house Loos did for Tristan Tzara in 1924-5, with its recessed box in the upper facade; 15 is Corb's Maison Plainex of 1926 with its projecting box; but 16 is his villa at Garches with a recessed feature in its central facade, and 17, from the same period of 1927-28 is Loos's Moller House in Vienna with a projecting box. Coincidence? Unlikely, since each was highly aware of the other as a rival theoretician.



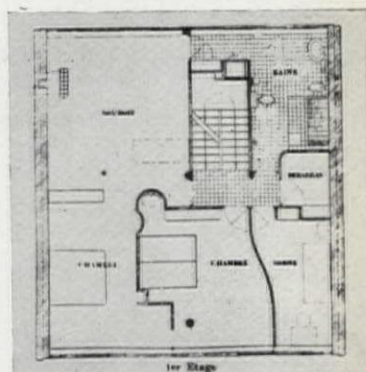
9 10
11 12
14 16
15 17



LE STYLE CORBU

Already, in the middle 'twenties, Le Corbusier was casually dropping hints that might be taken up decades later: the slit window of this little house in the Bois de Boulogne, 18, was to have a long and respectable progeny, including James Gowan's house in Hampstead, 19.

But his full influence had to wait upon the resolution of a problem of style, the equation between function on the one hand, and rhetoric on the other; the dichotomy is well enough represented by the great functional windows, 20, of the Meistchaninoff house in 1925, and the rhetorical game of ship-shapes played in the less functional parts, 21, of the same house. The resolution came, initially from a moment of pure abandonment to the functional object, the interior of the Pavillon de l'Esprit Nouveau, 22—"equipped not furnished"—with standard catalogue products lacking in artistic pretension. After that, the problem vanished: the Palais du Peuple, a simple stack of dormitories, 23 (its roof now altered), raised on stilts to clear the ground, 24, makes rhetoric of its functions; as does the Villa Cook, also of 1926, with its pilotis and strip windows, 25, the volumetric dramas of its interior, 26, and its sexy, sophisticated plan-patterns, 27. These plan patterns were to be, for a long time, the surest measure of his influence: 28, is the part-plan of a 1935 house outside Johannesburg designed by Fassler, Cooke and that model Corb-scholar, Rex Martienssen.



27



28

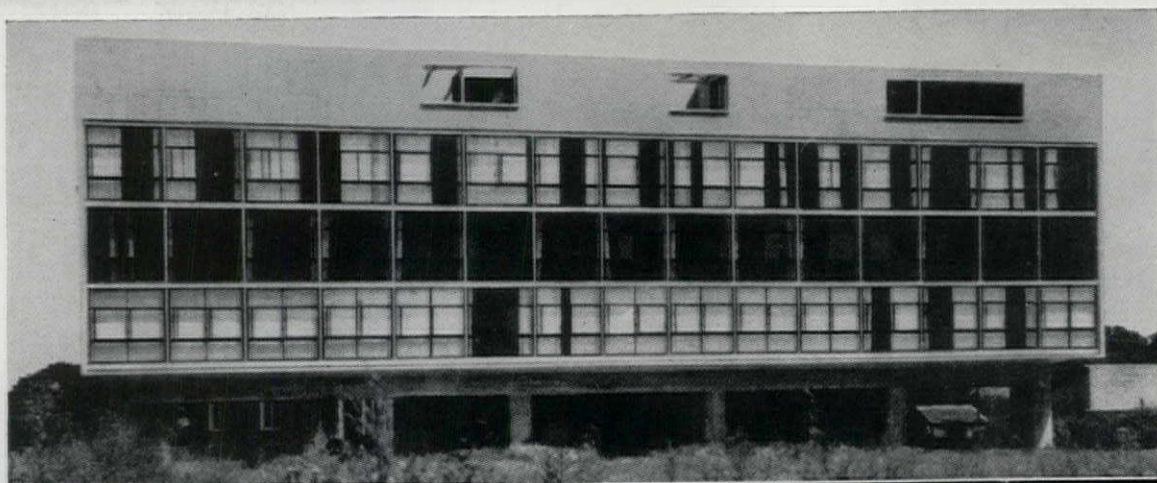
18/19
20/21
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23
24/26

HOUR OF MASTERY

Le Corbusier's seemingly total dominance over the formal language of modern architecture during the second, or 'Academic' phase of the International Style, rests on many things, but its authority derives almost exclusively from one building—the Pavillon Suisse. Architects, notoriously, are more interested in certainties than in facts, in answers not questions, and here, in the Cite Universitaire of Paris as the 'thirties began, Le Corbusier produced what looked like the most certain answer to the problems of modern architecture as then understood.

The famous north facade, 29, tells nearly the whole story, the contrast of rectangular forms for the standardized accommodation, against curved for the unique situations, the use of coarse 'natural' textures of random rubble against smooth reconstructed-stone panelling to distinguish one unique situation from another, the use of pilotis to elevate the more private accommodation and leave the ground—and ground-floor accommodation—clear for more public access.

The other facade, 30, neat as a filing cabinet (every square a tidily pigeon-holed student) has had a less obvious impact, and few direct imitators, though one of them at least—Otto Apel on the Berlinerstrasse at Frankfurt-am-Main—has proven as sophisticated, 31, as the original deserved.



HOUR OF MASTERY

The influence of the Pavillon Suisse struck straight and unadulterated in some cases, mixed in others; it struck as a general concept or a particular detail; it survived changes of fashion and ocean crossings. Its pilotis and chassis structure reappeared, lightly modified, in Easton and Robertson's platform canopies at Loughton, Essex, 32; but the overall concept of a curved re-entrant in front of a flat slab is what came back in Wells Coates's Prince's Gate flats, 33. Diluted by the sentimentalities of post-war detailing, it survived to give the general form of Ralph Tubbs's Indian Student hostel, 34, in Fitzroy Street, and if student purists complained that glassing-in the ground-floor had confused the clarity of the original conception, the treatment of the gable-wall paid honest tribute to another reputable Corbusian source, the Clarte apartments, 35, in Geneva.



35

Outside England, outside Europe, the influence permeated deep and long. At one extreme, a Johannesburg apartment block of the 'thirties, by H. H. Le Roith, quotes a mirror image of the Pavillon Suisse staircase, 36; while two decades later Philip Johnson's Port Chester Synagogue, without echoing a single detail, plants the curved against the flat, 37, in a manner which might never have entered his scholarly mind had the Pavillon Suisse not existed (query: or if the Cite de Refuge had not existed? See 50, over page).



36

32
33 34
37

THE FOUNTAIN HEAD

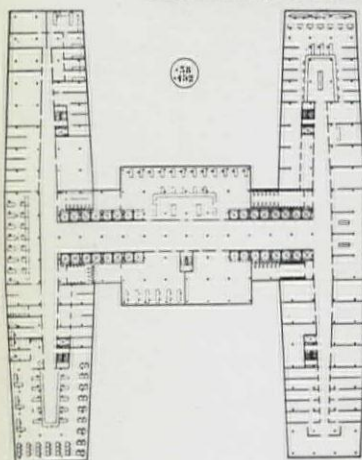
In the 'thirties, when he built least, Le Corbusier influenced most. During those dry years when spite, politics and financial stringency prevented him almost completely from putting up buildings, he sprayed out a succession of built and unbuilt brainwaves too numerous even to catalogue here: what follow are samples and examples only.

At one extreme: indoor brute brickwork in the little underground cottage of 1935, seen in 38, anticipates much of the Jaoul aesthetic (see 71 on page 107): Stirling and Gowan need not have waited so long to find the style of their Ham Common fireplaces, 39.

At another extreme, the hanger-arch Corb devised for the Palace of the Soviets, 40, has served to hang a number of things, such as the roof of Renfrew airport, 41, or even nothing at all, as in Saarinen's triumphal version at St. Louis.

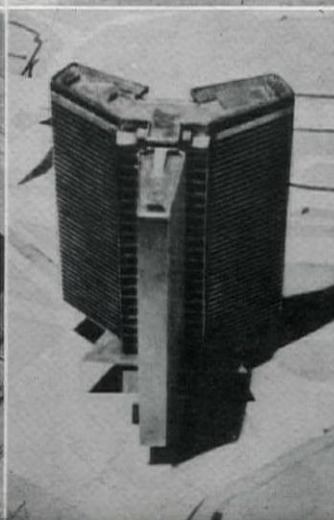
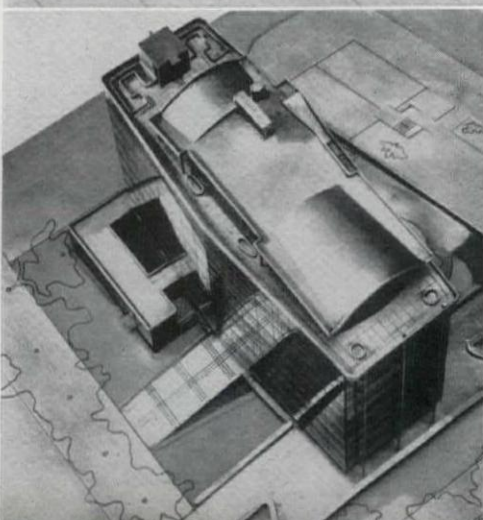
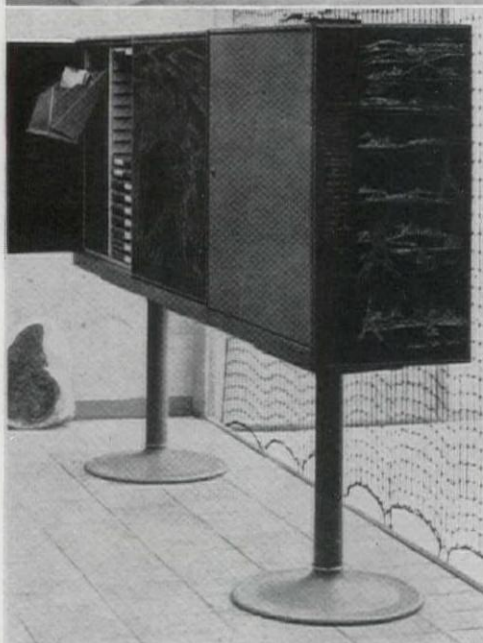
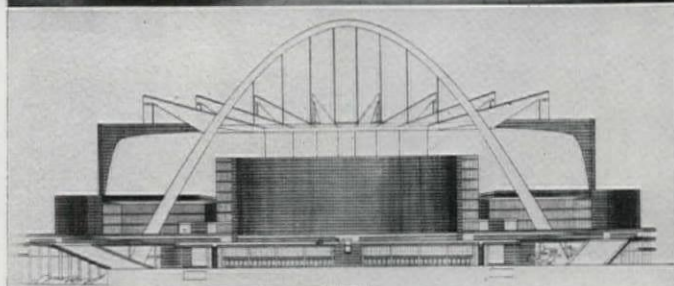
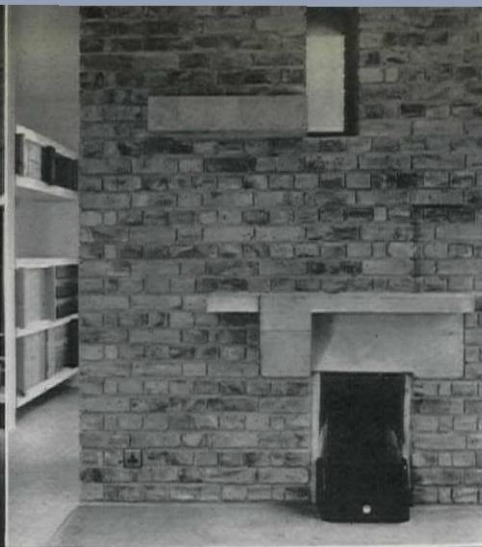
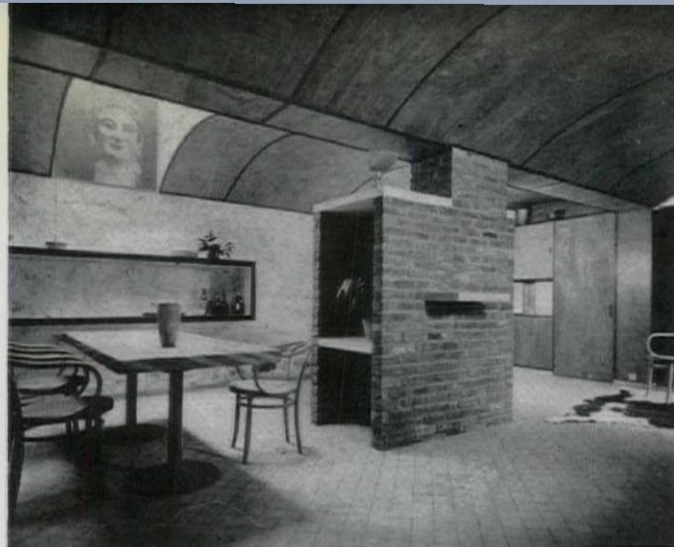
Speaking of Saarinen: what ancestors had his pedestal furniture, 42, if not the cabinets that Corb had shown at Brussels 25 years earlier, 43? But by the middle 'thirties, Corb had already begun to influence other people's furniture design: the characteristic posture of Marcel Breuer's 'Isokon' recliner, 44, was well and truly anticipated in Corb's cowboy chair, 45, which he and Charlotte Perriand had designed in the mid-twenties.

And there is the little matter of the double-tapered slab block, unrealized by Le Corbusier (until the muffled version in the Maison du Bresil) but pursued by him in sketch after project—Rentenanstalt, 46; Algiers, 47 and 48—until he finally handed it on to Brazilians like Affonso Reidy and Jorge Moreira to exploit in their 1945 office-block project, 49.



47

38	39
40	41
42	44
43	45
46	48 49



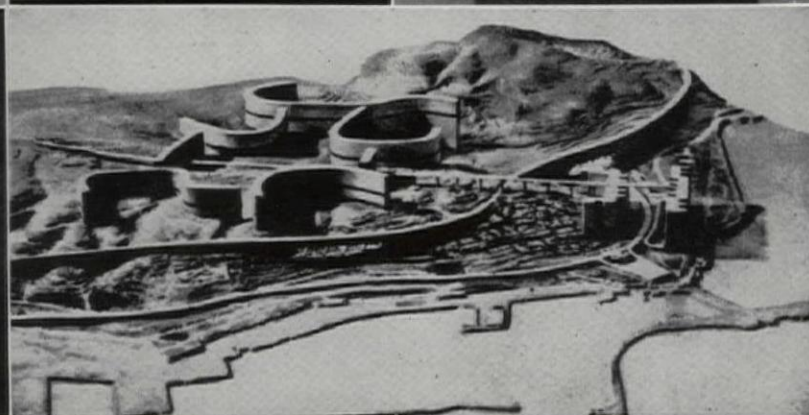
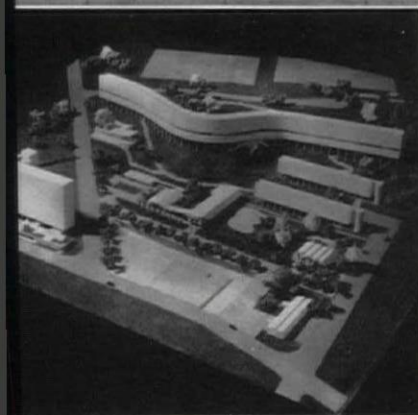
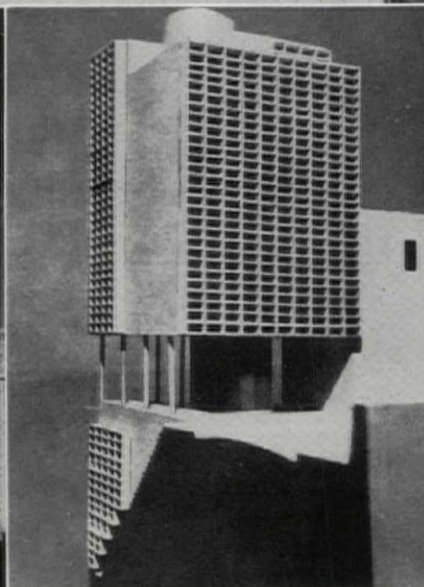
THE FOUNTAIN HEAD

Brazil—there above all was Le Corbusier's field of influence. Even before he had begun to work on sun-control, he was contributing usable clichés to the stock for Latin-America to use—the V-legs under the canopy of the Cite de Refuge, 50, reappeared in a decade or so under the canopy of Niemeyer's Belo Horizonte social centre, 51, as did the narrow glazing.

Sun-control is almost too obvious a topic to be worth discussing, but it is worth noting how much else of the total aesthetic of the Ministry of Education in Rio, 52, can be traced back to Corbusian projects like the Durand and PON schemes for Algiers, 53. But, of course, there is no influence like *direct* influence—he was there in Rio as consultant to Costa's design team at the Ministry.

There are also numerous town-planning influences on Brazil—Reidy's snaking main block at Pedregulho, 54, is a timid child of the sweeping convolutions of other Corbusian projects for Algiers, 55.

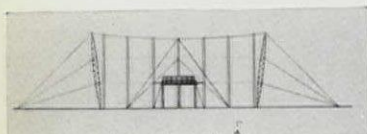
But Emile Aillaud's Les Courtilles, 56, French and a decade later is not much bolder. And no prizes are offered to Corbusiasts who can identify the source of the end-staircase on the low blocks of Pedregulho, 57 (abandoned sketches for the house at Vaucresson of 1922!)



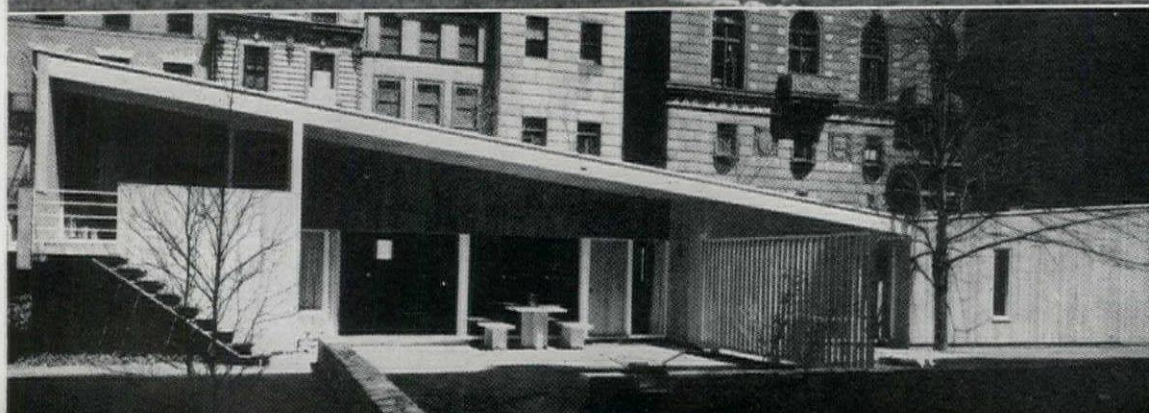
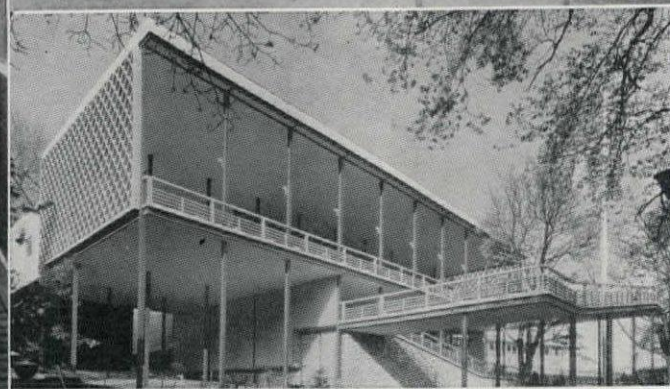
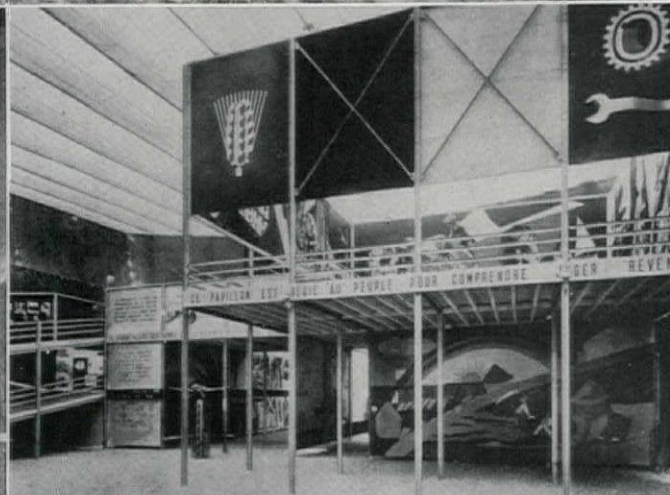
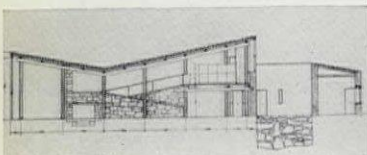
	50	
51	52	53
54	55	
56	57	

THE FOUNTAIN HEAD

Everybody knows about Le Corbusier's influence on Japan after 1945, but he was in closest touch with the Japanese in the 1930's. Not only did Kunio Maekawa and Junzo Sakakura pass through his office in that time, but some curious things happened to the designs produced in the office. The 1936 house at Mathes, for instance, 58, with all that woodwork and plankwork, 59, does it owe nothing to the detached Katsura palace? Some suggestive comparisons can be made in 1937, in the pavilions designed by the Master and his pupil for the Paris Exposition: Corb's, under a great tented tension-structure, 60, employed a thin stick-like display-structure, 61, that is very like that employed by Sakakura for the whole of the Japanese pavilion, 62.



On one occasion, in Volume II of the *Oeuvre Complete*, he did actually complain of being copied in Japan—that the project for the Errazuriz house, 63, had been borrowed by Antonin Raymond, 64. Curiously enough, he seems not to have complained about Marcel Breuer's use of the butterfly roof, 65, in the famous demonstration house at the Museum of Modern Art in 1949



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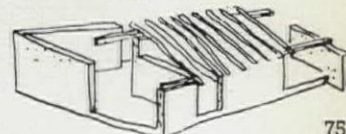
THE FORM TYRANT

As far as architecture was concerned, the war did not really end until about 1950, and in the decade that followed Le Corbusier's mastery was almost absolute. The world of architecture waited upon his word, trembled and obeyed. His three great commandments were the Unite at Marseilles, the Jaoul houses, and the Chapel at Ronchamp.

From the Unite, 66, the world learned shaggy concrete, 67 (Eros House by Owen Luder and Partners), enormous pilotis, 68 (Hallfield, Paddington, by Tecton), and new games with external staircases, 69 (Centre Heights, by Douglas Stephen and Partners)—among other things. From the Jaoul houses,

70, Stirling and Gowan conspicuously learned a new way with domestic architecture, 71 (and the rest of the world learned it from them) and architecture in general learned a new respect for the arch, 72 (Sussex University, by Sir Basil Spence and Partners). But Ronchamp, 73, was beyond the capacity of most of his loyal subjects to imitate or profit by: they learned a few gargoyles, and that a man can make himself look ridiculous by imitating out of context, 74 (bank in Palm Springs, by the Victor Gruen Organisation).

(Yet a little sketch for the Murondins housing, 75, could inspire a spine-wall dogma that could turn out very distinguished when built at Rushbrooke by Llewelyn-Davies & Weeks, 76.)



75

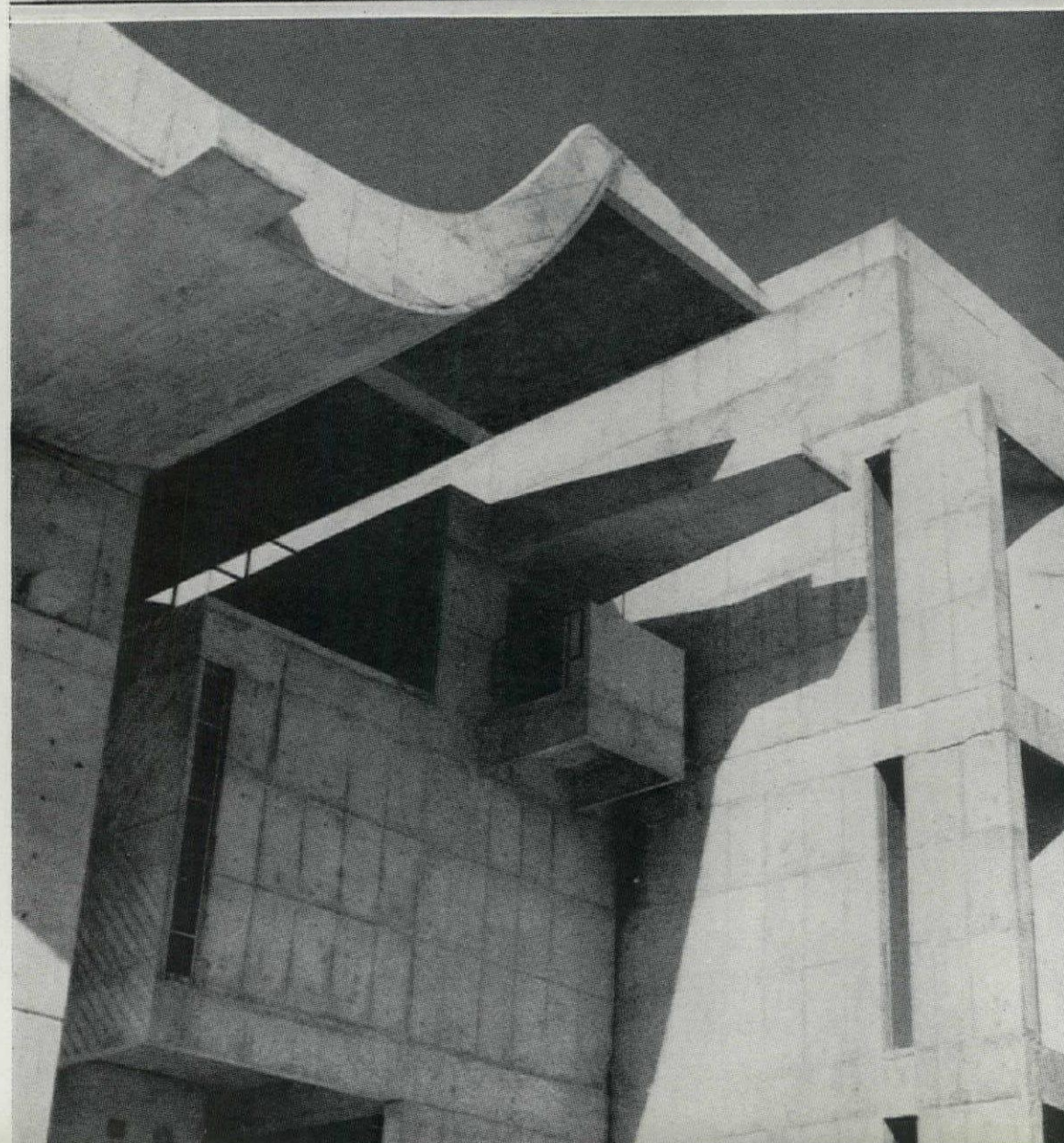
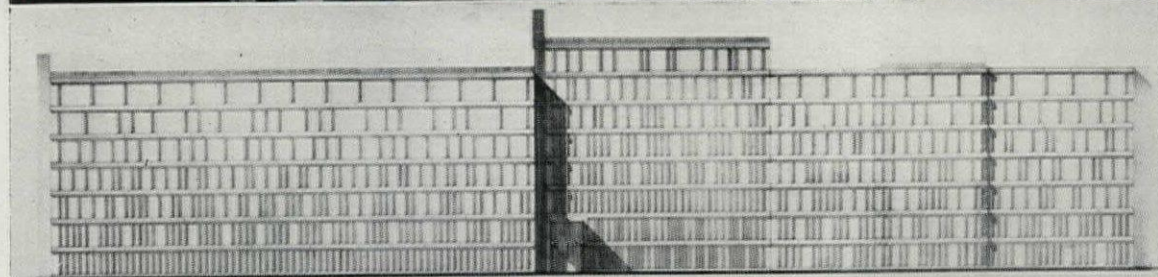
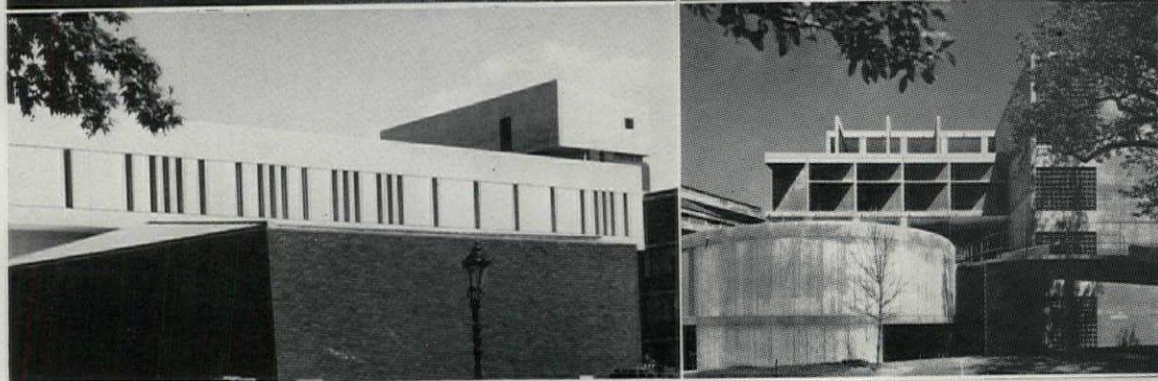
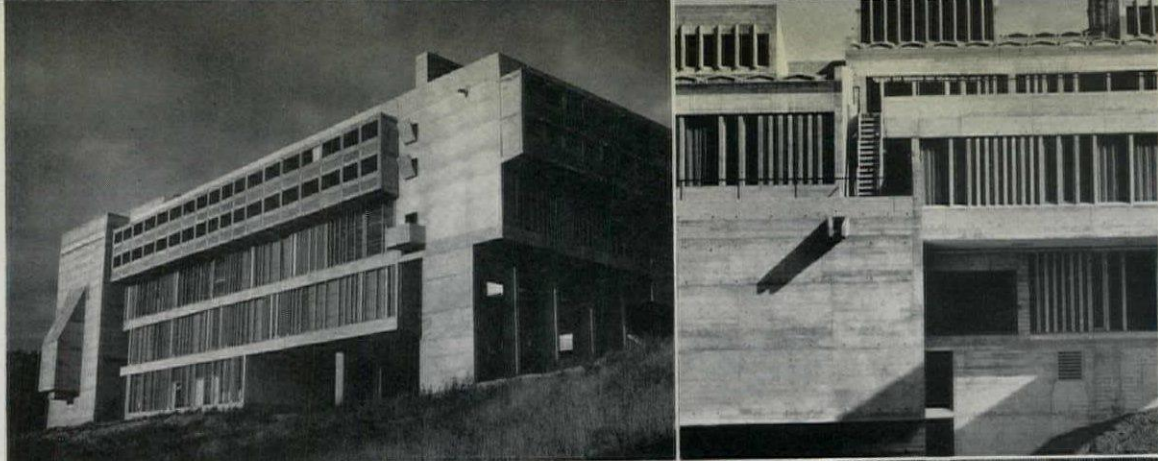
67	68	69
70	71	72
73		74
		76

THE OLD MASTER

In the 'sixties, he passed into a zone, a mood, where other architects could not, or would not follow him.

Le Corbusier stood alone, his commissions as unique as his response to them. At the convent of La Tourette, 77, he did nothing that could be learned from directly: even Architects' Co-partnership's seemingly straight borrowing of the random rhythm of the mullions, 78, at Durham is untypical of the profession's response. It has worked more often as a liberating suggestion—to Denys Lasdun, for the window-strips of the south facade of the Royal College of Physicians, 79; to Llewelyn-Davies and Weeks for their visually intermediate structural system, 80, for the Northwick Park Hospital.

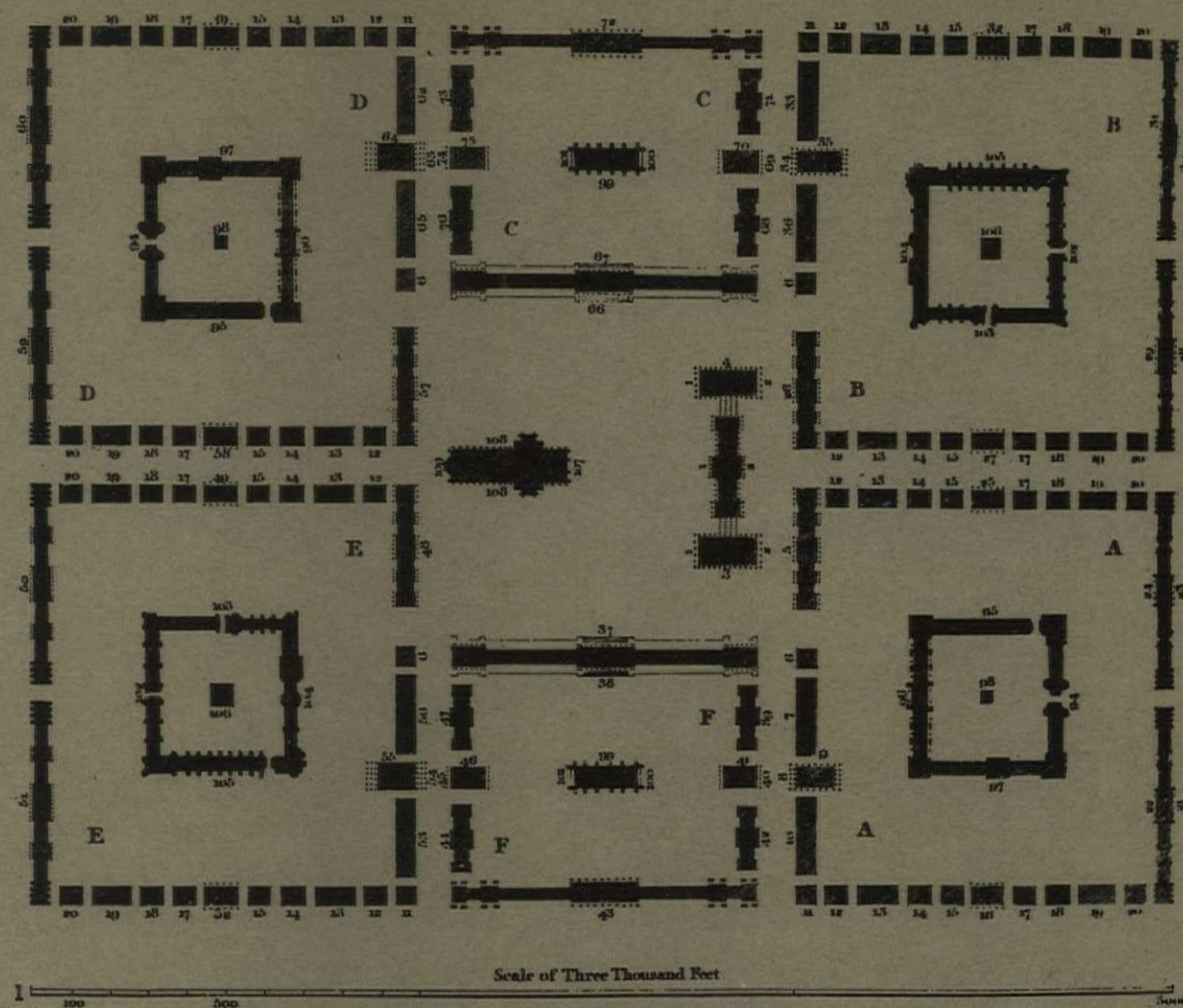
One senses that he knew he was out on his own again: the Carpenter Center at Harvard, which was designed as early as 1961, has a distinct air of being a retrospective summary of his earlier works, 81; while the capitol at Chandigarh, unimitated (though much admired) even by the Indians, produces statement after architectural statement of such astounding power and human improbability that one can do little more than regard them, 82, as products of natural forces, with awe, and the hope that one day we will understand.



77	78
79	81
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CHARLES KELSALL

THE QUINTESSENCE OF NEO-CLASSICISM



DAVID WATKIN

1, Kelsall's plan for an ideal university. Key: A, College of Civil Polity and Languages; B, College of Fine Arts; C, College of Agriculture and Manufactures; D, College of Natural Philosophy; E, College of Moral Philosophy; F, College of Mathematics. In the central court are the University Church, the Senate House, Public Library and Museum.

Phantasm of a University by Charles Kelsall,¹ published in 1814, is a remarkable book. It proposes the drastic reform both academically and architecturally of Oxford and Cambridge. The sweeping changes outlined are very advanced for so early a date, since the general demand for reform became pronounced only in the

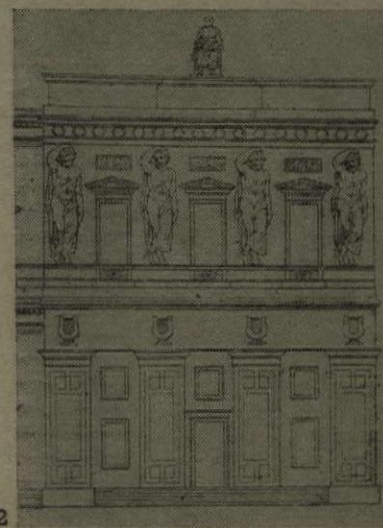
1830's. Kelsall's views, however, are much more the product of the earnest intellectual neo-classicism of c. 1800 than of the concern for political reform of twenty or thirty years later.

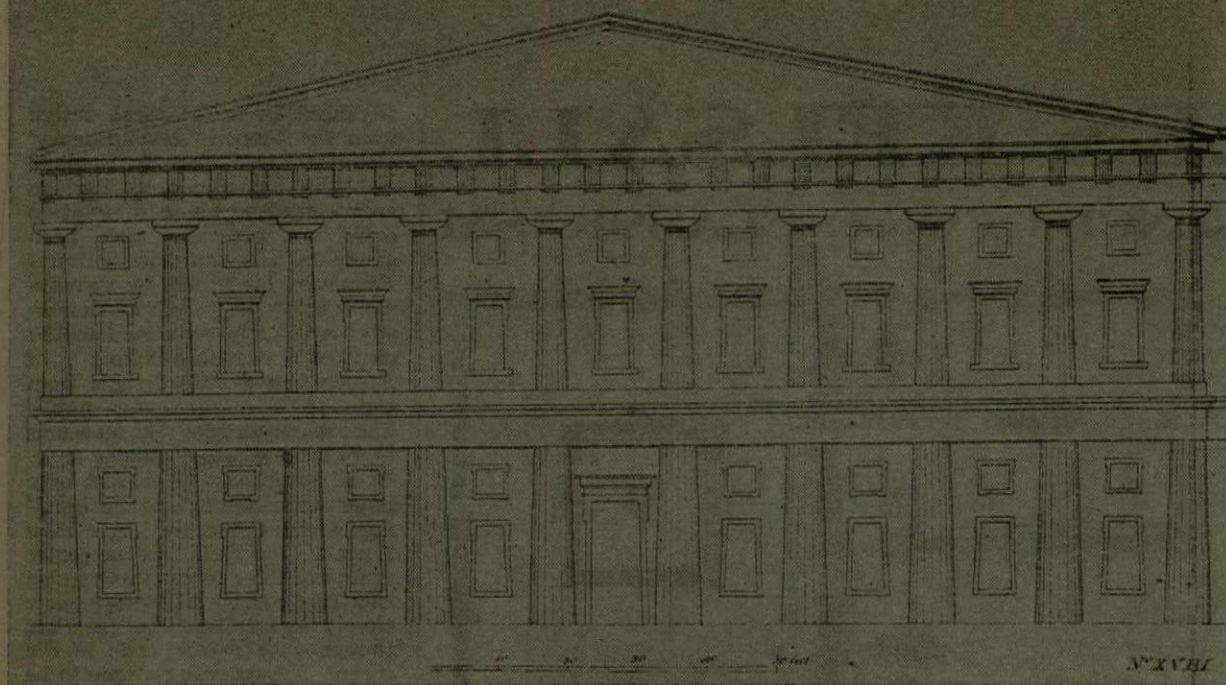
His ideal university, 1, consisted of six colleges devoted respectively to Civil Polity and Languages; Fine Arts; Agriculture and Manu-

factures; Natural Philosophy; Moral Philosophy; and Mathematics. An extended period of world travel would follow the university course. The architectural interest of Kelsall's plans,² which appear at the end of the book, derives partly from his cosmopolitan tastes, enabling him to draw upon all that was most

advanced in neo-classical design from the French 'Revolutionary' architects³ to Wilkins in England and the contemporary Russian architects about whom information could not generally have been available. His enormous cultural *Phantasm*, his *NURSE OF UNIVERSAL SCIENCE*, as he calls his university, is directly connected to the abstract wishful-thinking of French *Grand Prix* designs from the 1780's onwards for public libraries, academies and museums in an austere megalomaniac style. Each college was to consist of a large rectangle of detached buildings forming a court larger than Lincoln's Inn Fields. In the centre of four of these courts was a much smaller court following more closely the traditional college plan, though with a campanile in the centre. The six colleges were to be grouped so as to form a rectangle leaving a large open space in the centre to contain the University Church and a tripartite building that was a combination of Senate House, Public Library and Museum. The plan and elevations may owe something to Wilkins's Downing College, but more certainly to the vast geometrical patterns of *Grand Prix* plans. French in taste are the end bays of the curious College of Fine Arts, 2, with their enormous caryatids, inset panels of sculptural relief and so on. The Observatory, 3, to stand in the middle of the Botanic Gardens, is directly based on a 'House for a Cosmopolitan' designed by the French architect A. T. L. Vaudoyer⁴. An extraordinary feature of the College of Mathematics, 4, is the two superimposed tiers of columns, the lower seemingly Greek Doric but with neither bases nor capitals, the upper ordinary baseless Greek Doric. Kelsall, however, describes the lower as 'a specimen from the Egyptian Thebes,' so that the point of the juxtaposition lies in its 'forming as it were a link between the architecture of Egypt and of Greece and exhibiting at one view the root and the flower of the Doric order.' The double order can also, ambiguously, be read as a single order divided centrally by an entablature.

The close combination of Egyptian and Greek models is, of course, also a feature of Thomas Hope's house and furniture at Duchess Street and later at Deepdene. The archaeological interest of the day, coupled with the neo-classical search for a style that was pure and primitive, uncorrupted by the taint of civilized decadence, encouraged the revival of Egyptian design. If Roman architecture was, as Hope observed, 'only that of the Greeks when on the decline, divested of its primitive consistency and breadth and chastity,'⁵ was it not possible that Egyptian architecture contained an elemental dignity more powerful, even, than that of the Greeks? Few Englishmen at this date can have acquired Kelsall's first-hand knowledge of the major monuments of Russian neo-classicism





4, part of the College of Mathematics. 5, the internal courtyard of the College of Civil Polity and Languages.

erected under Catherine II and Alexander Ist. In describing his university buildings he observes that his first intention was to have great ranges of Greek Doric columns, but that he afterwards considered that many of these would be 'too barrack-like.' The bleakness, however, was not to be lightened by any arches or too many pediments, for it was pediments he believed which 'defaced the Winter Palace at St. Petersburg' (1754-62), by the Rococo architect Count Bartolommeo Rastrelli. More to his taste was that remarkable building the Tauride

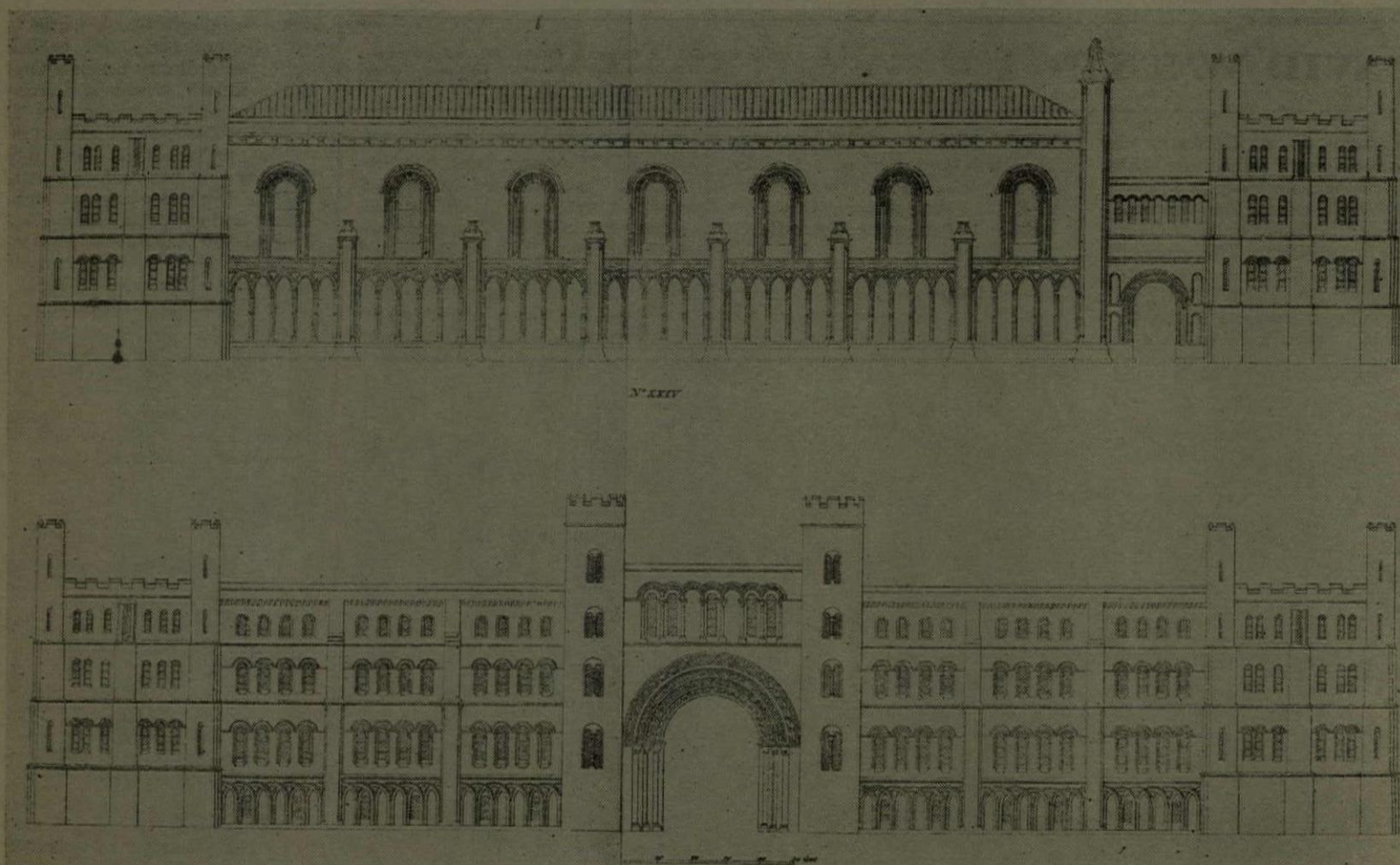
Palace (1783-88) at St. Petersburg by Starov (1743-1808). Starov had studied in Paris under de Wailly in the 1760's and brought to Russia what was newest in France, just as Cameron was to bring the English style a little later. The Tauride Palace consisted of a large rectangular block of rooms surrounding a central, octagonal, domed hall that became known as the Pantheon. Behind this was an immense stadium-shaped hall flanked on each side by a colonnade of eighteen coupled Greek Ionic columns.

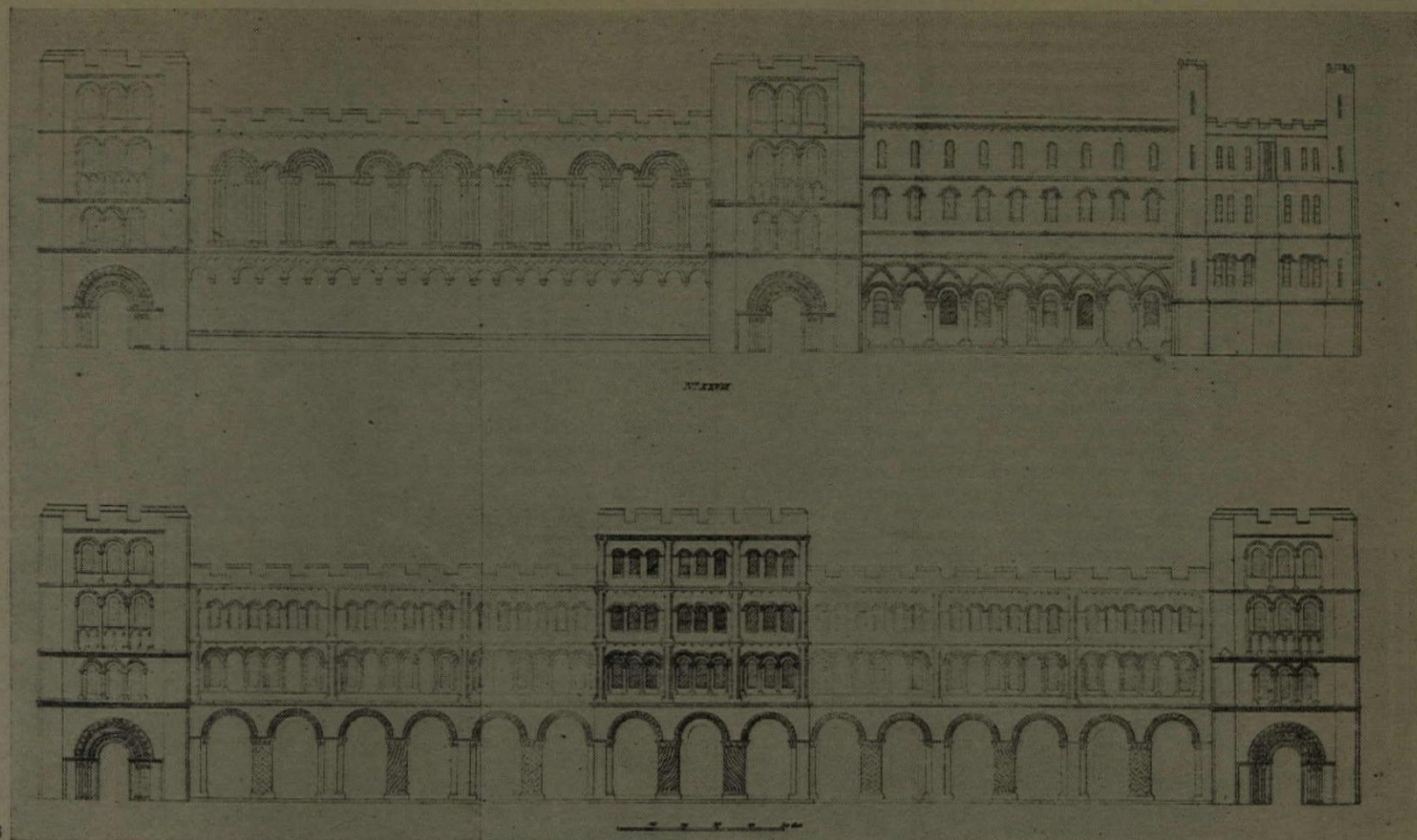
What also engaged his attention

sufficiently for him to mention them in the *Phantasm* were the Theatre and the Exchange at St. Petersburg by the French architect Thomas de Thomon (1754-1813). The former was derived from de Wailly's Odéon in Paris and the columns of the latter, 'though unfluted, were based upon those of the Temple of Poseidon at Paestum, and are one of the earliest examples, on such a scale of the revival of the early, almost archaic Doric order'. Kelsall also praises the work of 'my friend Chevalier de Guarenghi, architect to the Emperor.' Giacomo Guar-

enghi (1744-1817) was an Italian architect who arrived in Russia in 1780 and was the introducer of yet another style, an austere Palladianism. In Russia this was not, of course, the *vieux jeu* that it had become in England; it seems that Guarenghi derived it from the authentic Italian sources rather than from English work. His principal buildings in this style were the English Palace at Peterhof and, at St. Petersburg, the State Bank and the Hermitage Theatre, all of the 1780's.

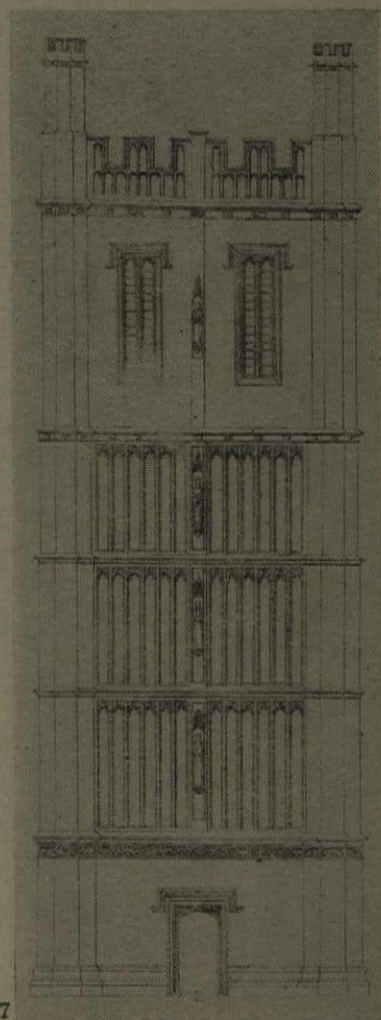
Perhaps the greatest surprise Kelsall has for us is the Norman style, 'Saxon' to him, of two of the small courts, 5 and 6, contained within the larger ones. These represent the fruits of what must have been one of the first scholarly surveys of English Norman architecture. It is hard to think of any serious neo-Norman designs of such extent and completeness earlier than these². One of the reasons, characteristic of the date, that prompted his curious choice of Norman was that he considered it 'remarkably picturesque.' His buildings, however, were 'composed of what I consider the best parts of the few genuine Saxon specimens remaining in England,' and will, he hopes, 'prove that this style of architecture, though destitute of the symmetry which characterizes the Grecian and pure Roman buildings, becomes nevertheless agreeable if rightly understood and applied.' He considers that this display of the 'Saxon' style is timely, 'considering the very ruinous state' of the surviving architecture of that period. His other books show a love of the





6, the internal courtyard of the College of Natural Philosophy.

7, 'a Gothic campanile, to stand isolated, and central, à la Veneziana' in the internal courtyard of the Colleges of Moral Philosophy and of the Fine Arts.



East Anglian countryside and the sources for his Norman details may well derive from buildings in that part of England. Norwich Castle keep with its four tiers of blind arcading possibly inspired the Norman Court within the College of Civil Polity and Languages. It was in a ruinous condition before its complete re-facing by Salvin in the 1830's.

There is close precedent for Kelsall's rich coupling of intersected arcading with round-headed apertures on the west front of Castle Rising church, Norfolk, later restored by Salvin and by Street.

The corner towers of the Norman court within the College of Natural Philosophy are closely based on the Norman gate-tower at Bury St. Edmunds, and the boldly decorated arcade may derive from the ruined chancel of St. Bartholomew, Orford, Suffolk.

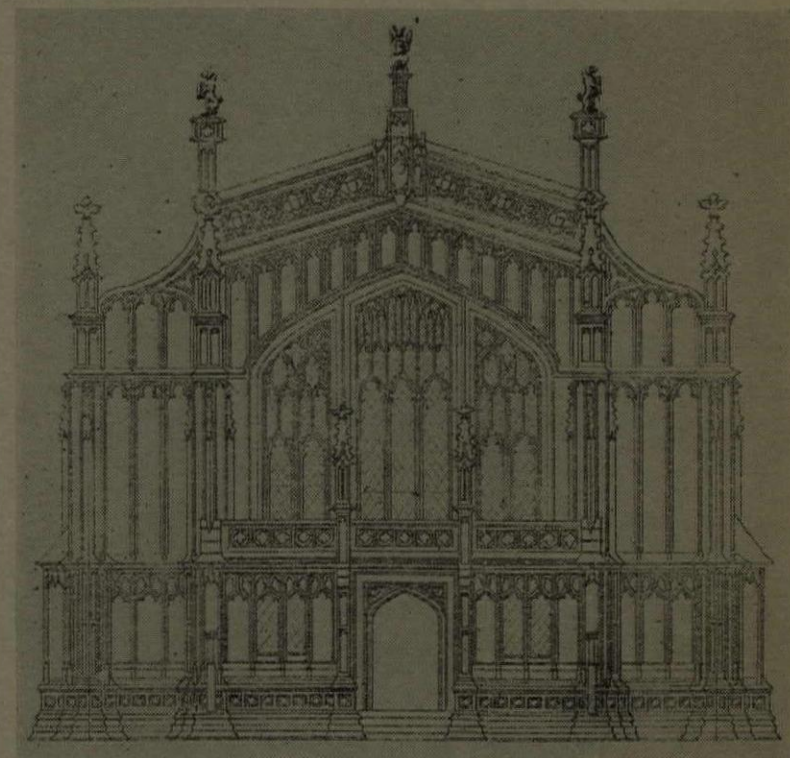
The remaining two of the four smaller courts were to be in a combination of the Gothic and Tudor styles, 7, and are, at least, no worse than Wilkins's Tudor at Cambridge in the 1820s. There was to be a large chapel, 8, apparently based on Henry VII's chapel at Westminster Abbey, whilst the University Church in the central square, 9, was a variant on Rheims. The vast majority of the University buildings, in the classical style, presented 'almost all the specimens of orders seen in the ruins of Greece and Italy.' Thus what is to be emphasized is that the very buildings become themselves edifying and instructive, a veritable museum of styles. The great classical courts are like display-cases each enclosing a

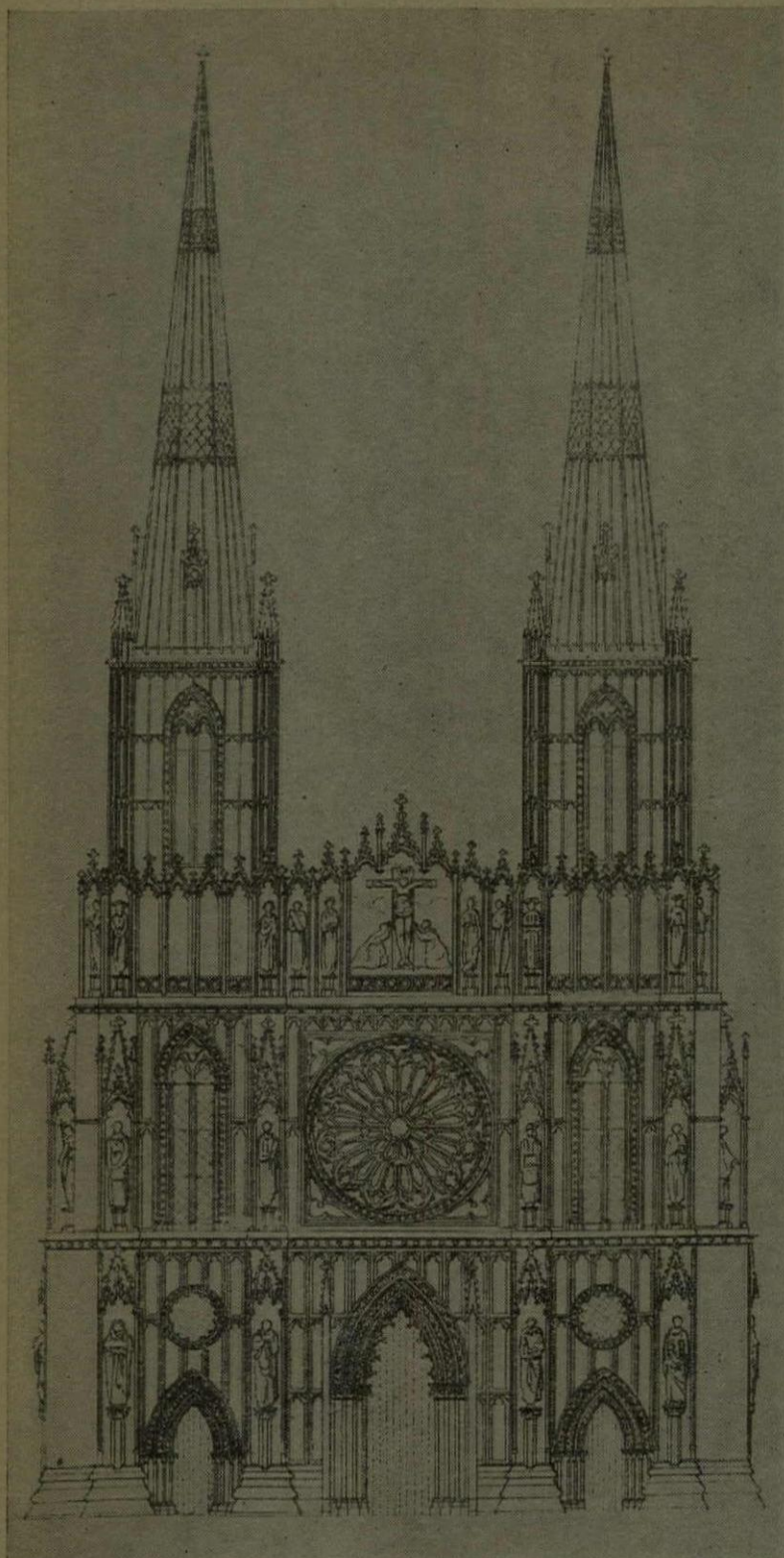
precious gem in the rarer styles of Gothic and Norman.

A complete picture of Kelsall cannot be obtained unless some of his other projects are mentioned. He could not observe any facet of human existence without wishing to liberalize and modernize it. To his *Translation of Cicero's Two Last Pleadings Against Caius Verres*, published in 1821, he could not resist appending *An Account*

of *Modern Sicily* which proposes for that island a thorough process of democratic reform. In his *Classical Excursion from Rome to Arpino* (1820)⁹, he proposes the transformation of the Amalthea at Arpino into a romantic landscaped park with buildings dedicated to the memory of Cicero. There are plans and elevations for a mausoleum inspired by the Pantheon but flanked by top-lit

8, chapel to occupy the centre of the courtyard of the Colleges of Mathematics and of Agriculture and Manufactures.





9

9, the University Church.

wings painted with frescoes depicting the life of Cicero. This whole scheme was proposed as a defiant attempt to counteract the dominance of the Catholic Church in Italian life. It would, he hoped, be 'something full as satisfying as cross-keys and tiaras.' Nothing could more clearly indicate that the implicit tendency, whether consciously felt or not, of neo-classicism was always towards the elevation of a world of intellectual culture to that pre-eminent position long occupied by religion. As Kelsall considered the Pantheon superior to St. Peter's, so he preferred the pure and simple faith of 'the Mahommedanism of Constantinople' to Catholicism. He proposed detailed plans for the

remodelling of St. Peter's, retaining Bernini's colonnade but providing the basilica with row upon row of Greek Doric columns. The Catholic Church fascinated him, and in his *Horæ Viaticæ* (1836) there is a remarkable short novel which invites comparison with Baron Corvo's *Hadrian VII*. Kelsall invents a Pope, Urbano Nono, who calls an Ecumenical Council to 'simplify and purify the sacred pivot of Christianity' in hopeful preparation for the reception back into its fold of the separated brethren. The changes effected include the introduction of the vernacular, the simplification of vestments and ritual and the reorganization of the Curia and the method of Papal election. Kelsall

had no idea of the immutable nature of Catholic revelation and dogma, but apart from errors arising from this, it is astounding how far he predicts the intention and the methods of the present Vatican Council. In the novel, it may be added, many Anglicans begin to return to the Catholic Church, though there is a surprise at the end of the book.

We can detect, from about 1780 onwards, the rise of an abstract concern for humanity with the accompanying urge for social and political reform as part of a whole process of liberalization and democratization. Greater and greater emphasis was put upon cultural and intellectual attainments and on the corresponding need for more and more education, whilst the growth of a relativist and historicist attitude towards the past encouraged the establishment of the museum. These are the forces which have, for better or for worse, gone to make up the modern world. Thus, Kelsall's proposed reform of the subjects taught at the universities and of the Catholic Church, has been, or is being, largely realized. Apparently unobserved in his day, he has had long to wait for even this recognition.

REFERENCES

¹Charles Kelsall was born in 1782, the son of Thomas Kelsall who had made his fortune in the East India Company and whose cousin became Clive of India's wife. He was educated at Eton and Trinity College, Cambridge. He published fifteen books and pamphlets on an astonishing variety of subjects and by 1841 had purchased Knightsen, a house at Hythe near Southampton, which he called the Villa Amalthaea. This still survives, together with a row of busts in the garden and a small tower surmounted by a triple cross of which the lower 'signifies Old Catholicism, the middle Protestantism and the upper cross the Reformation of Both.' On his death in 1857 he left his library to Morden College, Blackheath, where a building to house it was added to the designs of P. C. Hardwick. He does not appear in the *Dictionary of National Biography* and the principal source for his life is his *Esquisse de mes travaux, de mes voyages, et de mes opinions: dans une lettre à son ami Agathomerus, par Mela Britannicus*, published in Frankfurt in 1830. I am indebted to Mr. Reginald Saw of Morden College for drawing my attention to this book and for much help and kindness.

²The engravings were executed by Charles Wild (1781-1835), Henry Moses (1782-1870) and J. Rolfe, three architectural draughtsmen specializing in the coldly intellectual, linear outline-drawing characteristic of late neo-classicism. Wild produced many books on English and continental churches. Moses was employed by Thomas Hope, and his books mostly depicted Antique art.

³Paris, he observed, is where 'Grecian architecture triumphs,' and is 'a better school for young architects than Rome or Venice.' (*A Letter from Athens Addressed to a Friend in England*, 1812).

⁴See C. P. Landon: *Annales du Musée, Paris*, 1805, vol. II, plate 84. The design was made by Vaudoyer in Rome in 1785 for Debracq and was drawn in the latter's album. Typical of a growing internationalism is Debracq's remark that he wanted to *regarder la terre entière comme son domaine, et, enfin, qu'il était COSMOPOLITE*. (Landon, *op. cit.* p. 127).

⁵*On the Costume of the Ancients*, new ed., 1841, vol. I, p. 48 (1st ed. 1809).

⁶See his *Horæ Viaticæ*, 1836 (published under the pseudonym 'Mela Britannicus') for the Diary of a Tour from St. Petersburg to Vienna in 1807.

⁷G. H. Hamilton: *The Art and Architecture of Russia*, 1954, p. 209.

⁸Adam's Culzean (1777-90), Nash's Kilby Moon, Co. Sligo (1803) and even Smirke's Eastnor (begun 1812) and the work at Belvoir after 1816 all adhere, in varying degrees, to a Picturesque, round-towered castellated tradition. The first signs of a mere academic approach are S. P. Cockerell's remodelling of Tickencote church, Rutland (1792) and Henry Hakewill's Old Wolverton church, Bucks. (1810-15), with Hopper's Penrhyn Castle (1827-47) as a mature climax, begot of his earlier Gosford Castle, Co. Armagh (1819) and Lugar's Tullichewan Castle, Dunbartonshire (1808).

⁹Reprinted in *New Voyages and Travels*, vol. IV, 1821.

TOWNSCAPE

Kenneth Browne

At Maldon, Essex (map **A** right), the roads radiate from a central triangle containing the old moot hall, but the pattern is made intricate by frequent twists and turns. These have the important townscape effect of holding in the street space and continually revealing different aspects of the buildings as you move along. On the north side of the town, the ground falls away sharply and the road to Heybridge from the centre runs down a very steep incline to the Chelmer river crossing. This is the old commercial centre which is still active with quays serving flour mills, timber yards and light industry originally based on a coastal trade.

MALDON

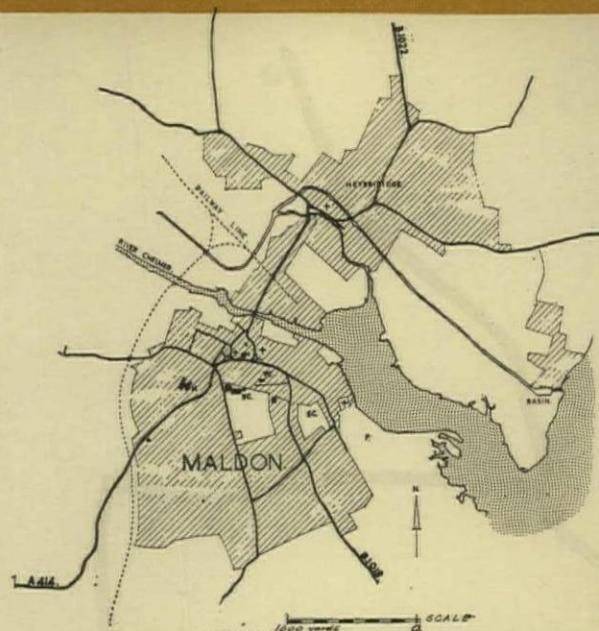
But Maldon's chief attractions as a place are its hilltop position overlooking the Blackwater estuary, its attractive old buildings (particularly in the High Street) and the quiet meander of its streets. Quiet? Well only if you choose the right time, for Maldon like so many places is almost continually battered by traffic. Pleasure coaches from Southend to Clacton, holiday traffic to camps on the estuary, yachting traffic to Heybridge basin and the river itself, all squeezing through the narrow streets. Add to this a considerable amount of heavy industrial traffic, some local but much of it merely avoiding the Chelmsford-Colchester road, resulting in the unedifying spectacle of huge articulated lorries grinding their way round the narrow corners of the town. But perhaps most damaging to environment, is the almost continuous traffic of heavy sand lorries from the pits north and south of the town careering through it and bumping down the steep hill to Heybridge or

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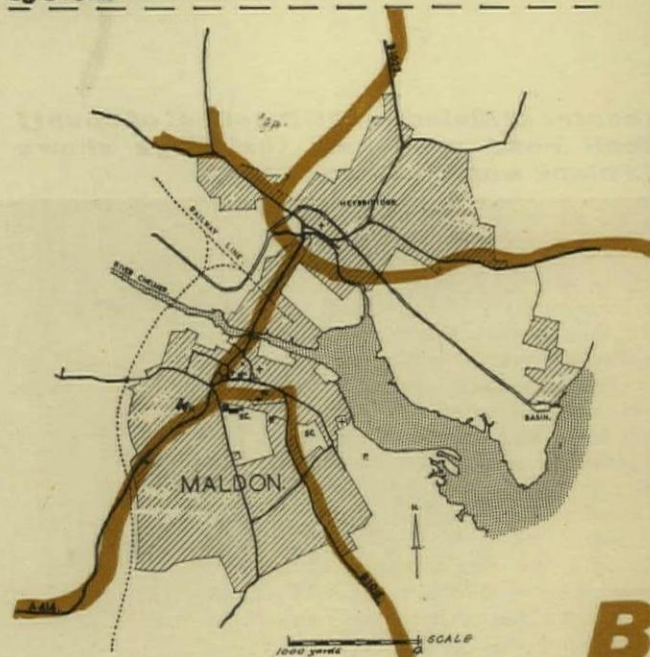
crawling painfully up the same Market Hill amid black diesel fumes and ear splitting roar. Subject yourself to this for half an hour, let alone live in Maldon, and it is clear that this nerve shattering intrusion ought to be removed from the town once and for all.

So much is obvious. Or is it? For, incredibly, the new Draft Plan for the town published by Essex County Council in fact shows a major north-south traffic route bulldozed straight through the town, bringing a river of fast-moving vehicles down the same steep gradient already mentioned (see map **B**). Such a proposal is surely nonsense for it is completely contrary to post-Buchanan thinking on new roads, and would have the effect of splitting the town in half and disrupting pedestrian and local traffic. In addition, cutting the road through will mean considerable destruction of old streets and attractive buildings along Gate Street, Cromwell Hill, the lower part of Market Hill and

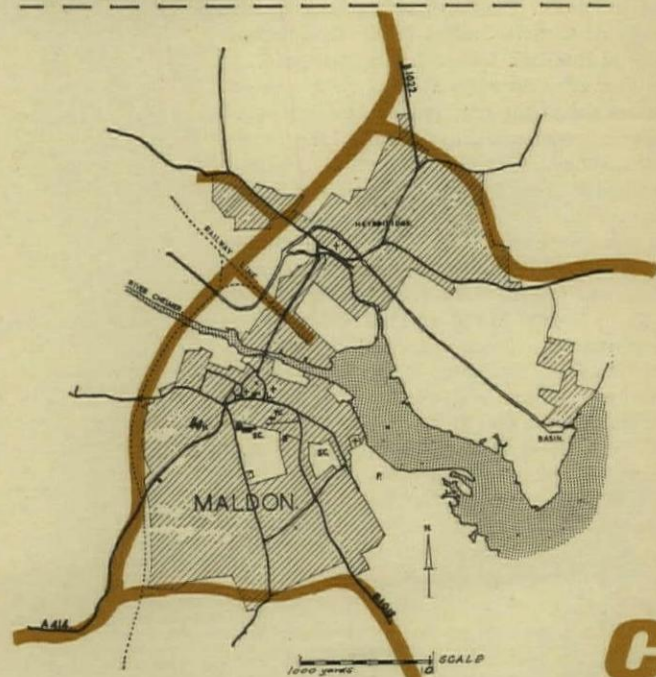
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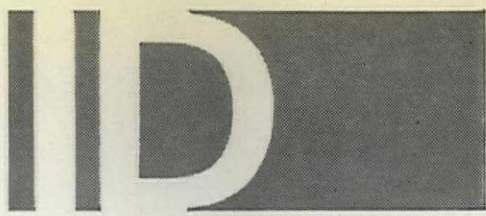
Plan of Maldon showing present road system



Plan showing Essex County Council road proposals



Plan showing the logical route for new roads

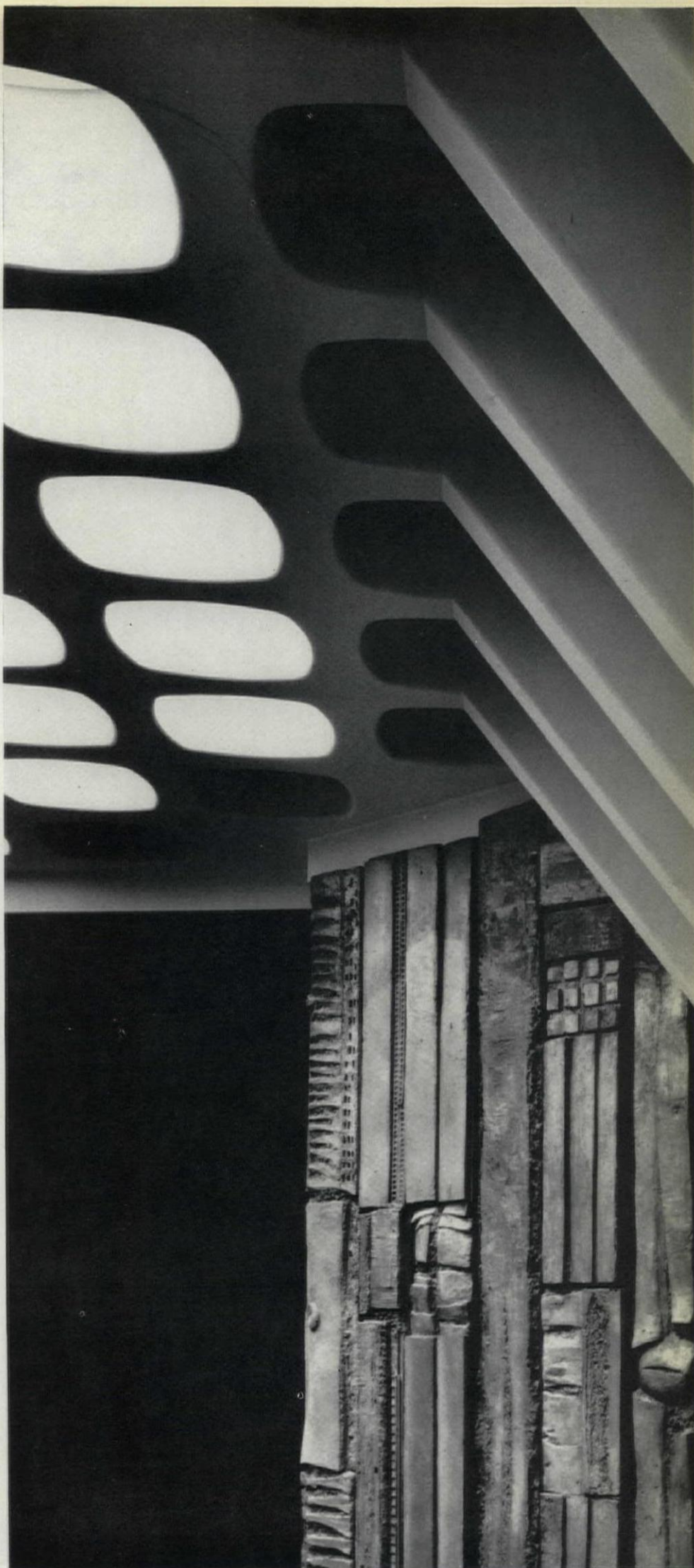


Interior Design

Cinema, Mayfair, London

architects: Sir John Burnet, Tait and
Partners

photographs by W. J. Toomey

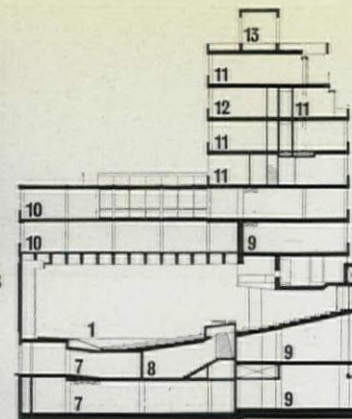
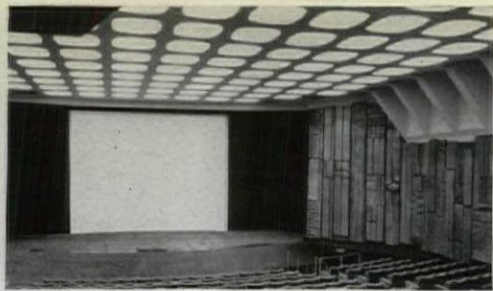


1, concrete ceiling and fibre-glass mural
in the auditorium.

2

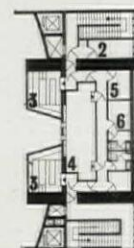


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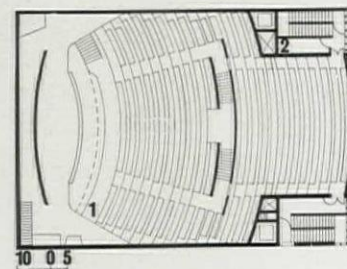


section

- Key
- 1. auditorium
 - 2. store
 - 3. box
 - 4. projection room
 - 5. staff room
 - 6. manager's office
 - 7. garage
 - 8. foyer
 - 9. shop
 - 10. offices
 - 11. maisonette
 - 12. flat
 - 13. boiler



projection suite plan



auditorium plan

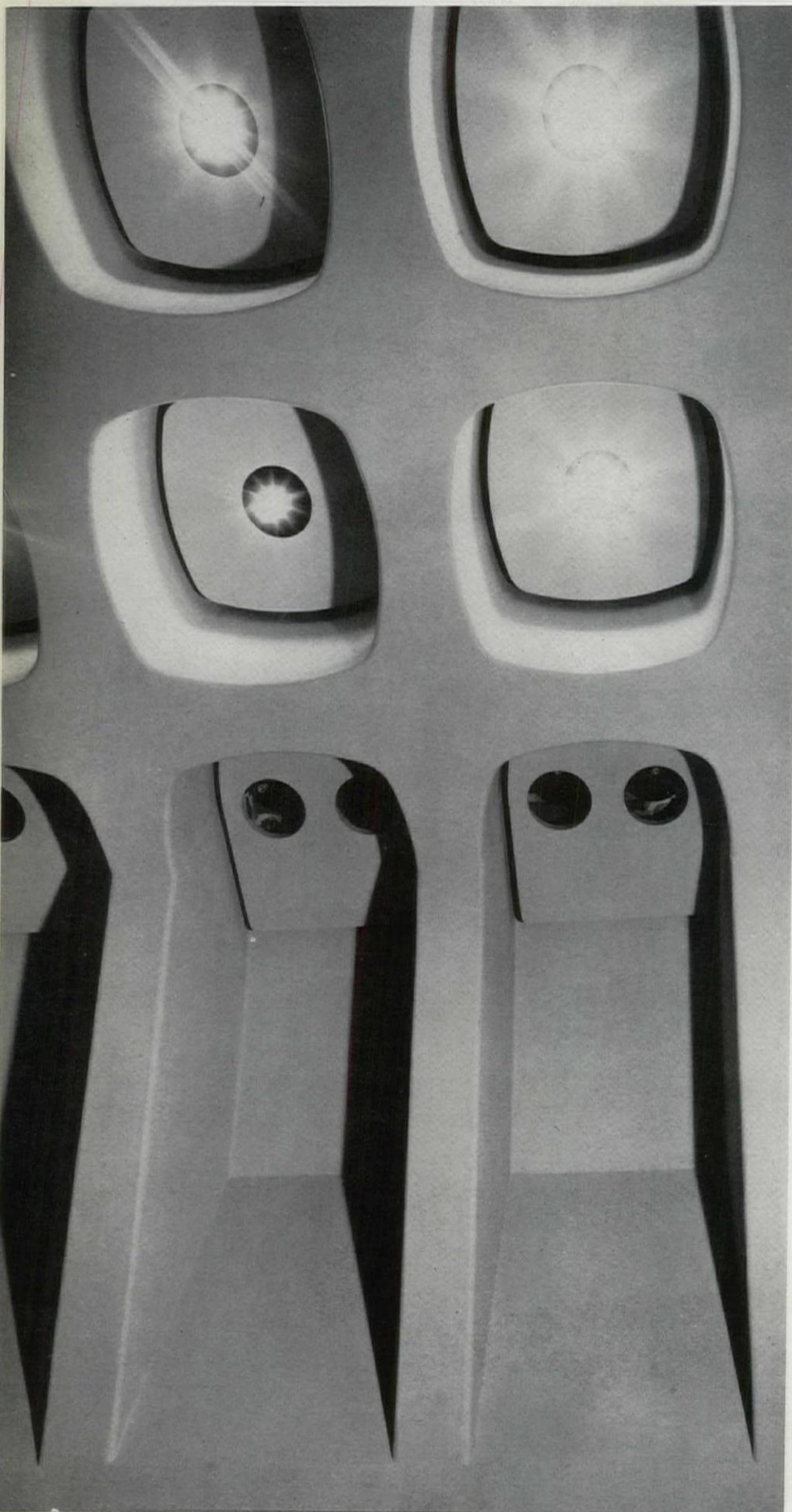
The new building, of which this cinema forms a part, replaces the original single-storey Curzon cinema designed by Sir John Burnet, Tait, Lorne and built in 1935. It comprises a shop and two floors of car parking space below the cinema, with two floors of offices and four of maisonettes above. The cinema roof, a single-span of reinforced concrete without columns, carries the superstructure of the upper floors. The auditorium itself seats 542, seating being stepped, and the carpeted floor continues in a slope up to the base of the screen. The fibre glass murals on either side are by William Mitchell who also designed the decorative sliding front to the bar in the foyer.

2, entrance to the cinema. 3, general view of the auditorium showing the concrete coffered ceiling, one wall of the mural and, in the top left-hand corner, the underside of one box. 4, detail of ceiling and descending ribs. 5, one of the two boxes at projection suite level. 6, part of the central staircase leading from foyer to auditorium. The carpeting here and throughout the cinema is blue and black. 7, detail of gold anodized rail and plate glass front to box. 8, exit door corner. Woodwork is of afrormosia, the stair rail and corner fillet of gold anodized aluminium, the wall covering behind of orange fabric.

Cinema, Mayfair, London



4

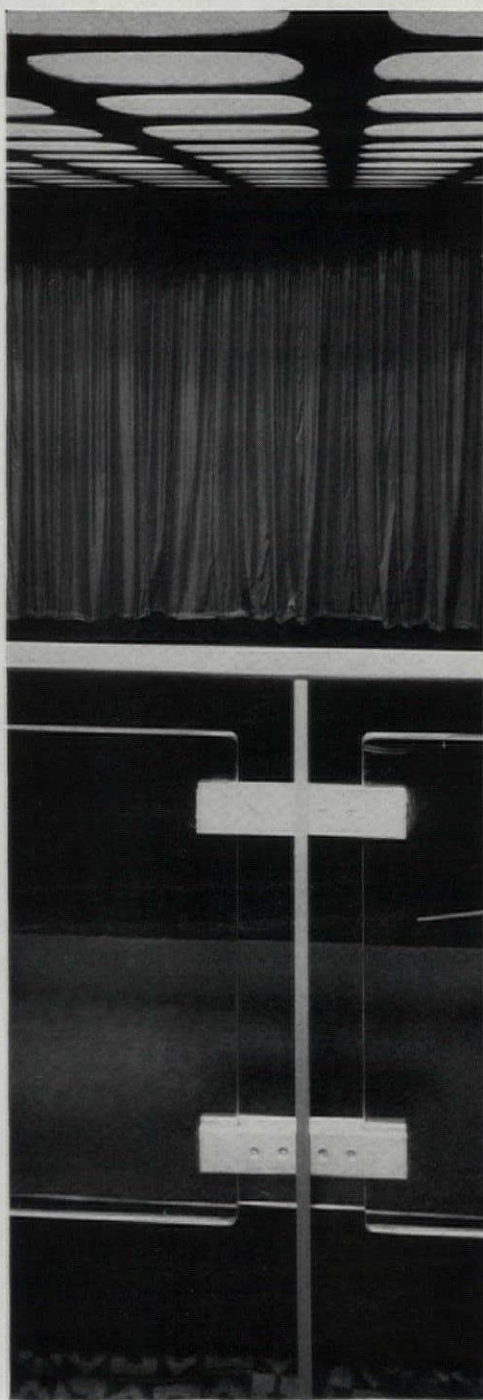




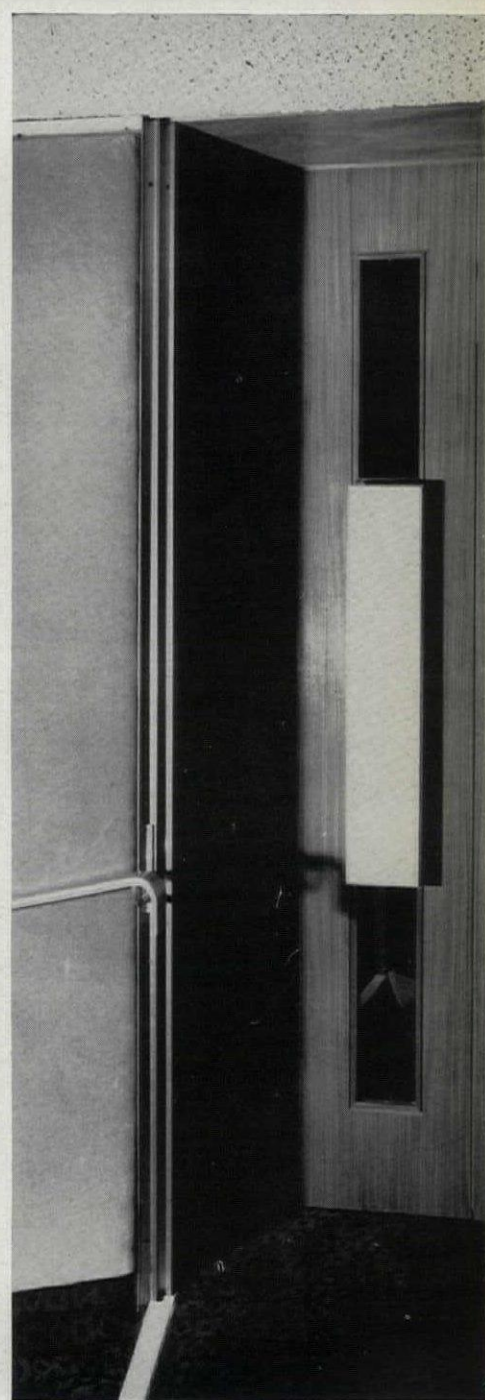
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6



7



8



The subject of this month's critical article, the new Anthropological Museum in Mexico City, has been acclaimed all over the world as a remarkable contribution to museum architecture both from the point of view of the design and layout of the building and of the display of the exhibits. 1, opposite, shows the central patio, seen from under the canopy which is supported on one central column. A fountain of water falls around the column.

criticism

Irene Nicholson

*Architects: Pedro Ramirez Vazquez
and Rafael Mijares*

Anthropological Museum, Mexico City

Driving up Mexico City's most famous avenue, the Paseo de la Reforma, where it cuts through Chapultepec Park, one catches glimpses through the trees of a massive wall of warm, pastel-shaded stone that seems to stretch endlessly and, from certain angles, windowless. It is in fact broken by deep recesses in which broad window spaces are tucked, and by concrete drain spouts that are the only punctuation the architects have allowed themselves to the theme of tree-shadow on dappled stone. This is Mexico's new Anthropological Museum, designed by the architects Pedro Ramirez Vazquez and Rafael Mijares who were also responsible for a series of smaller museums. The earliest was a snail-shell gallery to show Mexican history to children, and it stands on a steep slope just below Chapultepec Castle, glass-curtained and more intimate than Frank Lloyd Wright's Guggenheim but with the same ramp unfolding history like a scroll as the viewer proceeds from the conquest of Mexico to her revolution. Later 'museums' by the same team are little more than shop windows along the northern border, built to attract US tourists to Mexico. One has a circular gallery with concrete walls sloping inward; another has a folded concrete roof; a third looks like a small round teacake with its central plastic dome representing the cherry. These buildings are frivolities if you like, but suited to the purpose of brightening the border towns which in the past have had the reputation of being not a little squalid. On them, so to speak, this team of architects cut their museographical wisdom teeth.

The Anthropological Museum is on an entirely different scale, to suit its position in the museum hierarchy. It was projected in August, 1962; its foundations were laid in February, 1963; and the whole thing was completed at least in broad structure nineteen months later for inauguration by President Lopez Mateos before he left office the following December. This must

be a record for a monumental building occupying more than thirty acres including gardens and car park (covered space occupies about a third of this), although speedy building is characteristic of Mexico, and on occasion structural soundness has been sacrificed in order that public works should be completed as fast as possible. A country with a population growing at the rate of over 3 per cent a year feels it cannot afford to wait for housing, schools and other essential buildings—and not even for museums.

The impressive achievement of this building is its creation of a modern background against which ancient objects can be displayed discreetly and with the least possible fuss. Though modern in style it is never whimsical. Every detail is in keeping at the same time with Mexican tradition and with modern engineering requirements. The enormous popular success the new museum has already had should do much to discourage the imitations of ancient architecture one finds in some grandiose monuments in Mexico City (the 'Monument to the Race'—an imitation pyramid—is one of the worst examples of this neo-Aztec style); and more positively one looks to the museum to encourage Mexican architects away from the fashion for all glass façades which do not really suit the climate of strong sunlight alternating with bitter cold, and toward a more appropriate use of the local stones and of broad, unadorned surfaces.

The museum, which is two storeys high with a basement, consists basically of a series of rectangular galleries planned round a central patio—also rectangular and partly covered by an enormous canopy measuring 269ft. by 177ft., supported only on a central column. By taking short cuts across the patio visitors can avoid the complete tour and select whichever of Mexico's old cultures they prefer to study. The main entrance is by a broad footbridge spanning over a car drive which curves past the museum

at basement level and leads to parking space behind. The walls inside and out are faced with rough-hewn Mexican granite predominantly mauve-pink in colour. The entrance hall has an Italian marble floor (an unnecessary luxury, and a negation of the 'Mexicanism' which otherwise pervades the museum) and flooring in the galleries is local dark marble. In the entrance hall is a raised circular wooden dais approached by a ramp, in the centre of which can be placed an 'exhibit of the month.' Below the dais is a projection theatre, and below this a vast basement which contains the museum workshops and detailed displays for specialized students.

As one passes from the hall into the patio, the first impression is of the great size of the canopy springing from its central column which is over 30 ft. high. This latter is a hollow reinforced concrete tube tapering from a diameter of 10 ft. at its base to 6 ft. above. Its internal diameter is 3 ft. throughout. The canopy itself is of steel ribs (twenty in number and each supported by two pairs of steel cables) faced with light concrete blocks and with an under surface of anodized aluminium. The hollow centre of the column, which is faced with bronze low-relief sculptures by José Chavez Morado, serves as a duct through which water is drawn upward, to fall in a decorative cascade. This cools the air during the heat of the day and sometimes—if there happens to be a slight wind—bathes visitors in a faint mist as they edge past it. The upper storey of the museum projects over the polished marble walls of the lower galleries, and its continuous open aluminium grille overlooks the patio.

In his total design, Pedro Ramirez Vazquez has deliberately followed ancient local practice in defining without isolating the inner space. Between the entrance lobby and the patio, on either side, are two broad gaps in the walls, so that the eye is led on one side down steps into a garden where

restaurant tables are placed under kite-like awnings such as are used in traditional markets, and on the other side to the trees of the park. Above, the canopy is raised several feet higher than the walls to allow a glimpse of sky. The effect is one of exact spatial definition but without rigid enclosure: a special characteristic of such ancient monuments as Monte Albán in Oaxaca or Uxmal in Yucatán. As in these temples, special care has been taken that from every angle there is a sense of free movement within a defined rectangle. Vázquez has also learned from the ancients how to play with the strong light and shade of Mexico. He uses the old devices of

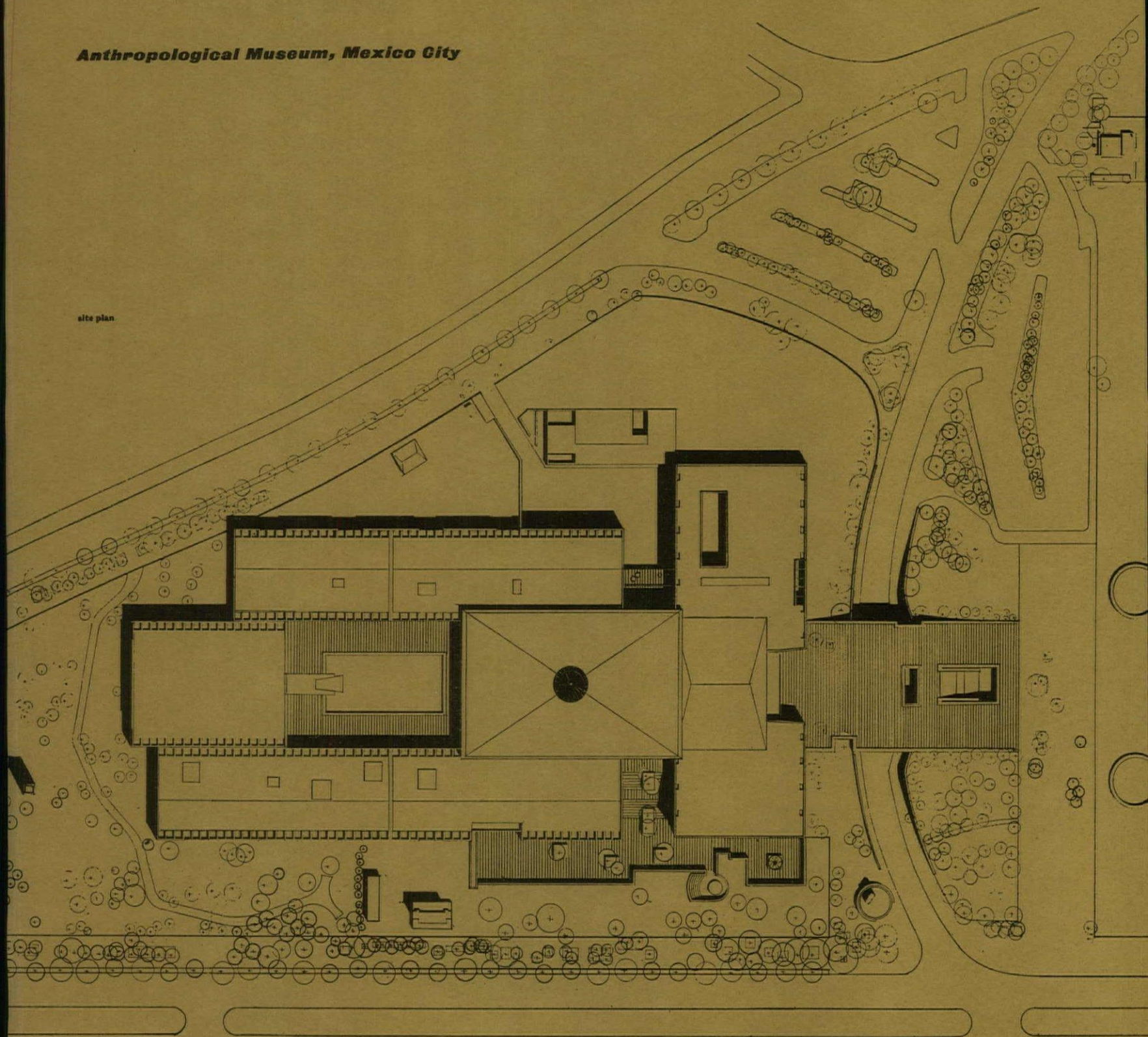
projecting the upper storeys out over plain lower walls so that the lower floors look cool and dark, their doors in shadow; and of fretting the upper surface so as to give strong light-and-shade patterns. If not carefully handled such devices can make structures look top-heavy; but with the classical proportions and a due regard for the exact angle of local sunlight, they give horizontal stability and an overall simplicity to the most intricate designs, such as the stone mosaic work of Mitla near Oaxaca. In its adaptation of these techniques the design of the museum should reinforce the trend to exploit natural lighting to its limit.

The use by Vázquez of the patio as a central element in the building is a derivation not only from ancient Mexican but also from colonial Spanish design. Indians and Spaniards were gregarious people who liked to mingle in the central plazas of their towns, or to gather more intimately in outdoor patios. The Mayas especially developed what can be regarded as a compromise between these two forms—the quadrangle bounded by buildings on all four sides and connected with the outside world by passages placed at the angles, creating the open feeling already noted in the design of the museum. The

[continued on page 125]

Anthropological Museum, Mexico City

site plan



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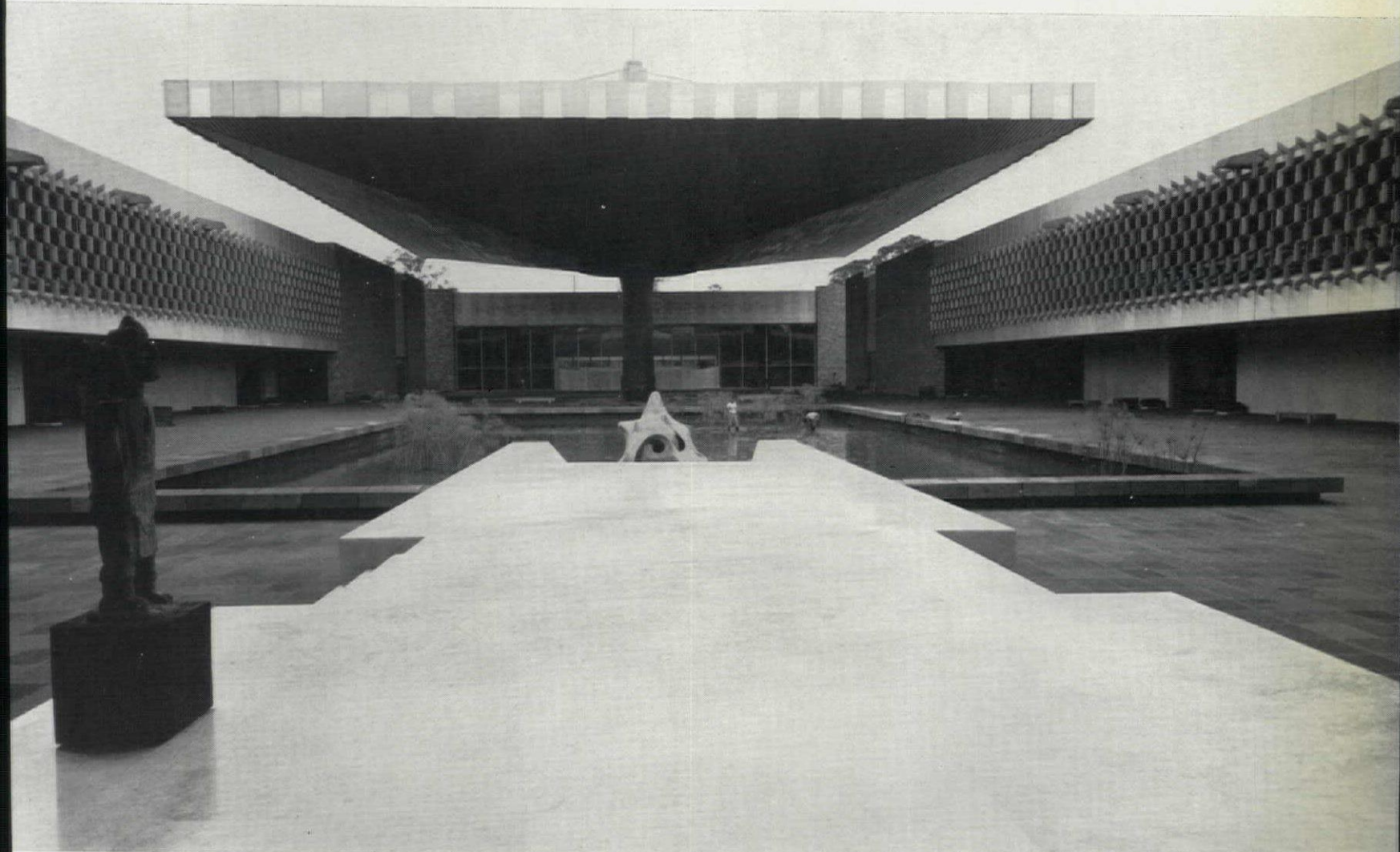


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2, the main entrance seen from the pedestrian bridge over the approach road. 3, the restaurant terrace alongside the museum.
4, looking in the opposite direction to 1: the central patio and pool, with the canopy and entrance vestibule beyond.

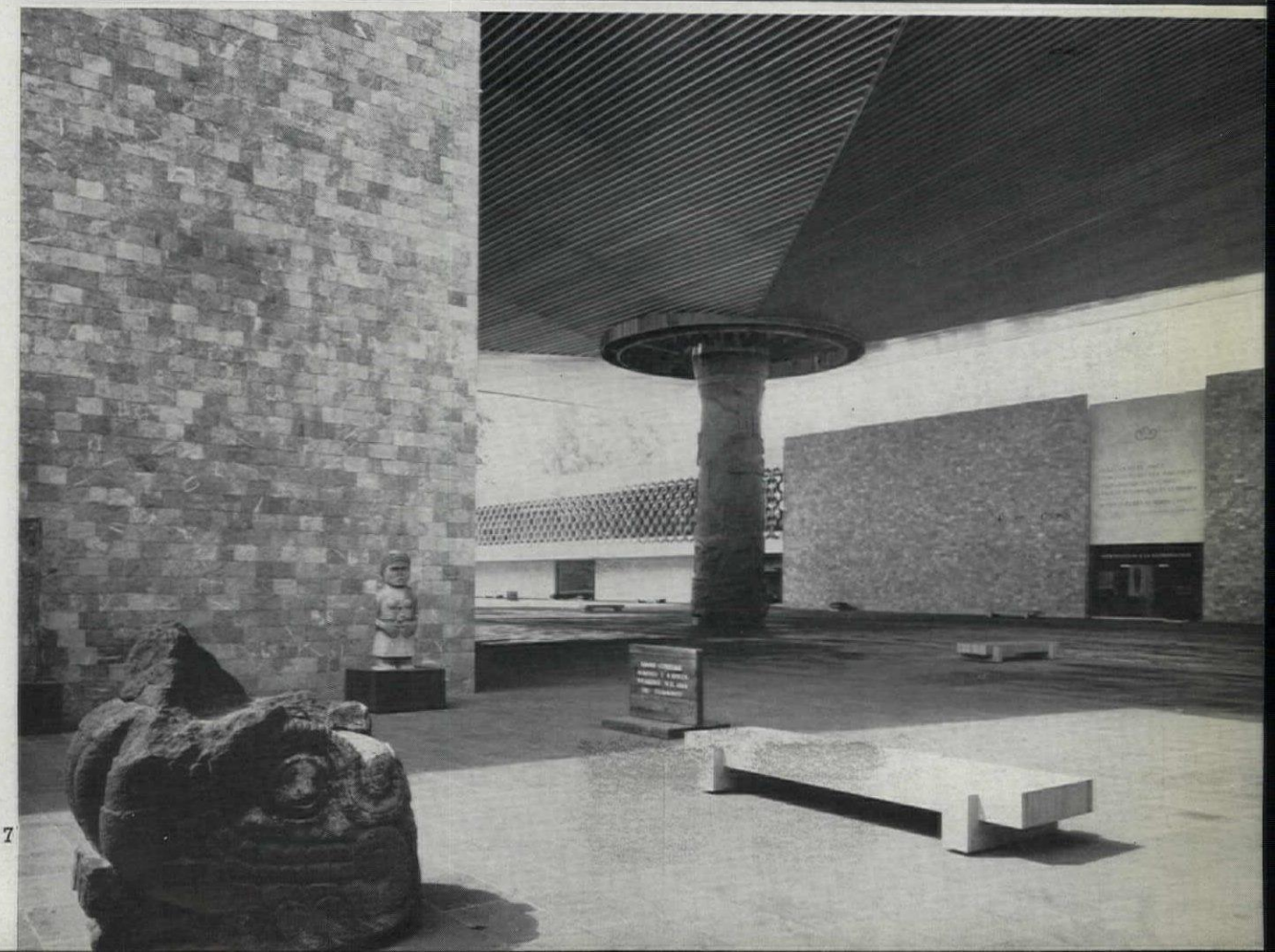
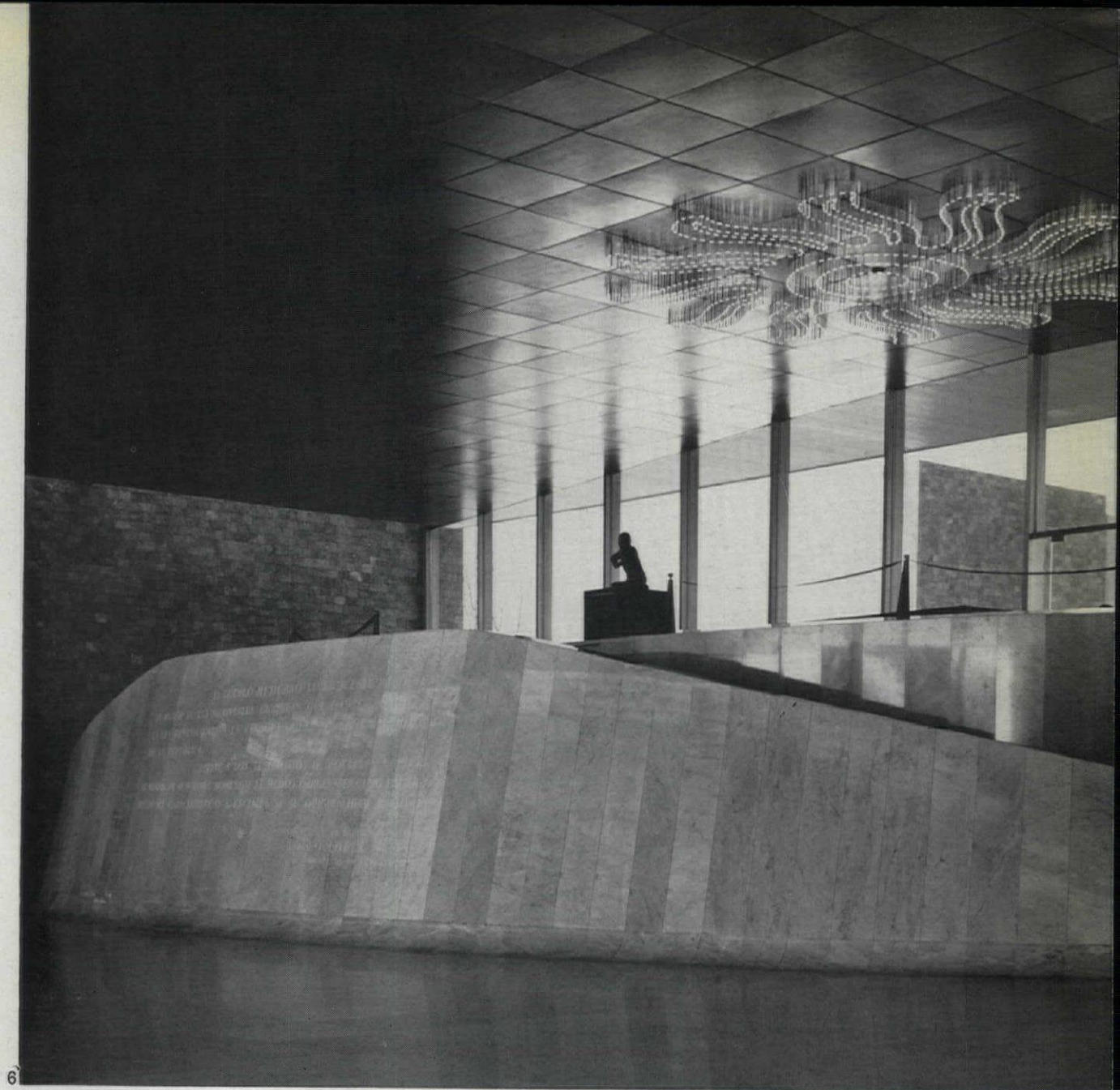
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**Anthropological
Museum,
Mexico City**

5 (opposite), looking down from the entrance vestibule to the central patio; in the foreground is an Olmec sculpture. 6, the staircase from the entrance vestibule down to the central patio. 7, sculpture displayed off the central patio. The sculptured figures around the canopy column can also be seen in this picture.



**Anthropological Museum,
Mexico City**

8, primitive hut in the Cora-Muichol ethnographical room. 9, display area of Oaxaca cultures. 10, inside the main entrance. 11, statue (weighing 146 tons) of Tlaloc, the rain god, displayed outside the museum. 12, display of the Veracruz Gulf cultures of Tajin.



8



9



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11



12

continued from page 120]

quadrangle concept of the medieval university is paralleled in Maya design, with the difference that in Mexico the accent is scarcely vertical except in the pyramids. As they enter this quadrangle-based design in a wooded park, visitors need not flinch before the prospect of 'doing a museum,' which too often means hours of weary plodding through badly lit and dusty rooms. Some critics, indeed, think that the architects of the Anthropological Museum have gone to the other extreme; that this is not a serious museum at all but a place for uninitiated tourists. The dry-as-dust scholar-critics have been countered by Sir Philip Hendy who declared in *The Times*, in relation to this building, that 'in museography Mexico is now ahead of the United States perhaps by a generation, of the United Kingdom perhaps by a century.' To judge by Mexican museography, then, the trend is toward creating a complex that is as much for the layman as for the scholar, that is archaeologically and anthropologically correct but at the same time lively enough to attract general interest and thus to participate in the task of educating the public. The criticism of frivolity is unjust because it takes no account of the basement exhibits which ordinary visitors do not see. 'Basement' is a misnomer, because in great part these light workrooms look out at ground level on to the park. Every kind of modern equipment is gradually being installed to meet the needs of the specialist, to classify and preserve artefacts, and to display them to the public. The lettering and photography departments are doing particularly good work.

One great advantage in Mexico of using rough-hewn stone walls is that the labour is cheap; stone-cutting can be done on the spot by armies of peasants who bivouac on the site. When the Anthropological Museum was being built, thousands of workmen were to be seen day and night, chipping and hewing, lifting weights on improvised rollers as if they had been the ancient builders of pyramids, or sitting round charcoal braziers while their women-folk doled out maize pancakes, beans and hot chocolate. The site became a great corporate village in which every level of artist and technician could call upon help

from a whole range of shops prepared to provide the correct mixture of paint, the necessary varnish, the carpentry, the masonry, the anthropological or archaeological knowledge. This was communal work at its most exciting, and it created a museum which is genuinely for the community—for every Mexican high or low. Moving anticlockwise round the patio, we enter first the rooms devoted to a purely didactic exposition of the development of man's ancestors and the emergence of man the toolmaker, the hunter, and the farmer. Although well done in their way, these rooms may be responsible for the criticism that the museum is too didactic. One gets the impression that one of those picture books showing us how we descended from monkeys has been blown up to giant size. More unfortunately, the visitor who lingers here may find time short for authentic exhibits later on. In the rooms devoted to the various cultures of Teotihuacán, Tajín, Oaxaca, the Maya lands, and so on, the space is broken by wooden screens and stands that are in themselves decorative as modern geometrical art. Benches are low blocks unrelieved by ornament or arm rests. There are didactic murals showing life in preconquest times. The worst feature of these murals—especially one abstract in brilliant greens, reds, yellows and blues laced with black, by Carlos Mérida—is that they distract the eye from the exhibits, so that one squints at both and sees neither. Large exhibits are placed so that it is easy to walk round them and even sometimes to view them from above. Models of pyramids and of the most important archaeological sites are placed near photographs of aerial views or reconstructed drawings; and photographs are also used to show that ethnographical types today are identical with those in ancient stone or clay portraits. Objects which to the ordinary observer might not at a cursory glance appear particularly beautiful are placed in a setting which shows off their functional quality, as for instance when one gigantic canoe made of a single hollowed trunk is draped with fishing nets. Votive abstract designs drawn on irregular circular plaques by the Huichol peyote-worshipping Indians of west Mexico are held in simple crescent-like stands that show them off in their full inventive brilliance. A wayside

shrine is reconstructed even to its picture-postcard portrait of Christ, so that we see the impact of modern reproductive techniques on the Indian craftsman. To all this the building itself is subordinated, and the use of its simple spaces contrasts with the arrangement in the colonial museum opened simultaneously in the Churrigueresque church of Tepozotlán, where the Jesuit monastery is itself an exhibit and where the rooms have been left much emptier, partly to show off the proportions of the arched doorways and window seats, partly to suggest the austerity of monastic life as contrasted with the richness of the baroque paintings and sculptures on view. The ethnographic floor of the new Anthropological Museum includes not only original pottery and weaving but also reconstructions of the huts and fireplaces used by prehistoric peoples, most of which continue in use today in one or other part of the country, and in each room the push of a button will bring to life a loud-speaker that recounts—in Spanish—the history and salient features of each civilization. This is just part of an ultra-modern service that includes air-fumigating apparatus, son-et-lumière equipment, a moving clock-work exhibit to attract children (who incidentally have a complete playroom where they may make reproductions of pots or other objects that have pleased them); with library and archaeological school attached. Showing the best of the ancient art and of modern crafts, and without the heat, the dust, and the smells, the museum presents a vision of a Mexican paradise. The visitor has to tell himself firmly that the present-day reality is a little different. This is no criticism, for what should a museum do except gather together the best specimens of art, and to preserve folk crafts fast disappearing or degenerating under the unknowledgeable demands of tourism? Incidentally one of the museum's most important results might well be to restore taste to its original purity. In Oaxaca, for instance, a school of arts and crafts under official teachers is turning out mass-produced monstrosities of pottery and weaving, while in the villages nearby old craftsmen are still content to mould the simple traditional shapes of their black pots and strong, gaily coloured belts.

COLLEGE CHAPEL, KIRKBY LONSDALE, WESTMORLAND

architects **BUILDING DESIGN PARTNERSHIP**

Photographs by H de Burgh Glatvey

Underley Hall is the largest surviving mansion in Westmorland. It was designed in 1825 by the little known Webster of Kendal, and is itself interesting as a very early example of an archaeologically plausible Jacobean mansion (the tower was added in 1873). In 1960 it became St. Michael's College, a junior seminary for the Roman Catholic priesthood.

The chapel, opened on March 26 this year as a memorial to the late Bishop Flynn, stands between the house and the River Lune in a parkland setting with the Fells in the background.

The seminary chapel has primary functions similar to an ordinary parish church: celebration of the Mass; participation in the Holy Sacrament; preaching of the Word; adoration of the Presence; and various non-liturgical devotions. But it has its own particular hierarchy which this design is intended to express: a specially large sanctuary for similar ceremonies to a parish church with a far larger congregation than the 180 boys at the college; a specially large sacristy to allow eight of the dozen priest-tutors to robe simultaneously; a side bay for the schola (choir) of 20; a gallery for 20 visitors at the west end over the narthex; a boys' sacristy with generous provision for storing furniture and ornaments; a range of seven side-chapels placed outside the main chapel on the other side of the narthex,

with separate access from the sacristies; a group of four confessionals between church and narthex, two of them entered from each side; and a Lady Shrine on the cloister connecting the chapel with the existing house. There is no pulpit, no communion rail and no baptistery. The 36 boys' benches each seat five, and are widely spaced for easy supervision from the sixteen priests' seats at the rear. Processional routes are provided from sacristies to sanctuary, from narthex to sanctuary, and from the perimeter of the chapel out into the grounds. The aim throughout has been the unity of the assembly for the Mass, allowing space and flexibility for the developing liturgy.

Split concrete blocks were selected in sympathy with the stonework of the house. The necessity of allowing for contraction in this material and the clients' requirement that there should be no windows directly behind the altar were combined to produce the architectural vocabulary, which also expresses the hierarchy of the different parts already mentioned. It consists of repeating lengths of wall, channel-shaped and stable in themselves, with tall narrow windows in the interstices. These shafts, lit from above through deeply coffered rooflights, enclose the Stations of the Cross and support simple steel trusses carrying the roof and the flat varnished softwood ceiling. The altar

is defined by steps within the uniform floor of blue quarry tiles, and by lighting from a toplit tower, slung externally. The cut-off angle of the glazing in roof and walls reduces glare. The aim has been, by bringing the altar forward, to fuse the two concepts of Immanence and Transcendence. During construction, advantage was taken of the Vatican Council's decision on liturgy to make the altar suitable for westward-facing celebration, by moving the tabernacle to a second smaller altar against the east wall. The tabernacle, sanctuary lamp and aumbry were designed by R. C. McGhie, who will also be responsible for the crucifix to be suspended over the High Altar.

The single-storey wings of side-chapels and sacristies are similar in structure, generally toplit, with some east and west clerestory lighting. The corridor to the house is fully glazed, with mullions more open towards the new inner court side than towards the visitors' approach. Heating throughout is by means of hot water coils embedded in the floor slab.

Partner-in-charge, William White. Assistant architect, John Sheridon. Quantity surveyor, B. Sharples. Structural engineer, W. E. W. Brook. Mechanical engineer, J. Kirkman. Electrical engineer, R. Holt.

1 (opposite page), the sacristies on the north side of the chapel with the existing house in the background.

HIERARCHY FOR WORSHIP



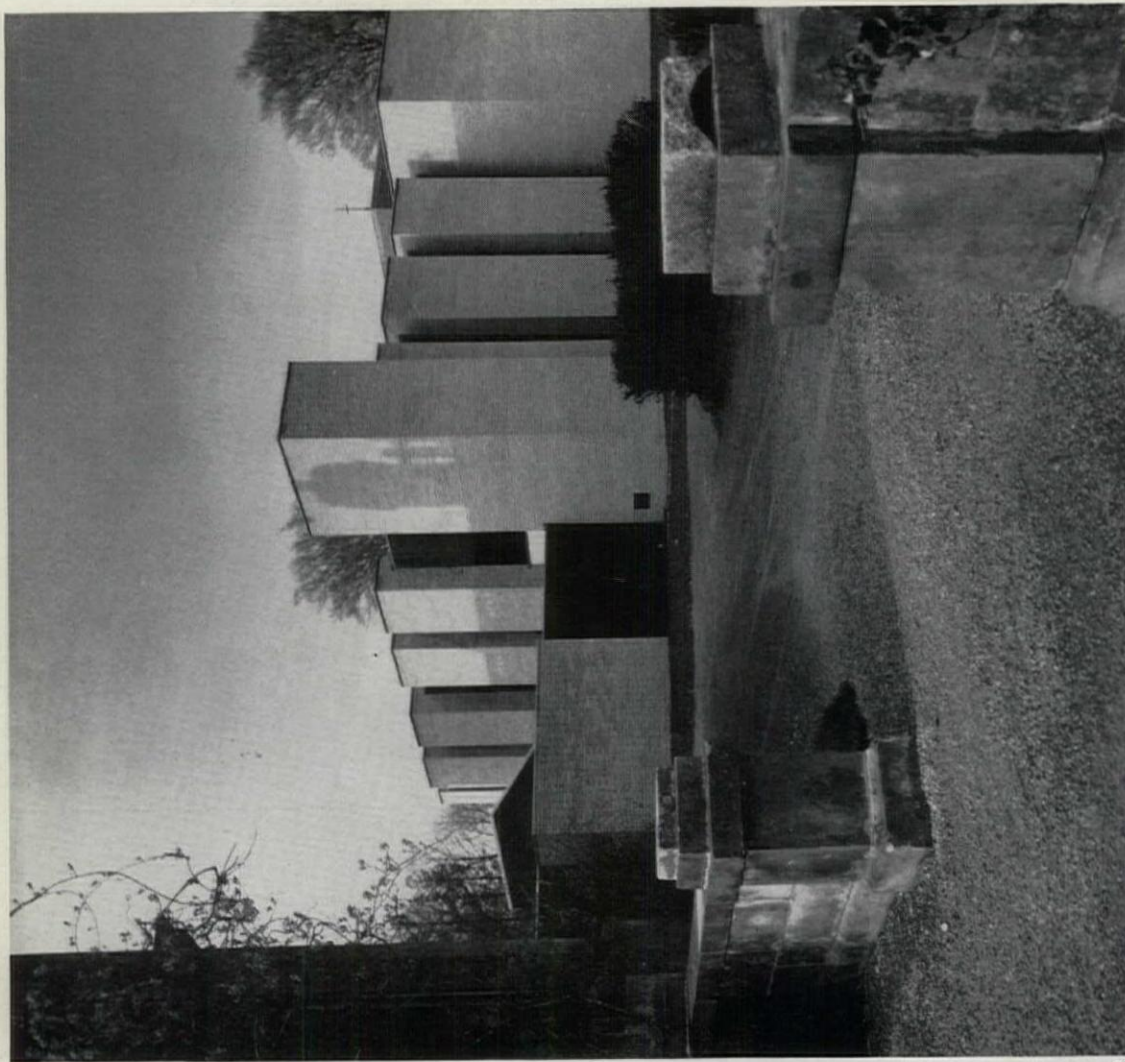
COLLEGE CHAPEL, KIRKBY LONSDALE, WESTMORLAND

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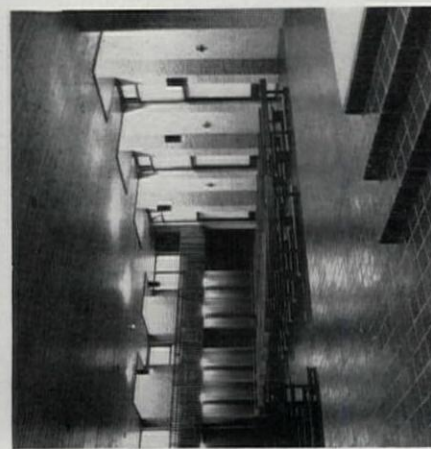
2, detailed view of the structure and materials: walls of concrete blockwork, ceiling of varnished softwood and deeply coffered rooflights.
3, approach from the south-west, showing the glazed link and Lady shrine, and the repeating windowless bays between the staircase tower and choir bay. 4, general view of interior from sanctuary, looking north-west. 5, eastward view of sanctuary.
6 and 7 (opposite page), 6, view from south-east, showing towers (from left) of existing house, gallery staircase, choir bay and sanctuary. 7, interior of working sacristy, with doors to sanctuary in background.



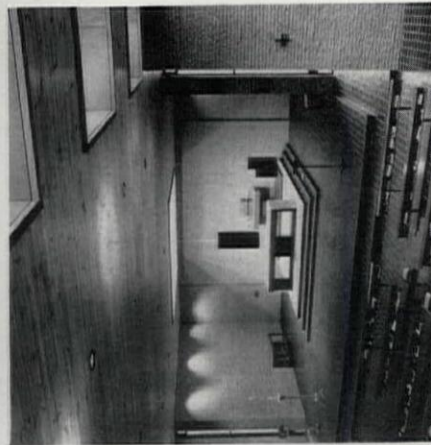
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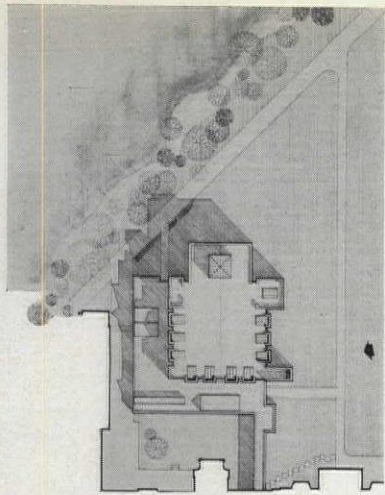
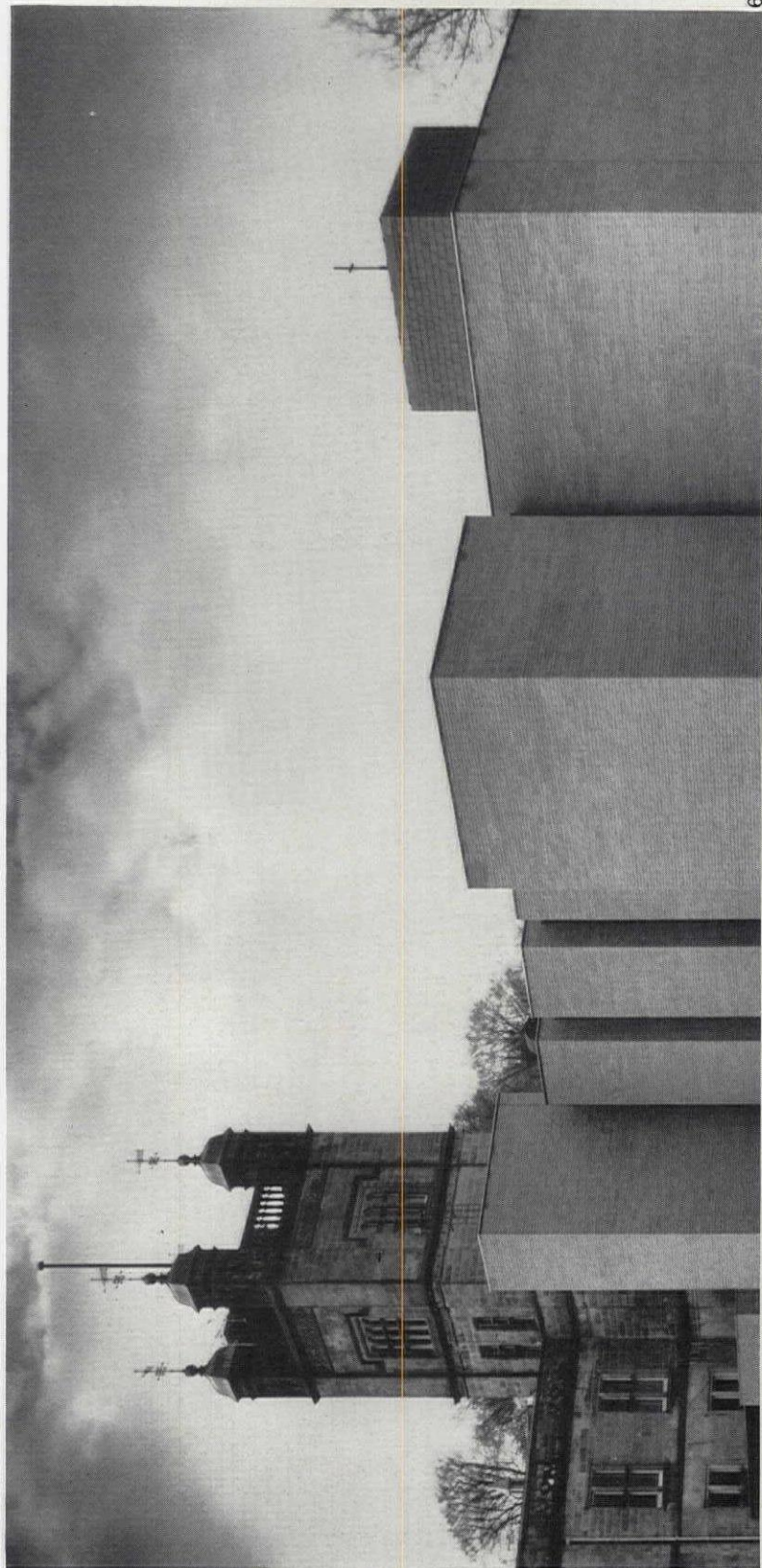
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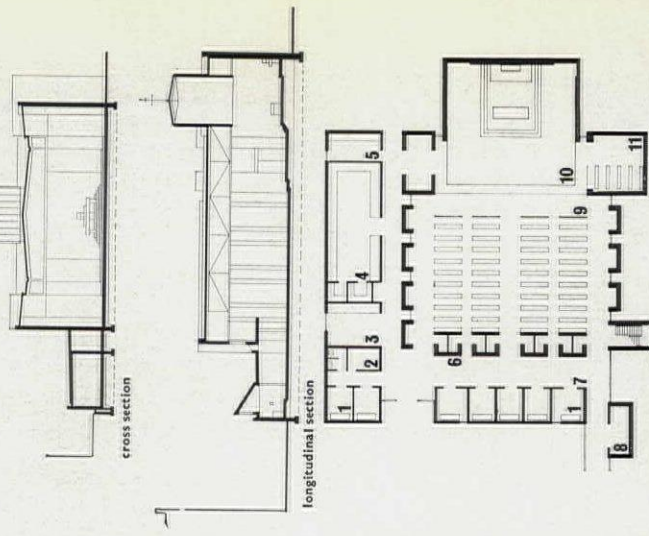


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6 site plan, showing new inner court between house and chapel

7



key ground floor plan

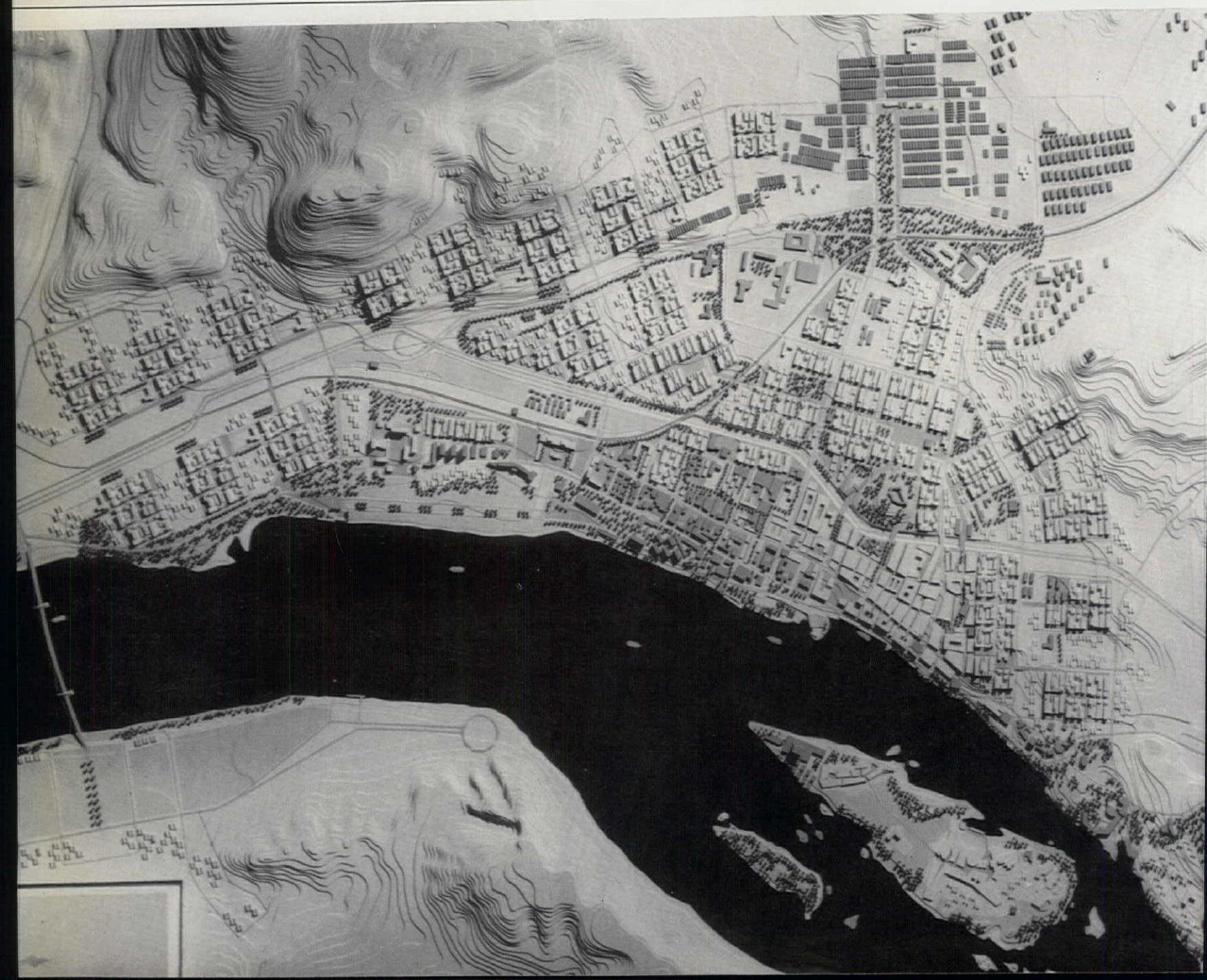
- 1, side chapels
- 2, store
- 3, boys' sacristy
- 4, priests' sacristy
- 5, working sacristy
- 6, confessionals
- 7, narthex
- 8, Lady shrine
- 9, nave
- 10, sanctuary
- 11, choir

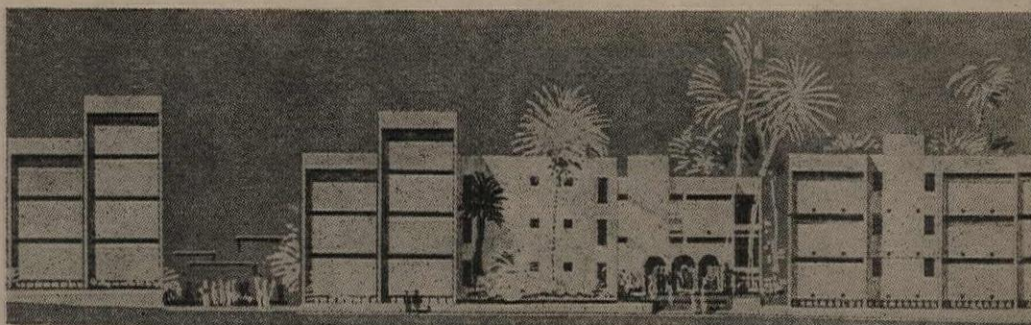
scale (1/64 in.: 1 ft.)



ASSWAN

Picturesque perhaps to a Western traveller, Asswan's houses (above left), fail to meet the demands of a rapidly modernising society and sixty per cent of them will have to be rebuilt. The traditional market area (above right) will be kept, however, as a vital core to the otherwise new city, planned in a Y-shaped linear formation (below). The model shows clearly the hierarchy of residential and urban units described opposite in an article by R. Shean McConnell on the new plan; it also shows the extension of the riverside boulevard.





Elevation of a typical residential unit

ASSWAN

EGYPT'S THIRD CITY

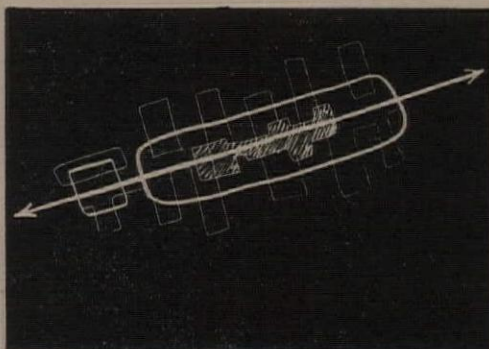
The southernmost city of Egypt, Asswan, lies only a few kilometres downstream from the face of the Asswan High Dam, which should be completed in 1970. Steadily the green-brown waters of the Nile will accumulate, rising season by season, until Lake Nasser is full. Already Egypt looks forward to a new era of prosperity and pride, with water and power all the year round in sufficient quantity to cure most of the age-old problems of poverty and drought. Asswan itself is at present a small, sandy town of 60,000. Suddenly inflated by the event of the dam, it now boasts some stark new hotels, and swarms with technicians, Egyptian and Russian. There are also tourists and sightseers, and the displaced Nubians, whose new village homes are being built out of reach of the rising waters.

From 1964, sponsored by the Ford Foundation, the planning of Asswan has gone forward under the overall direction of Dr. Abd El Megid, an economist. The Foundation's consultants are Jerzy E. Glowczewski, architect-planner, and Zenon A. Zielinski, engineer, both Warsaw-trained and on leave from North Carolina State University with the help initially of Dr. Kamal Abou Hamnda. Detailed development is in the hands of the Environmental Planning Centre in Cairo. If existing trends continue, Egypt will have an increase in population from 26 million in 1960 (ten million in 1900) to 52,500,000 by 1985. At the same time the average annual income has risen from £30 in 1952 to £50 in 1962, and with it the standard of living. Moreover, since the revolution of 1952, Egypt's social customs have changed fast—too fast, says the outlawed Moslem Brotherhood. For example, the long, white galabieh, the traditional male garment, is already becoming a garment fit only for the countryman or Bedouin. Nevertheless many of the old customs will survive, and have been allowed for in the new plan: in particular, an open-air concourse along the river banks has been provided where men and (in the main, separately) women and children gather in the twilight, as the call to prayer comes down from the minarets.

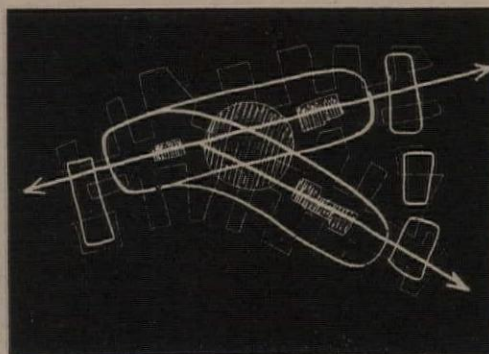
The plan for the new Asswan envisages a thirty-year increase in population from 60,000 to 122,000. If development is confined within the present city limits, density will rise from 36 persons per acre to 75, and this is considered desirable economically and socially. 60 per cent of the existing houses have been revealed by survey as being dilapidated beyond improvement, so for a start 36,000 people will have to be rehoused.

The sketches of urban form show that Asswan will be a linear city, broken centrally into a Y-plan. Separation of vehicles and pedestrians, almost complete in the northern and eastern areas, is achieved by means of pedestrian ways, which link the residential areas with the central area and with each other, underpassing roads. 'Environmental areas' are admittedly smaller than Buchanan's, but the volumes of local traffic expected are much less than in Europe.

The 'residential units' illustrated here are of two types, north-south or east-west in axis. Paved and landscaped squares form communities of 100-300 people, depending on heights of two to five storeys. Residents will be responsible for the square's upkeep, being provided with laundry, playing field, garbage collection place and green areas.



Theoretical community centres along one traffic artery

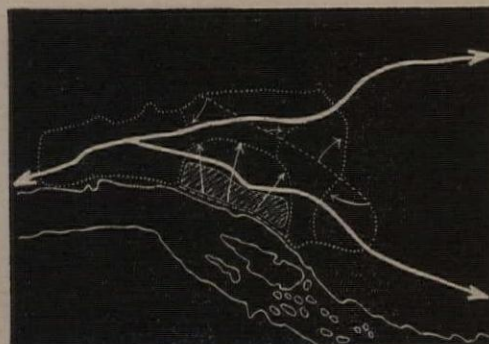


Diagrammatic development along three main traffic routes

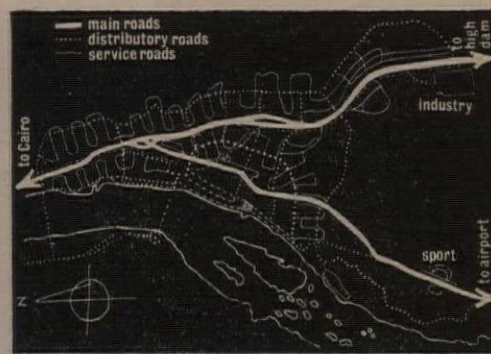


Relation to existing environment

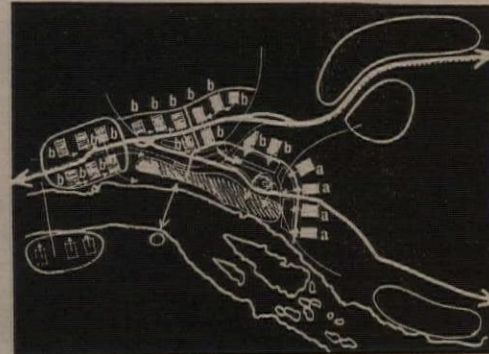
Six of these communities form an 'urban unit' (1,000-1,800 population), which centres on a major open space with small marketing and shopping facilities for everyday needs. From there, pedestrian walks lead to the city centre. Urban units also are arranged north-south or east-west, and are surrounded by extra detached and semi-detached



Opening up of waterfront; distribution roads relocated round centre



Road system



Pedestrian walks linking urban units: a, north-south axis; b, east-west axis

CELEBRATING NATURE

Bernard Myers

Whenever I hear of someone or something being described as the best living whatever-it-is I am immediately prejudiced against the person (or thing) thus described. It is a pointless sort of comment to make anyway, and always invites contradiction on its own terms.

Having had Dubuffet described as the greatest living French painter, I went to the Arts Council Exhibition at the Tate Gallery in a somewhat contrary frame of mind. Also I had just come from a certain large mixed exhibition in Piccadilly, an exhausting experience.



1, Dubuffet: 'Corps de Dame la Rose Incarnate'. 1950. Oil. 46½ by 35 in.

I arrived tired and determined not to be seduced. But just as a novice's energetic efforts to resist contribute to his downfall at the hands of a judo master, so was I completely overthrown by the Dubuffet exhibition.

Dubuffet's aim is emotional and sensual, and he fully realizes his intention. The emotions aroused are very powerful and primitive, and difficult to put into words without veering away from the language of objective criticism altogether. So in self-defence one finds oneself listing the physical achievement alone of Dubuffet's work.

He is now 65 years old. After two false starts he finally took up painting as a full-time occupation only in 1942—to please himself alone, as he says. Since then he has produced over 1,600 major works, not including gouache paintings, drawings, lithographs, sculpture, and books and pamphlets written and illustrated by himself. This is pretty good going in terms of area covered by paint, and may mislead the reader into picturing a simple and direct technique coupled with a pretty slapdash treatment of form. The truth, however, is just the opposite. Most of his pictures are technically complex and sophisticated. Even when he attempts to reproduce the effect of hastily scrawled graffiti the scratches and scrapes reveal built up and overlaid paint layers through which colours appear as in oriental lacquer.

Mention of graffiti brings us to the best known, or perhaps notorious, of Dubuffet's pictures. As Alan Bowness says in the excellent catalogue introduction, Dubuffet is a comparatively little known artist in this country, particularly for such an important one. People who know his work probably know him best for the series of female nudes, the *corps de dames* series. These provoked outcry and protest when first exhibited (1950–51), and were described as brutal, sadistic and even obscene, and conversely caused admirers to equate him rather literally with the work of Genet and the cult of cruelty.

It is true that Dubuffet uses the visual language of crude sexual graffiti in the most direct way, sometimes as he says himself, going beyond the point of decency—although here his indecency must be qualified. For surely much of the aggressive indecency of graffiti *brut* must lie in the indecent act of making them. This sometimes occurs unconsciously in the most unlikely artist's work, but here the act of transference to rather beautifully coloured and textured canvas produces a series of images no more indecent than that of the Willendorf Venus. They are the perpetual earth mother gone to seed, growing old and pathetic, battered by a life of which she is the worn-out victim. They are collapsed in outline, helpless, sagging and

grotesque. They arouse pity, tenderness. They touch us.

They are not mutilated as by the surgery of 'thirties cubism, but by time, by the force of gravity overcoming old and tired muscle. The scrawled indications of features, orifices and body hair are delicately inscribed into a complicated texture impasto ground. The canvases take on the character of heroic bronze age shields, of worn away, depersonalized cave sculptures instead of highly personal scribbles on public walls.

As with cave and primitive art, there is a strong element of magic in Dubuffet. And this is not just because of imitation, of a direct and literal association. It lies more in that Dubuffet celebrates—his own word—nature in all that he does. It is comparatively rare

2, Dubuffet: *'Botanique au petit spectacle'*. 1956. Collage. 41½ by 29 in. 3, Dubuffet: *'Extase au ciel'*. 1952. Oil on putty on board. 45½ by 35 in.



2

for a thwarted mid-century painter to turn to elemental nature not as a 'figurative' or 'landscape' painter but to try to 'make' people, rocks and stones, earth and plants out of paint, and to find his elemental forms not only in wild country or desert but also in crowded neon-lit city streets.

The series *sols et terrains* is all compounded out of a thick impasto which is scraped, scored and imprinted, representing a 'surface of terrain—some arid and savage place, or a cross section of subsoil. Both at the same



3

time.' These paintings also look very like excavated neolithic burials such as those dug at Jericho, with layers of clay-covered bones, potsherds and implements compressed into an ochreous relief. This is the ground itself. The paintings of the desert are more pictures of a place, of a time, and of space under the sun where the nomads themselves are dried and pared to the bone, Doughty's 'dead land, whence, if he die not, the traveller shall bring nothing home but a perpetual weariness in his bones.'

Dubuffet ranges from the desert to the lichens and saxifrage of the Vence hillsides, their microscopic geometry reproduced in a careful collage technique which entails the preparation of painted and textured canvases to be cut up and arranged into designs reminiscent of renaissance inlays of cut semiprecious stones. Hilarious blue-eyed cows graze on enamelled green hillsides. Saloon cars that might have been engraved by a cave artist bounce along, full of a beaming *touring club*. Giant stones become a *tromp l'œil* paint-



ing of the surface of the earth itself. Lichenous rocks become textured panels of bronze, gold and silver. Paintings of 'textures,' of sand, stones and beards, become sand, stone or bearded tables by the addition of legs, so that they are turned to primitive altars. Pictures are made of butterflies and banana skins, the dried fibres of the latter exactly punning upon the curved grainy impasto brush strokes of a brown old master.

Here and there throughout his work, over a period of time, a certain recurring form appears in the apparently most unrelated pictures. This form is a nimbus-like smoke ring. The sky in one of the earth and sun pictures is covered in them. They become haloes round neon lights on city walls. Finally this form has become the main pictorial building-block of the latest series, the *L'Hourloupe* beginning in 1962. The pictures are

technically simple and direct, painted *alla prima* in red, white and blue, flat and untextured. The concept is architectural in scale, and some of the canvases are the size of wall paintings. Much use is made of simple parallel cross hatching. At first the paintings look like complicated circulation diagrams, or exercises in topology, problems in the colour coding of maps, with strange countries jutting into black surrounding seas. Without conventional shading some forms seem to stand out in relief, or to be arranged in superimposed layers, holes in which reveal other layers beyond in a complicated regress. There is a spatial ambiguity in this which is exciting.

But, just as we have become accustomed to the geometry, the puzzle pieces seem to physically move and rearrange themselves into recognizable things. They become crowds of people pushing and passing along a con-

4, Dubuffet: 'Etre et paraître'. 1963. Oil. 60 by 75 in. 5, Joan Miro: 'Huile sur papier V—XI'. 1960. Oil on paper. 28½ by 39½ in.



gested street. They become wheelbarrows, motor cars, boats and bicycles, a bed, a giant



6, Joan Miro: 'Homme et femme devant le soleil'. 1960. Oil on cardboard. 29½ by 41½ in.

cup of tea with a genteel S-shaped handle and a leaden-looking spoon lying in the saucer. They are bold, heroic, ironic and very funny. They seem to envelop and embrace the onlooker, creating an environment of their own. In them Dubuffet is the successor to the large-scale paintings of Legér.

The word 'surrealist' suffers from inappropriate and too widespread usage. Considering its strong literary connections, indeed, there may be a case for judging the best surrealist products to be purely literary because of an indelicate want of analogy in some of the cruder pictorial forms—it would be best to limit the use of the word to the more literal forms of painting it inspired. I have always found it difficult to think of much of Klee as surrealism, and even less of most of Miro's work as surrealism. Miro quite early on arrived at his own pictorial language and stuck to it consistently, and the form of this language is often symbolic and pictogrammic, but can never be taken literally as can the form of, say, Tanguy. The archetypal Miro that comes to mind generally has a slight circus or Mickey Mouse appearance with its bright counterchange of primary-coloured dancing forms, rather clinically executed.

Miro's recent paintings at Marlborough Fine Art are broad, rough and calligraphic with, generally speaking, one large image 'ideogram' to each canvas. The grounds are *tachiste*,

stained. The sweeping strokes of hairy drawing are left rough-edged and appear to be as spontaneous as Japanese lettering, although there is more calculation here than appears at first sight. The colours are no longer clean grey, black, white and primaries, but glowing and subdued golden browns and reds, spattered and dribbled. The pictures are big, with that feeling of inevitability and authority that escapes so many hard-working, hard-trying minor painters.

Over the road at the other Marlborough were paintings by Sidney Nolan, Ceri Richards and John Piper. The Nolans are thin and uneasy, the most interesting being the rather unresolved large figure paintings which are like old-fashioned spiritualist manifestations branching into triplets.

The Richardses are, as everyone has said, derived from Max Ernst, particularly from the *frottage citadel* at the Tate Gallery. What also needs saying, and is much more important, is that this is only a starting point for him, not the end. This developed series of suns and moons over the bleak stratified land sections of a geologist or archaeologist has a serenity of its own, and a slight but marked sinister aspect which adds something compelling to it. John Piper has been an architects' artist for a long time. Here are the Pipers that one expects: pinnacles and crockets and decorated cloisters touched by a golden evening sun with the hint of a thunderstorm somewhere. What is unexpected is to find in the same room, and given the same treatment in a rather delicious or delectable confection of techniques, a

series of 'camera eye' pictures of a rather fat lady in corsets. These combine positive and negative photographic prints collaged with greasy chalk, ink and wash drawings that repeat, echo and transform the pose. The poses and subjects are very Pascin-esque, but the effect is brutal and rather more erotic—certainly not exotic, and a bit like dirty pictures in church. They are unkind pictures, to use an old-fashioned word,



7, Joan Miro: 'Tete de femme et oiseau par une belle journee bleue.' 1963. Oil on cardboard. 41½ by 29½ in.

whereas the poor, battered exposed fat ladies of Dubuffet that have actually been called obscene are touching and sympathetic. Finally, another Arts Council Exhibition. The collection of Oriental (mainly Chinese) jade, sculpture, bronze and pottery formed by Professor and Mrs. Seligman has been left to the British and Victoria & Albert Museums. For the next ten years the collection is to be undivided and will be sent on tour in the custody of the Arts Council. This astonishing private collection combines scholarship in its complete coverage with a highly developed personal taste. There is not a piece in the collection which is not a masterpiece in its own right. It is not only a must for all those already interested in Oriental art, but anyone else interested in form and line in any way at all will find this collection a source of deep refreshment to the eye, refreshing and rather astringent too, like good green tea.

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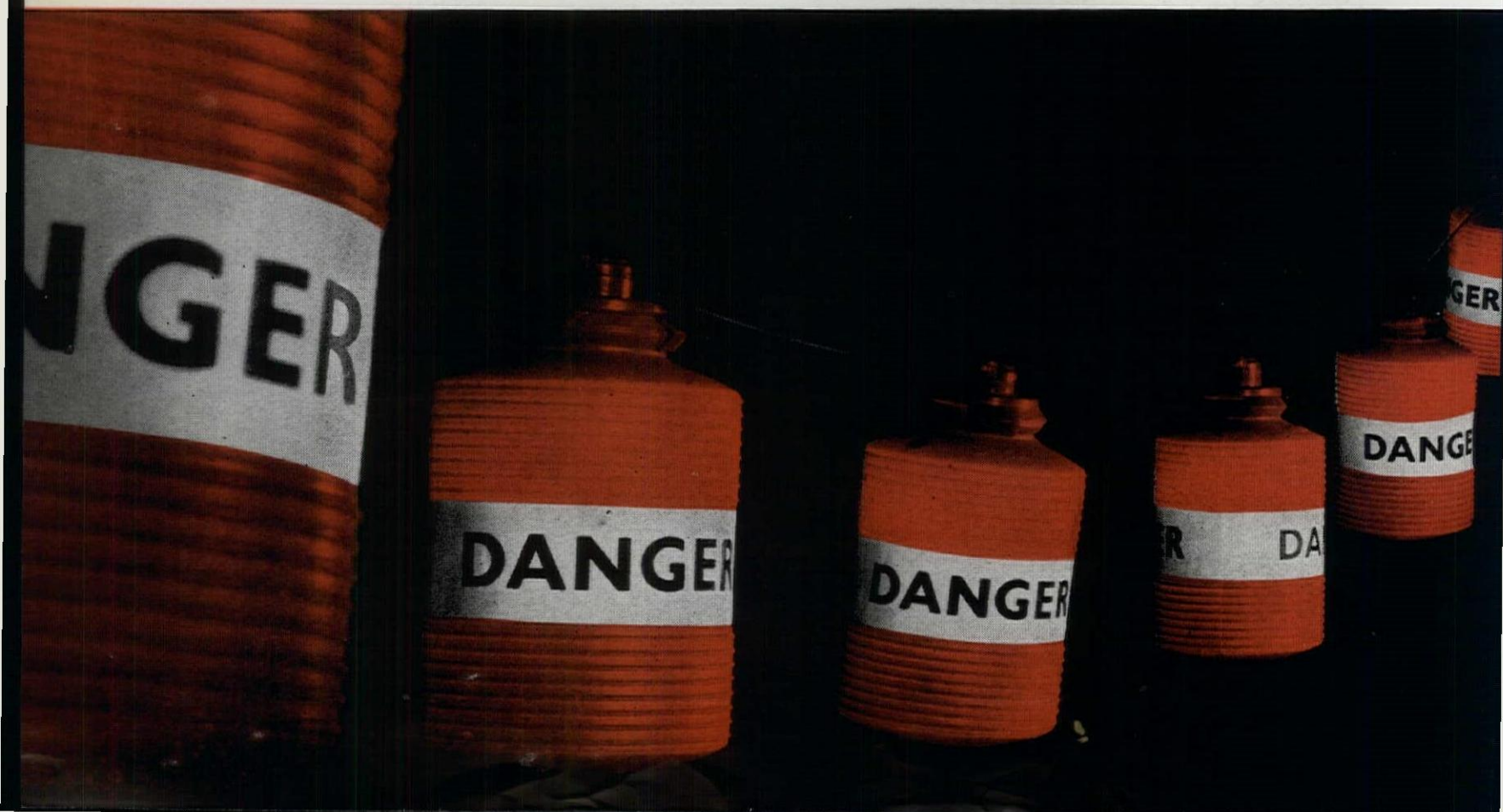
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Design Review

New products chosen and annotated
by Ronald Cuddon

DR

Record player, radio, telephones

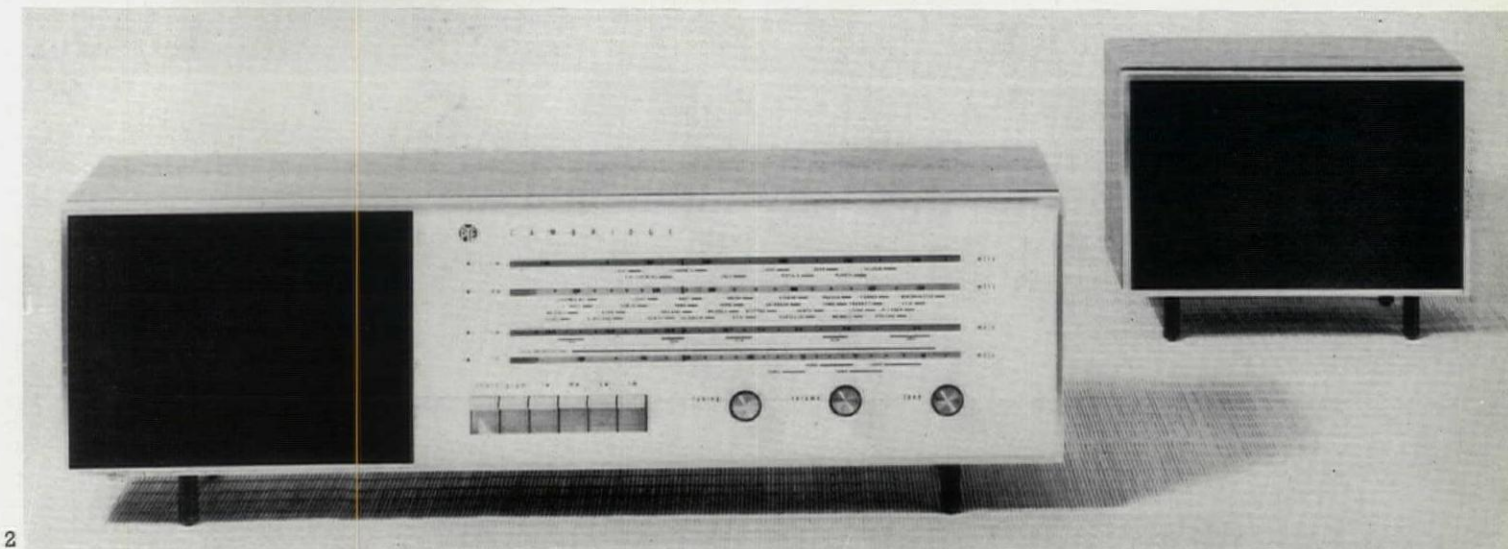


Complete integration of equipment within a building fabric may be desirable but is not always possible. The alternative is to produce equipment that is efficient and small, designed not to dominate the interior. The record player designed and manufactured by Hamilton-Mathers and the Pye table radio are two good examples of this.

The record player, 1, shows in its appearance the influence of Braun, and in design approach it also owes something to its German counterpart; but it lacks the expert detailing of Braun products.

Without the backing of a large sophisticated organization, a small manufacturer is unable to call on the extensive resources of those industries concerned with the technology of mass production and is consequently denied the facilities for making expensive prototypes before launching products on to the market. This machine has therefore much

have been avoided had the supports taken a different form or been integrated with the frame or the cabinet. The finish of the mitres and butt joints at the corners of the frame is disappointing, showing more sympathy with skilled hand fitting than with long-run assembly techniques. However, the horizontal form and detailing are unobtrusive and clearly reflect the designer's wish to achieve a quiet anonymous solution in contrast to those products that litter the shop windows of the radio and TV dealers, where pretentious cabinet work and glitter finishes prevail. A cool direct design is a visual relief in this bedlam world of vying images, conflicting sounds and self-conscious styling. The height of the radio is 8 in., depth 7 in. and width 26 in. A separate speaker, seen in 2, for the stereo version can be obtained, of the same height and depth as the radio cabinet, and this will give reproduction from



of the robust quality and functional simplicity of hand-built equipment and is in fact assembled from standard components. It is designed to give Hi-Fi sound, with a separate speaker system for good reproduction, and it is claimed that the latest developments in pick-up, motor unit and amplifier have been assembled into the one unit. The body of the player is covered with black Suwide plastic and this and the hinged lid of formed perspex are contained within slab walls of teak-veneered ply. The single alloy knob in front of the unit is for loudness control, and the mains and speaker leads are connected to the underside of the chassis.

The table radio, 2, was designed by Robin Day in association with Douglas Jones, head of Pye's advanced development department. It has been given a Design Centre award, and is probably the most satisfactory design for a small table radio since Wells Coates's. The aluminium frame embraces the loudspeaker grille, tuning scale panel and controls, and this assembly forms the front of the teak veneered cabinet, supported on four legs. There is a slight suggestion in its appearance that it is a scaled-down version of a larger cabinet; this might

record player, tape recorder or special sound broadcasts.

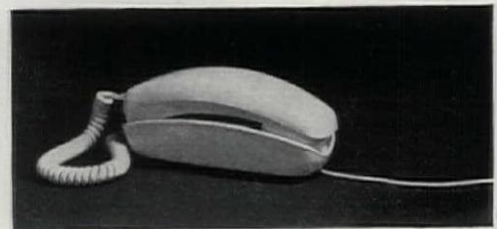
The Deltaphone and Deltaline telephones, 3 and 4, have also received Design Centre awards. Both are manufactured by Standard Telephones and Cables Ltd., and were designed by Martyn Rowlands with the company's engineers. The Deltaphone is intended for public networks, while the Deltaline is an inter-office telephone available with one, ten or fifteen push buttons. The body and handset are of impact resistant plastic and have been designed to simplify moulding operations and to assist cleaning. These two phones are half the weight of the familiar '706' telephone and their four rubber feet are said to hold them firmly while dialling; they can be picked up by the switch bar when in use. The line cord can fold sideways under the body so that the instrument can where necessary be placed against a wall. The small size of the Deltaphone has been achieved by using the horn principle for the handset and by replacing the bulky bell ringer by a tone caller employing a transistorized oscillator. The illuminated dial is lit by a tritium gas tube. Obviously considerable thought and skill have been expended

DR



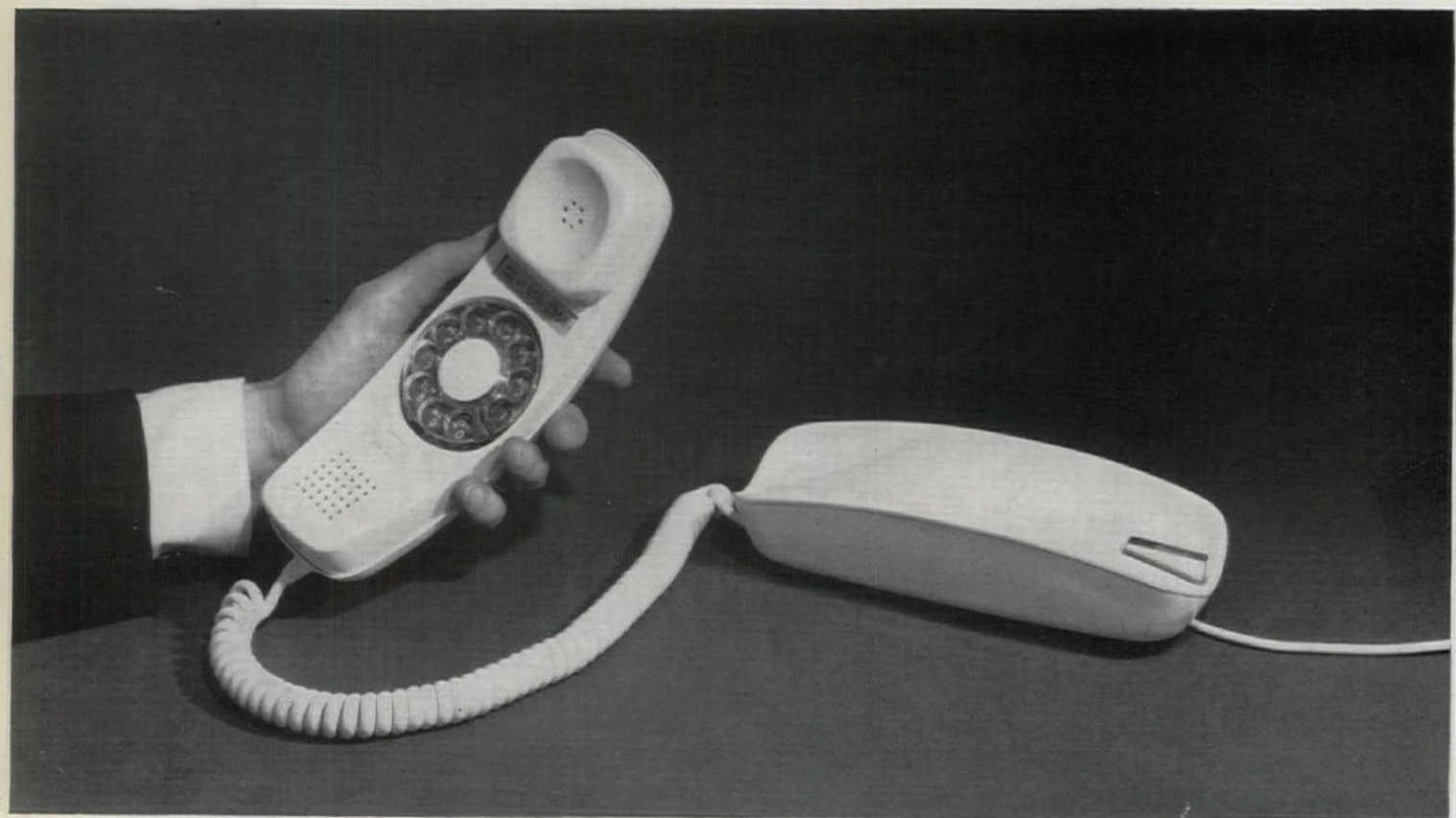
on these designs after an exacting brief, but the bridging of the dial on the Deltaphone and the push buttons on the Deltaline by the handset destroy the visual unity of the instruments and give an unresolved appearance. The strong geometric form of the dial, with its interest of surface as well as of information, is partially concealed when the telephone is not in use—a detail which suggests that these instruments, in spite of important technical improvements, have been conceived visually in terms of their recent predecessors.

An American telephone, 5, designed by Henry Dreyfuss for the Bell Telephone Laboratories Inc., avoids this defect as the dial is contained in the handset and is therefore completely concealed when the instrument is not in use. This is an interesting solution and a fundamental



departure from orthodox practice, though the embryonic forms tend to sit uncomfortably on a horizontal surface, 6.

Products: Record player, table radio, telephones.
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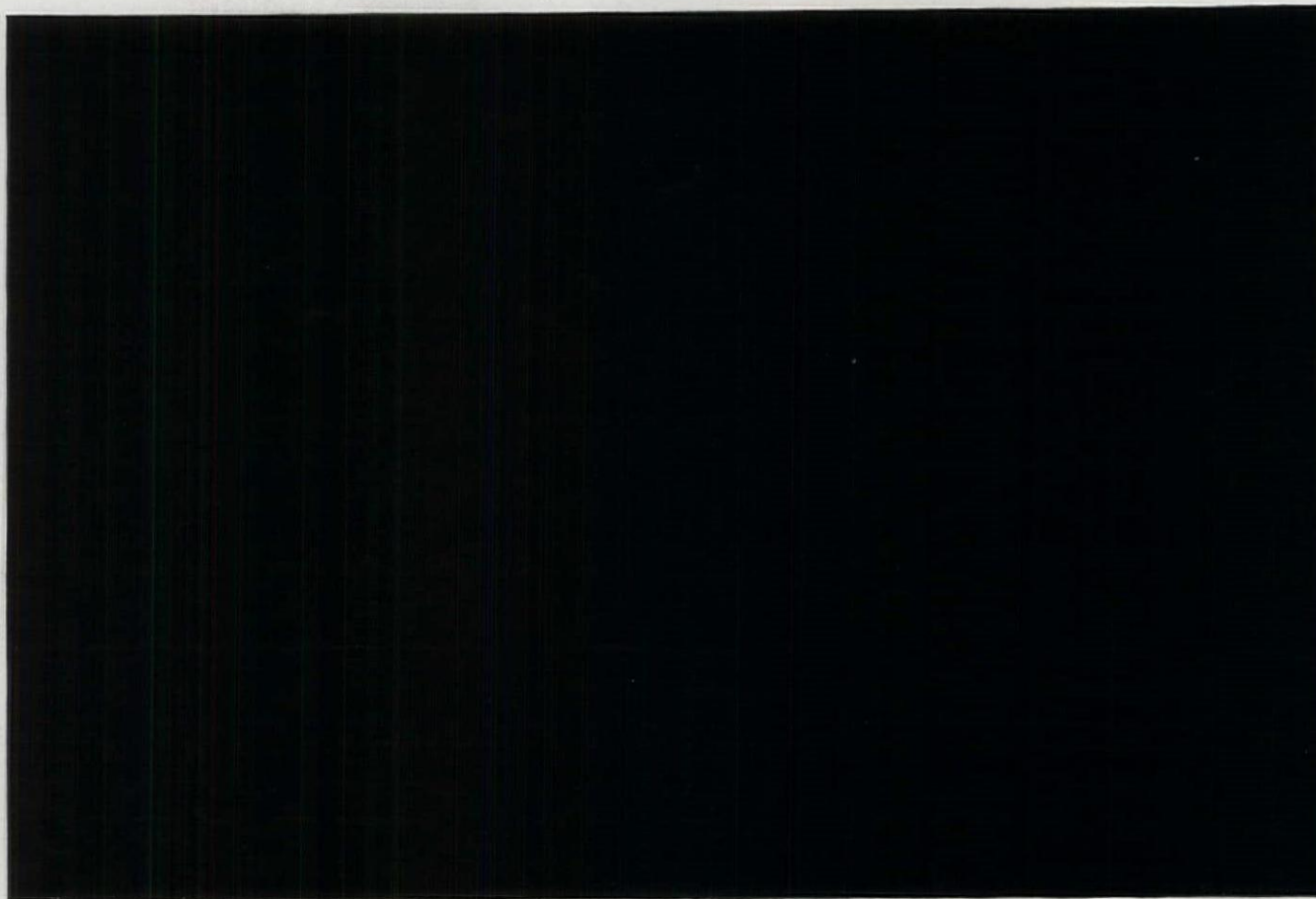
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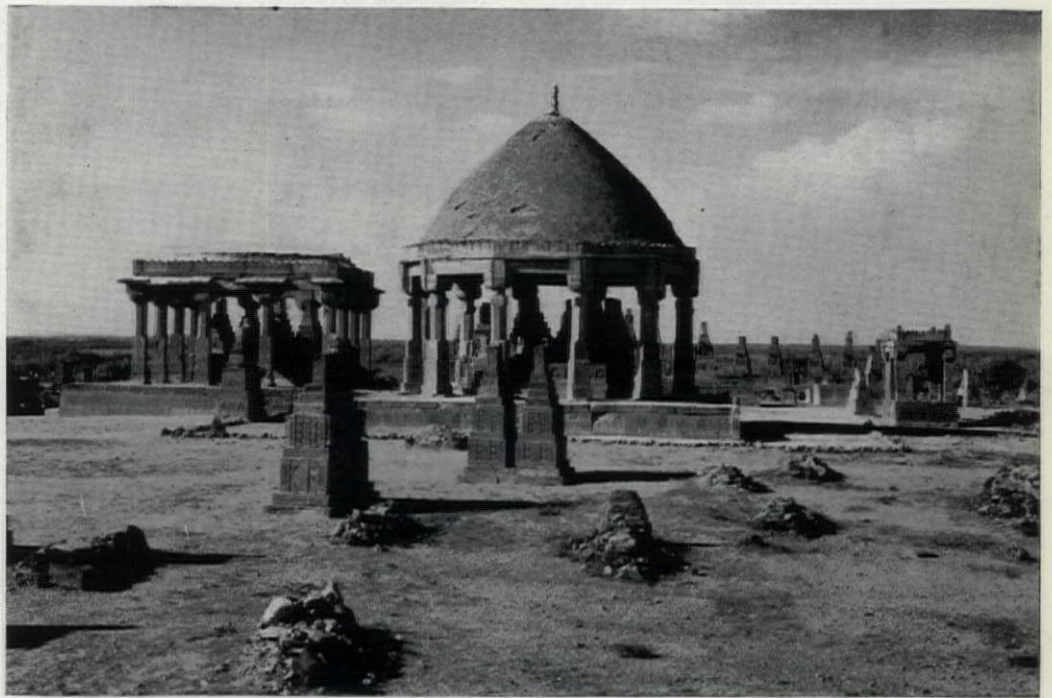
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MISCELLANY

ambience

chaukandi tombs

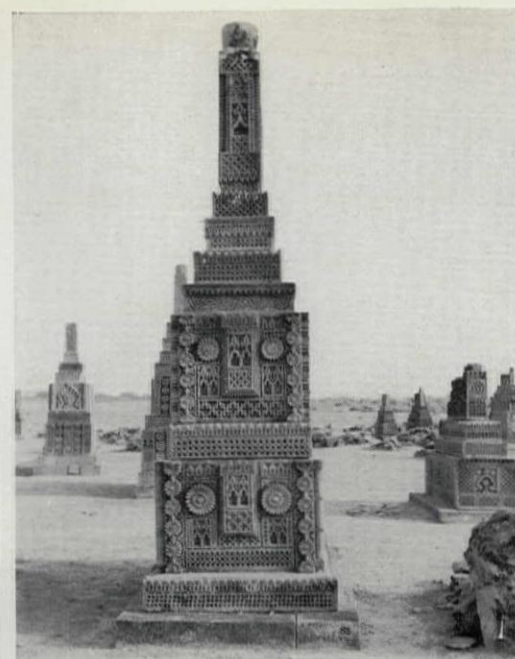


1

The newcomer to Karachi will not find an old oriental city lavishly endowed with buildings of the past like Lahore, Agra or Delhi but a new city which only a hundred and twenty years ago was a mud walled town about 600 yards square with a population estimated at 14,000. Today Greater Karachi spreads over an area of some 200 square miles and has a population of over two and a quarter million persons. There exist therefore no buildings of real historic interest in Karachi and the only remains in the district are the remnants of three graveyards, at Chaukandi, at the

village of Deh Kharkara and at Pir Mangho.

The best preserved of these graveyards and the easiest to approach is at Chaukandi, 1, a little north of the Karachi-Hyderabad highway and about eighteen miles east of the centre of Karachi. The graveyard, which contains more than six hundred structures as well as many other graves, extends for about a mile along a ridge of high land. The graves, although orientated north-south as is usual with Muslim graves, are quite different from Muslim graves found elsewhere, each being



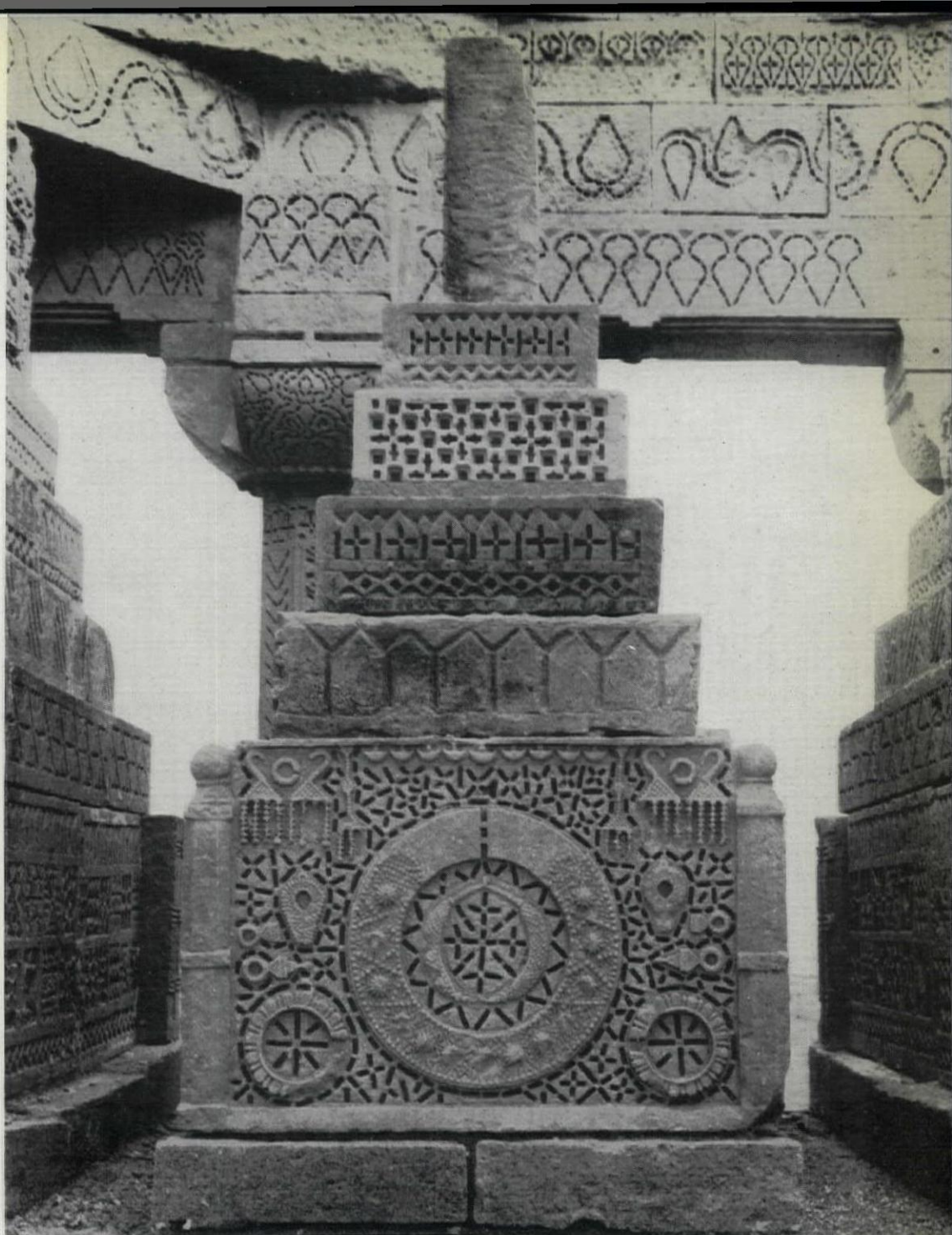
built in the form of a small stepped pyramid in a yellowish limestone, 2 and 3. The stone was presumably quarried locally and was reasonably soft when newly quarried and so easily carved, but it has hardened with exposure.

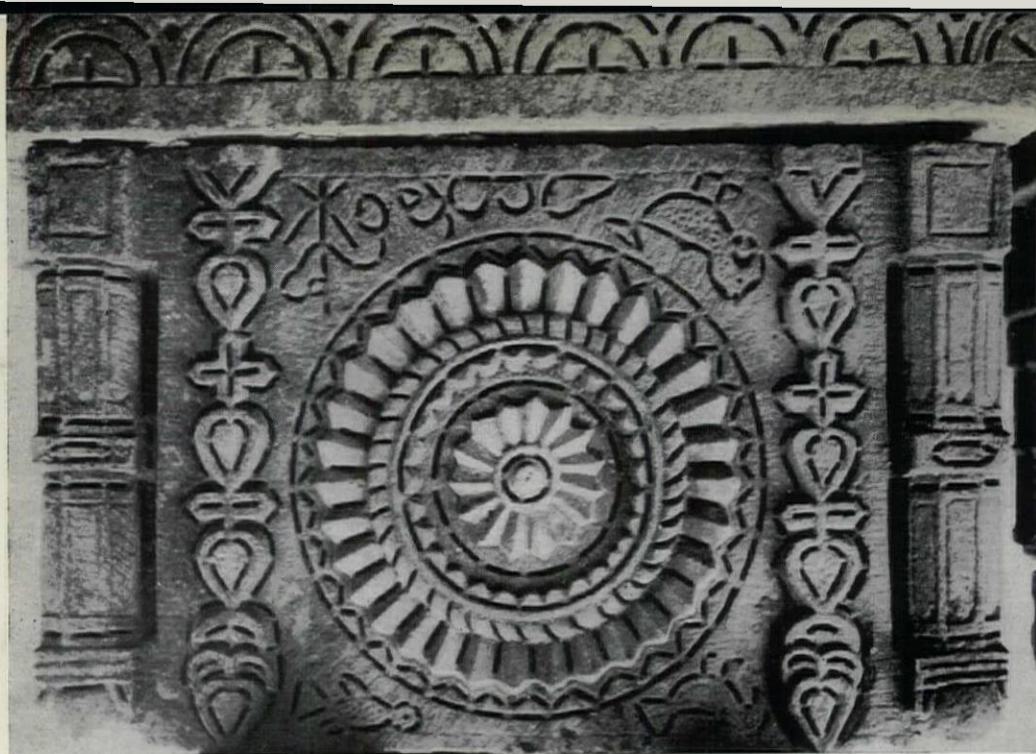
Each grave is built of large slabs of dressed and highly carved stone, at three or four levels of relief, superimposed upon each other and generally with two hollow enclosures at the lower levels, and in diminishing sizes to a height of up to eight feet from the ground. The uppermost stone is one solid piece, often of a shape suggesting a small coffin with splayed top. Towards the top of some tombs, 4, there are projections at each corner suggesting the hand-holds of a stretcher or palanquin on which a dead person would be carried. In addition to the many single tombs there are a number of groups of tombs, presumably for whole families, each built upon its own individual raised platform, 5, which is similarly carved. In some cases there is a roofed enclosing structure

consisting of a number of columns, also carved, 6, and a dome of comparatively crude construction.

The tombs are devoid of all religious inscriptions (such as verses from the Quran) but are minutely carved on all surfaces, not only with geometric patterns, but also, contrary to Islamic traditions, with representations of the person buried. The male graves are surmounted by a stone cap suggesting a turban, as in 2, and often have carved panels with swords, shields, bows and arrows, 7, birds in flight or on the ground, 8, and even a rider on horseback. The graves of females are even more distinctive and decorative, 9, having carvings of jewellery—earrings, necklaces, rings, anklets and bangles—to represent the person buried. The designs of the jewellery represented is the same as that still worn today by the village women of Sind. Some graves include the name of the person buried or the name of the sculptor of the grave, 10, and it appears from the various inscriptions that these tombs were erected in the eighteenth and early nineteenth century. In recent years the practice has been started of making rubbings (similar to the practice of brass rubbings) of parts of the decorative carvings, but these have not been entirely successful owing to the fact that there are usually three or four depths of carving in the patterns and the rubbings of course only reproduce the top surface of the carving.

The precise origin of these tombs is not known but some of the motifs and designs of the carved details can be found in the earlier buildings of the sixteenth and seventeenth century at Thatta in Sind (a further forty-five miles to the east) and in the designs on indigenous fabrics and

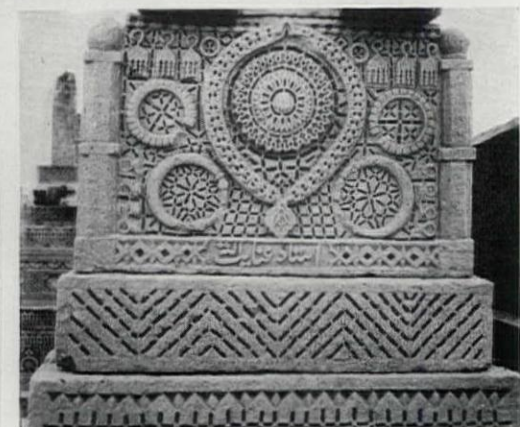




8



9



10

pottery. There is no doubt that they are the work of local craftsmen and are probably the graves of Baluchi tribes that wandered in the Sind desert areas of this coastal belt during the previous centuries.

They have now come under the protection of the Department of Archaeology of the Pakistan Government, and further research is proceeding on their origins.

PETER W. G. POWELL

history

MEDIEVAL BELL LETTERING

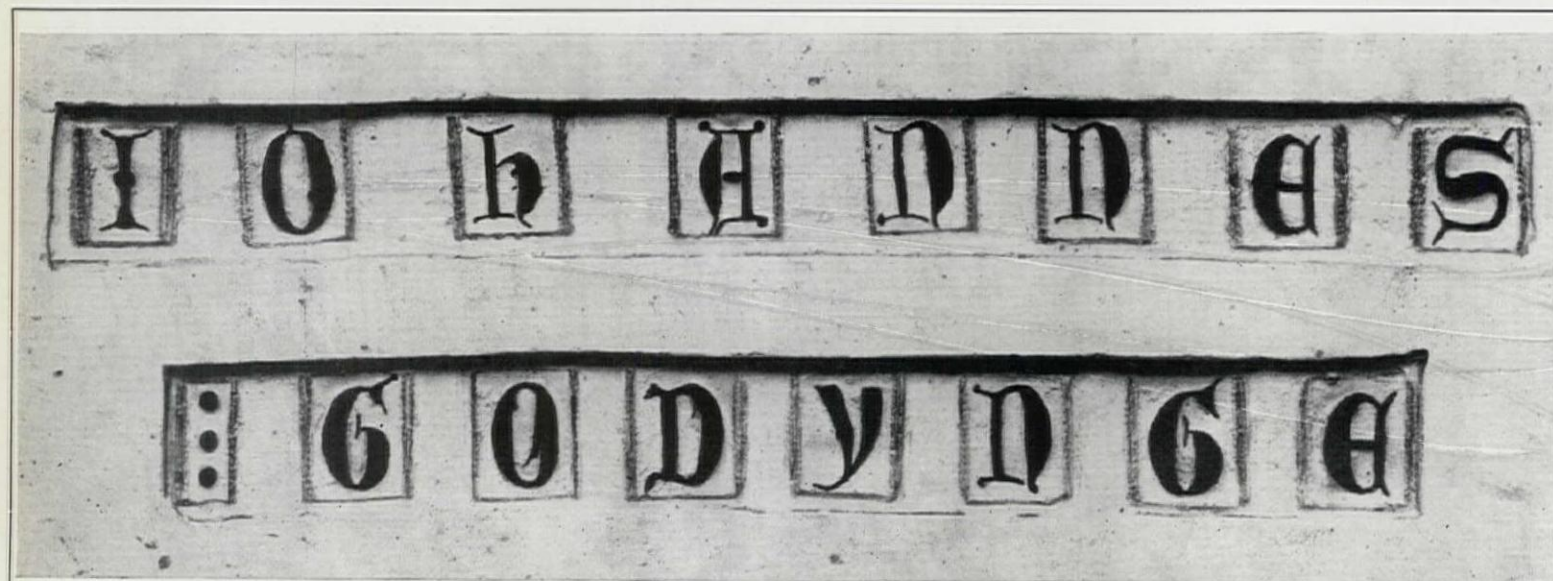
Bells are naturally far more often heard than seen, and so their foundry lettering, though often an attractive example of medieval craftsmanship, has had very little attention, except in comparatively rare books which were written in the late nineteenth century and will probably never be published again.¹ The fact that the technique available was primitive, makes the high quality of some of the lettering surprising. It illustrates how the totality of medieval culture was applied with care and finesse to everything made.

¹E.g. J. J. Raven, *Church Bells of Suffolk* published circa 1880; J. J. Raven, *Church Bells of Cambridgeshire*, circa 1880. The church bells of certain counties have not yet been documented in this way at all.

Centred around London are some of the best examples of the medieval craft of bell lettering. Norwich became a provincial centre for bell casting, and a King's Lynn foundry is also documented here. One of the earliest bells with lettering is the tenor bell at All Saints, Worlington, Suffolk, 1, made at Lynn and inscribed: JOHANNES GODYNGE DE LENNE ME FECIT (circa 1310). The lettering is a form of Langobardic with some Uncial affinities. The stop of three roundlets in a vertical line is used by several other early casters. The location of this Lynn bell in Suffolk is not without significance: the old hythe, or staithe, still exists at Worlington to which the bell was

brought by water. The River Lark must have been navigable six hundred and fifty years ago. The Tallage Roll of Edward I mentions a Master John, founder of bells, as paying half a mark as his share to the County Subsidy in 1299, and as the same sum was paid in 1333 by Thomas Belle-yettir, the business probably went on in the same place. The reference to Johannes Godynge is: MAG'R JOH'NES FUNDATOR CAMPANAR' SOLVIT DIE VEN' IS P'X ANTE FESTUM STE MAGAR' IN SUBSIDIU CO' ITATIS DJ M'N STERL.

Of London casting, a fine example with lettering and founder's marks is on the fifth at St. Peter and St. Paul at Appleford,

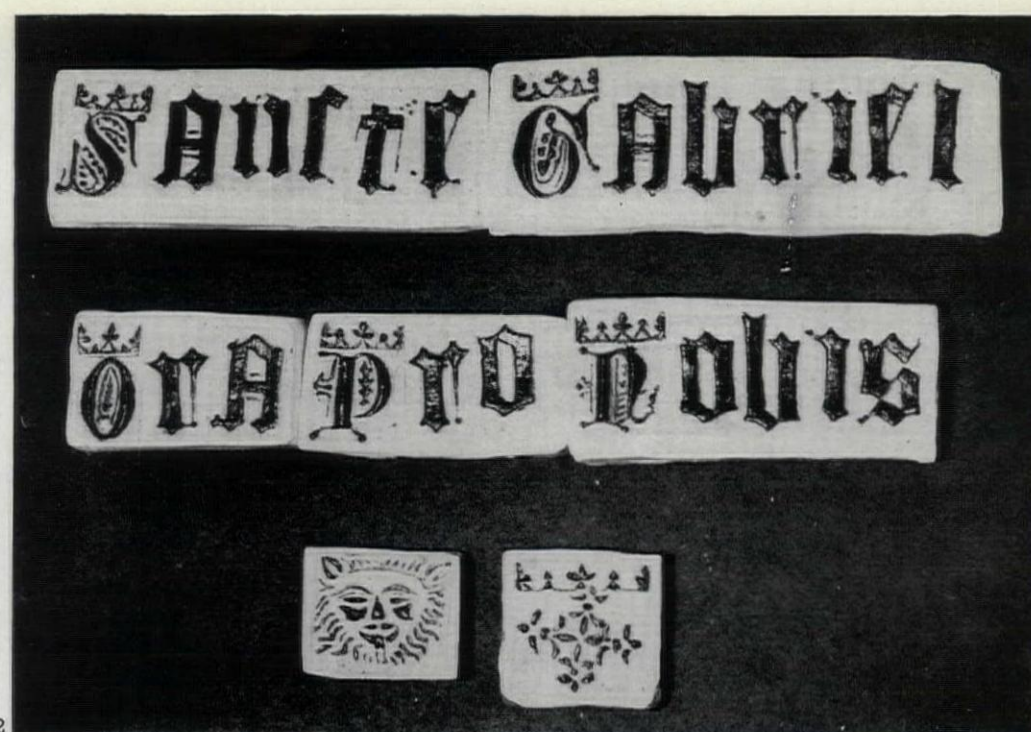


1

Berks, 2: SANCTE GABRIEL ORA PRO NOBIS; a lion's face and a Greek cross made up of fleurs de lys (*circa* 1450). The lettering is of the *lettre de forme* type of black letter (or Gothic lettering); the capitals are decorated with Uncial affinities, as on the Worlington bell. A point of particular interest is the repeated use of the ducal coronet, which is placed over the decorated first letter of each word and also above the cross of fleurs de lys. The latter is a founder's mark, and it is quite probable that the repeated ducal coronet is in itself also a form of founder's mark used as a decorative element in the inscription. This particular use of two forms of mark—both integrated into the inscription—occurs only here among the six examples shown. This is also the finest lettering of the six; in fact it is among the best medieval foundry lettering ever cast.

Of all the foundries in East Anglia none was greater than that of Norwich. The trade name of Brasyer was well known in that city until the middle of the sixteenth century. During the whole of the fifteenth and the earlier part of the sixteenth century, the bells from this foundry bore on the crown a shield of three bells with a ducal coronet in fess, the field being sometimes ermine and sometimes sprigged. In the example illustrated here, 3, it is the latter form. It is interesting to note once again the use of the ducal coronet as a part of another founder's mark. The lettering is black letter with more highly decorated and refined initials than in 2. More than a hundred bells are known to have come from the Brasyer foundry—about two-thirds are in Norfolk; outside Norfolk and Suffolk they are very rare.

Examples 3 and 4 are taken from the two bells at St. Nicolas, Landwade, Suffolk. In the case of 3 the inscription: VIRGINIS EGREGIE VOCOR CAMPANA MARIE (trans. 'I am called the bell of the Glorious Virgin Mary') occurs on five more bells of Suffolk churches (*circa* 1480). The treble bell, 4, has the inscription, HEC TVBA COTTONI EST LANDWADI DIDITA FANO 1602. This early seventeenth-century lettering shows a marked change in design and craftsman-



ship. The craftsman clearly had some knowledge of a Roman face which was in general use at the time and executed the required inscription as well as possible. The result lacks the beauty of the illuminated letters in 2 and 3, but has a strength and character which epitomize some post-medieval work. The lettering was probably carried out by ordinary workmen at the foundry.

By 1600 then the influence of the Renaissance had filtered down to the foundries. Particular points of interest are the Greek cross or *crux quadrata* made up of four equal arms each in the form of a small

cross; the inconsistencies of the 'H' cross bar and the 'B' volutes; the use of a 'w' which is not a Latin letter within a Latin inscription and the stop of three roundlets, of a form resembling asterisks, in a vertical line—a founder's mark similar to that used in the Johannes Crodynghe inscription shown in 1. The actual letters are reasonably consistent considering that they were all cut individually, probably by carving the letter in clay with a knife, initially.

John Draper was a bell founder at Thetford in Norfolk, and cast from 1600 to 1644. One of his many good bells, the second at



Worlington, 5, was cast in 1635. The quality of the lettering, in terms of design and execution, is similar to that of 4, being again a product of carved clay. The craftsman was probably untutored, as the letters show three irregularities: the J is an early modification of the I to J with the cross bar device; the o is badly formed from two crescent forms and the N is perhaps the worst example of malformation—the weight being in the upright strokes and not in the diagonal as it should be—a fundamental characteristic of a Roman letter obviously not appreciated by the craftsman. 4 and 5 illustrate contrasts of casters working at roughly the same time. It might be useful in conclusion to illustrate one example of the kind of work being produced to-day. 6 was made by Mears in London. The lettering is of Roman derivation and has no particular distinction. The type is more regular than those in any of the earlier examples, as it is obviously copied from a typeface, probably Victorian. An interesting feature is the tendency to over-punctuate—a practice which has survived at least thirty years beyond current printing practice. It is also interest-



ing to note the affinity of the caster's mark to that shown in 3. The ducal coronet has survived as one of the basic elements of the mark, though the infill decoration has been replaced by three groups of letters. Mears is one of the only two foundries now casting bells in this country, the other

being Taylors of Loughborough. 6 is taken from All Saints, Sutton Courtenay, Berks.

IVOR J. RICHARDS

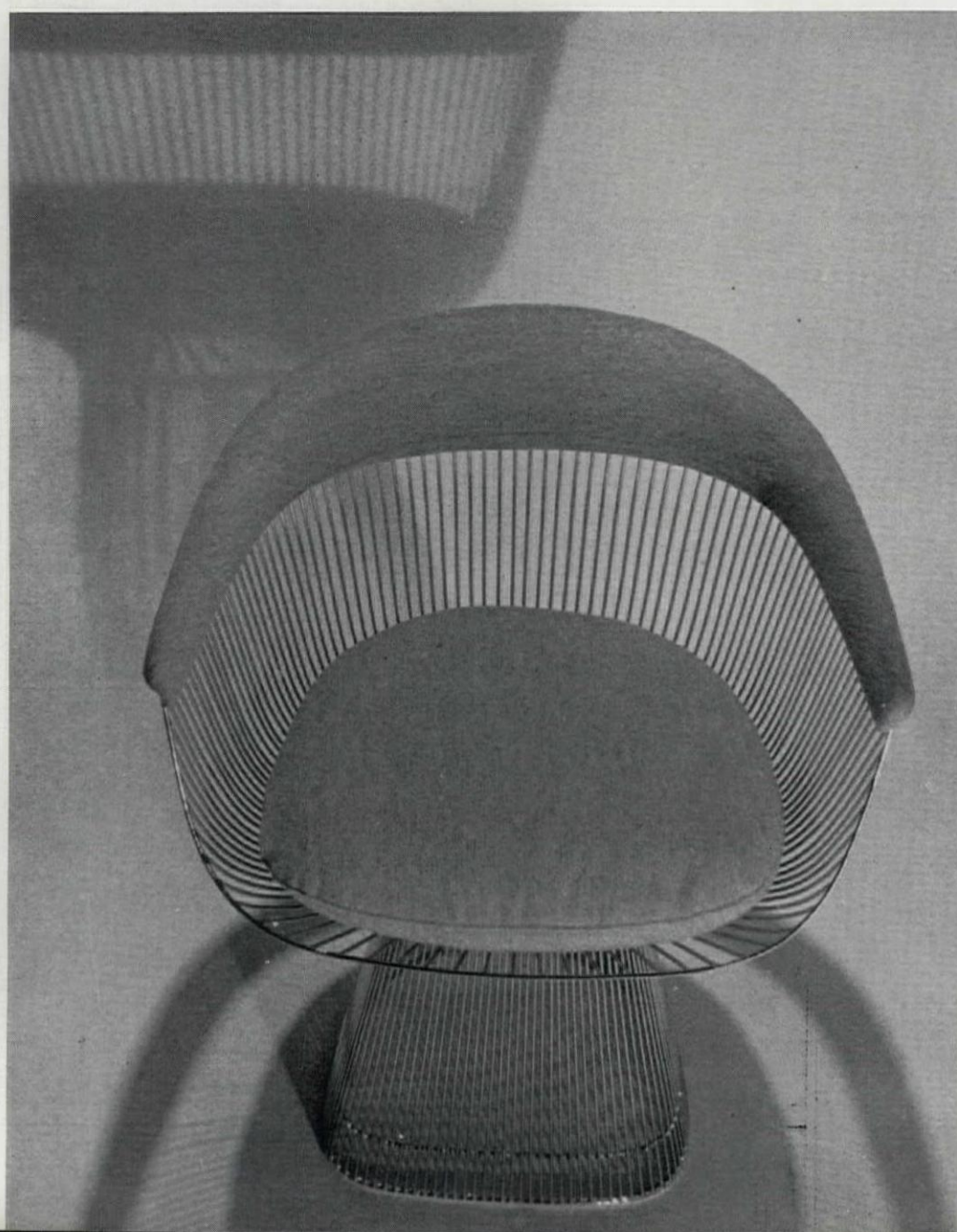
ROBERT G. OAKLEY

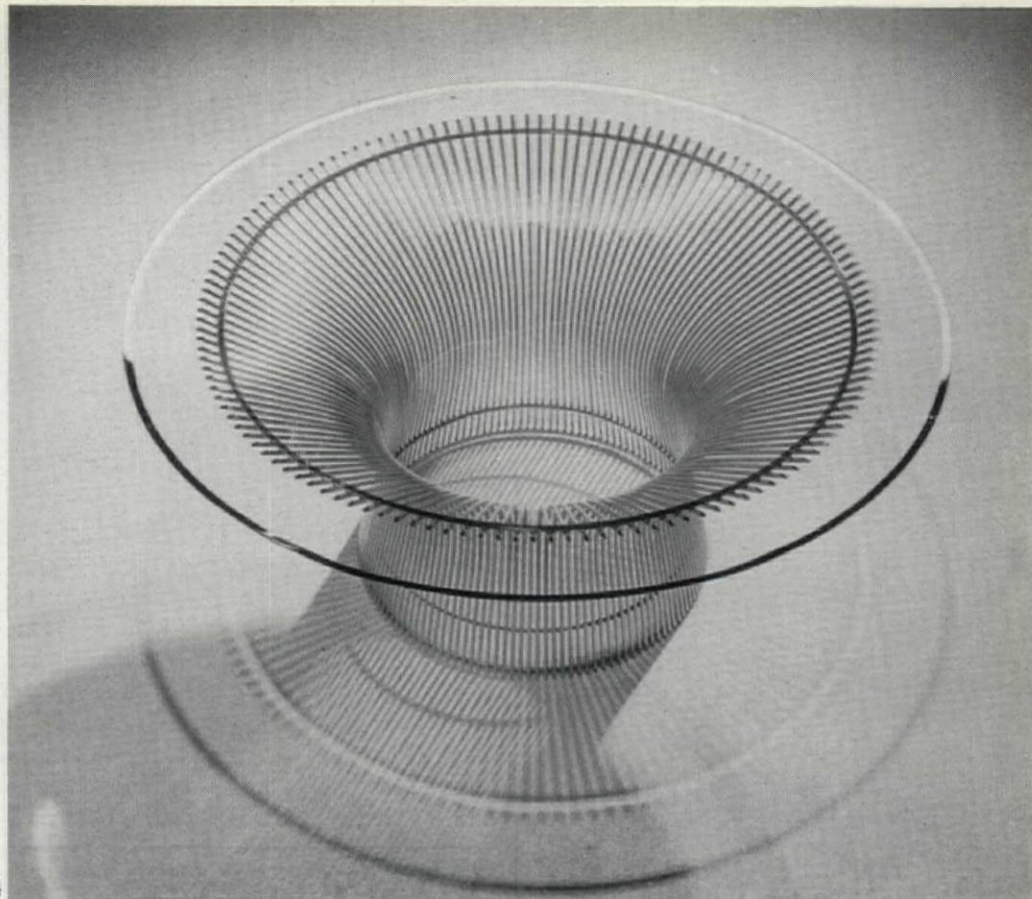
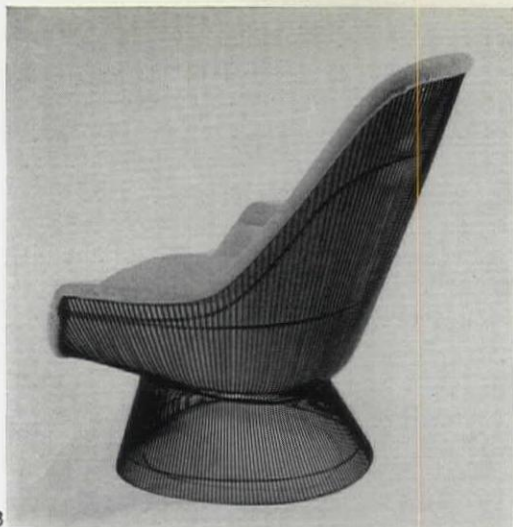
The illustrations in each case are of plaster casts made from plasticine impressions taken from the bells themselves by the authors, and photographed by Terence Maycock.

design

PLATNER FURNITURE

At the American Institute of Architects' convention in June, Knoll Associates put on view a new range of furniture designed by Warren Platner, of which some of the prototypes are illustrated here. The furniture will be put into production in September. Although Mr. Platner has designed many pieces of furniture for specific buildings (notably in his capacity of head of interior architectural design for Eero Saarinen and Associates) these are the first designs he has done for continuous production under his own name. They were completed while he had a grant from the





Graham Foundation for Advanced Studies in the Fine Arts.

1 shows Mr. Platner himself with some of the prototypes. 2, 3, and 4 show samples from the range which also includes a sofa, a dining table and an ottoman. The patented construction is of continuous parallel vertical wires, and there are two alternative finishes: one bright nickel (silver-gold in colour) and the other dark copper—both mirror polished.

biography

Colin Campbell

The architectural career of Colin Campbell (whose portrait in plaster at Compton Place, Sussex, is shown in 1) is well documented by his own *Vitruvius Britannicus*, published in three volumes in 1715, 1717 and 1725, but his life story previous to 1715 has always seemed obscure to art historians. And yet the evidence of his early life is available for all to read in two sources which were published over a century ago, namely the family papers at Cawdor Castle¹ in Nairnshire and the diaries of Alexander and James Brodie at Brodie Castle² in Moray.

From these sources it seems clear that Colin's father was Donald Campbell of Boghole and Urchany, the younger son of Colin Campbell, who was the second son of Sir John Roy Campbell of Cawdor. Donald's mother was Elizabeth Brodie, a daughter of David Brodie of Brodie. Donald Campbell married Elizabeth Innes, a daughter of Sir Robert Innes, laird of



¹ Published by the Spalding Club of Aberdeen in 1859 as *The Book of the Thanes of Cawdor*.

² Published by the Spalding Club in 1863 as *The Diary of Alexander Brodie of Brodie and of his son James Brodie of Brodie*.



Muirton in Moray. They had three daughters and one son, Colin. Donald frequently visited his uncle, Alexander Brodie, who mentions him several times in his diary. The most important entry, for our purpose, is dated June 15, 1676: 'This morning Don. Campbel's eldest son Colin Campbel was born.'

Colin's earliest years were spent at Boghole and Urchany, the small Nairnshire estates which had been given to Donald by his elder brother Sir Hugh Campbell of Cawdor. Donald Campbell's health began to fail in 1680, and on July 18 he died in Elgin, leaving a widow and four children.

Colin, at the tender age of four, inherited his father's estates. They were found to be encumbered by debt, and Colin's second cousin, James Brodie, took charge of the late Donald's affairs. Between 1680 and 1702 there is a gap in our knowledge of Colin's life. Probably he passed much of his time at Cawdor Castle, 2, the seat of his paternal uncle, Sir Hugh, chief of the Cawdor branch of Clan Campbell and an influential figure in local and national politics.

Whether Colin went to university has yet to be established. He may be the 'Colinus Campbel' who graduated from Edinburgh University in July, 1695³. We do know that he was trained for the bar as he was admitted to the Faculty of Advocates on July 29, 1702⁴, being then aged twenty-six. Sir Hugh's correspondence has survived and it includes some letters which refer to Colin. In the earliest of these, written in 1702, a friend says:

'Your cussin Mr. Coline Campbell of Bogholl has past his tryalls as ane lawier, and he acquitt himself to admiratione, and by the unanimous report of the hail

examinators he is the best civillian that past since the Revolutione. I think all his freinds should give him incoradgement till once we see how your awne sone proves. Ye may if ye think it convenient imploy him as ane lawier in your famelie concerns. If ye give directions anent it, I sall be obliged. Adew.'

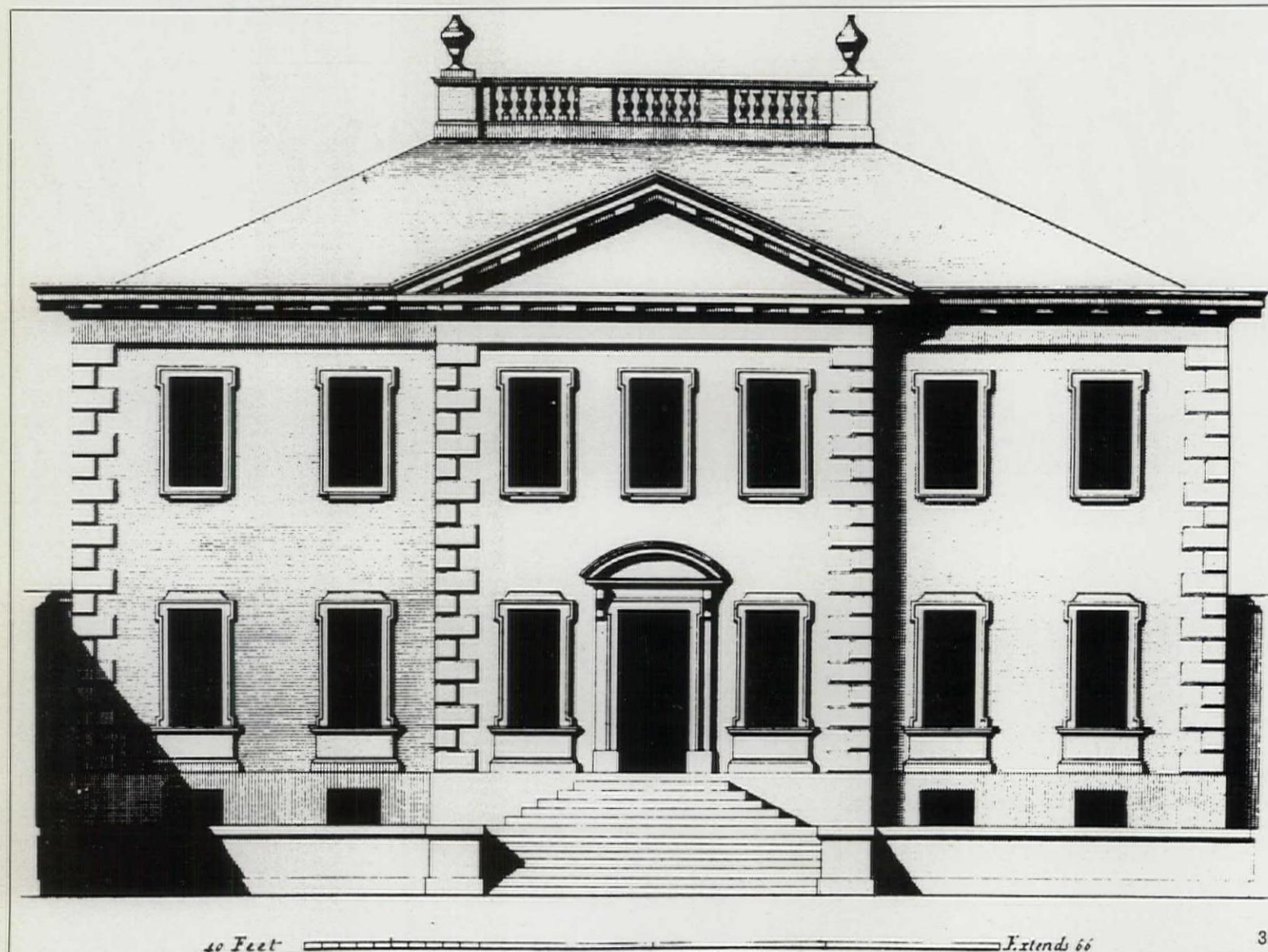
Colin practised as a lawyer in Edinburgh for the next five years, handling his uncle's affairs among other duties. Three letters from Colin, dealing with family matters and with political events in the capital, are among the Cawdor papers. There is also one from Sir Hugh to his nephew. After the Treaty of Union in 1707 Colin, like many other ambitious Scots, moved to London. A fourth letter to Sir Hugh was written from there in 1710. There are no further letters between Sir Hugh and Colin, who soon afterwards abandoned law for the study of architecture. In 1712 his earliest known building, the Shawfield Mansion, 3, was erected in Glasgow⁵ and three years later his architectural career was truly launched with the publication of *Vitruvius Britannicus*.

G. L. M. GOODFELLOW

³ *A Catalogue of Graduates of the University of Edinburgh*, 1858, p. 178.

⁴ *The Faculty of Advocates in Scotland*, 1944, p. 29.

⁵ *Journal of the Society of Architectural Historians*, Vol. XXIII, No. 3, October, 1964.

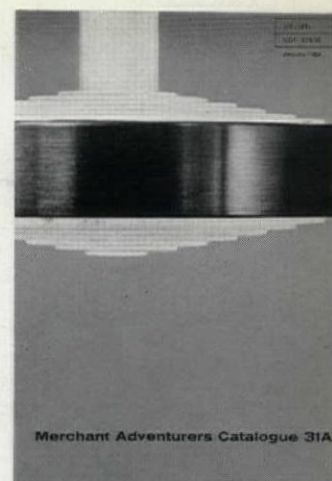


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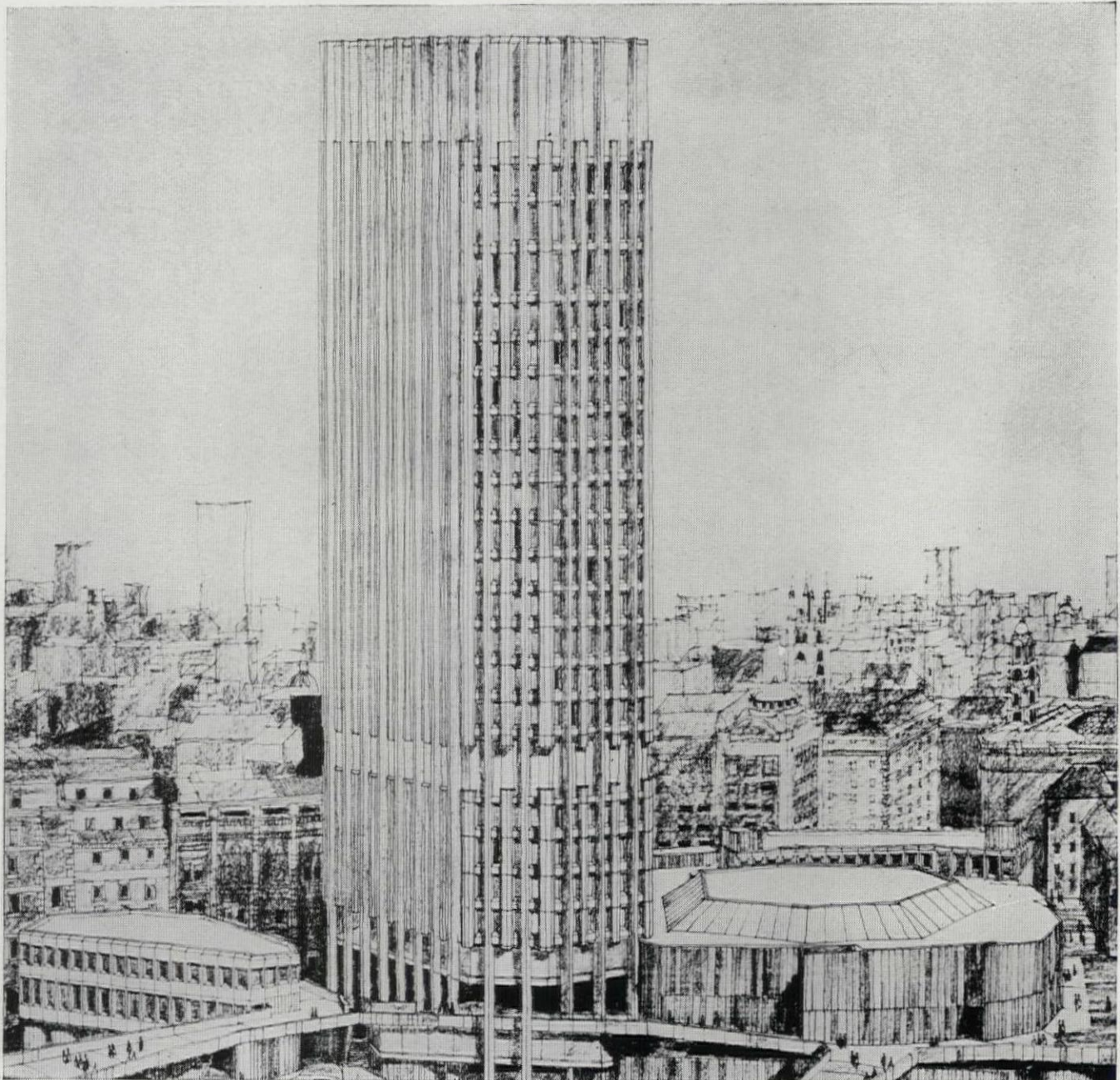
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A Regular Mess

For some years the industry agitated for a rationalization of the bye-laws and regulations governing building in this country. Earlier this year the new regulations came into effect apparently crowning these demands with success, but has the operation been a success? In this article Geoffrey Hutton examines the new regulations, questions the basis on which they were formed and are operated and tries to suggest what improvements are necessary and how they can be achieved.

The unification of the Building Regulations for England and Wales has been heralded as an advance in the control of building. Now that the new regulations are in force, it is possible to consider how nearly they approach the hopes of the industry. The degeneration of these hopes, through the apologia of the first report of the Advisory Committee to the muddle and inadequacy of the actual regulations, is a triumph of half measures and, one suspects, a compromise of too many interests. The Advisory Committee undoubtedly had a difficult task in assembling the new regulations and this cannot have been made easier by the transfer of responsibility from the MoHLG to the MoPBW. The narrow interpretation of public health and safety allowed by the Public Health Act 1961, itself only an amendment of the 1936 Act, effectively limited the scope of any new regulations. Nevertheless, a more satisfactory result might have been expected.

It is apparent that the regulations as published do not even live up to the qualified hopes of the Advisory Committee. Tentative proposals were made for the mention of proprietary materials, the treatment of deemed-to-satisfy clauses and, in particular, the clarity of presentation of the regulations which in the event proved to be in the form of a conventional Statutory Instrument.

The regulations have been produced in Whitehall haste (3 years) on the basis of an out-of-date and narrow enabling Act. The result seems as pedestrian as the more freely drafted Model Byelaws which they replace. The extensive introduction in the text of deemed-to-satisfy specifications of the type used in the Model Byelaws complicates the regulations and provides a mass of ready-made solutions which, although not mandatory, have inevitably the power of authority. The yard-sticks of performance by which traditional and new methods may be compared are not evident: inertia will favour the deemed-to-satisfy.

Relaxation of the requirements of the regulations is to be on a job-by-job basis, in the case of general, structural and fire regulations by the Minister, and of the others by the local authorities. Any technical innovation requiring relaxation is likely to be killed by administrative hurdles long before a market is established, unless precedents are accepted nationally. The Minister of Public Building and Works hopes that 'local authorities will carry out their duties of enforcement in a forward-looking manner, and in particular that they will be ready to examine on their merits applications involving new materials or methods of construction,' and that relaxation powers delegated to local authorities will be used with reasonable freedom. This would be fine if in fact the regulations and the procedure required were not almost a deterrent, particularly for new products: the 'adequacy' of a pipe material (N4(a)) might be the subject of much dispute.

Local requirements will always exist, and entirely central regulations cannot take account of all these. For example, a special case had to be made for the protection of structural timbers in some localities from attack by the House Longhorn Beetle (B4). Mining subsidence or special climatic or other conditions, such as noise around airports, might demand local control. Matters of this

sort could be covered by functional requirements and the details given in the type of annual ancillary publications mentioned later in this article. It is at least conceivable that *Hylotrupes Bajulus* L will spread faster than the present regulations can be revised.

The legal language and double negatives supposedly necessary to make the regulations a good penal code have succeeded in making the requirements almost incomprehensible without prolonged study. One must assume that the lawyers worked on a bad draft because, for all their careful wording, anomalies abound, giving rise to interpretations in various parts of the country requiring greenhouse frames to be given fire protection, stacks of wood in the open to be walled if roofed, and beams and the floors they support to be regarded as separate elements for fire protection. If the language has failed to produce either legal or technical precision, it has certainly resulted in confusion. That this confusion would occur was recognised by the Advisory Committee who recommended the production of explanatory memoranda. These have now been published using a much clearer graphic style but they do not succeed in making the regulations seem more enlightened and we are cautiously warned that these are not 'authoritative interpretations'—where are these to be found? Presumably in the courts.

The errors and technical anomalies will no doubt be cleared up in time in a rash of amendments, each one making use of the regulations more involved. That is unless a policy of annual republication is followed, as recommended in the Advisory Committee report.

Ill-drafted and compromised by expediency, the new regulations have become the focus of training courses for local authority officials, explanatory lectures and publications and materials manufacturers' ballyhoo. More serious is the effect on technical development: new materials and panels are being developed at immense cost to meet the requirements of Class 'O' surface spread of flame—a very arbitrary requirement. Why is a $\frac{1}{8}$ in. veneer on a non-combustible base acceptable if the composite material is Class I (BS 476:Part 1:1953)? why not $\frac{3}{16}$ in.? or $\frac{1}{4}$ in.? or even $\frac{1}{2}$ in.? Where is the evidence that buildings have been burnt down because a ceiling panel has been left out?—the reason assumed for disallowing demountable ceilings. What is 'jointless' construction? Why are suspended ceiling constructions allowed for the fire protection of floors in buildings up to 50 ft. in height but not over? Why are sprinklers not considered to have any effect on the size of compartments, despite the proven efficiency of sprinkler systems which are in any case required for underground car parks—an acute fire risk? Class 1 heating appliances must be surrounded by 8 in. thickness of non-combustible material (brickwork?)—hard luck on system builders! Yet although vent pipes are mentioned, no description of their purpose is given or where they are to be placed, or even when they are necessary. (cf Model Byelaws clause 89 with N7 in the new regulations).

Similar instances abound and are tedious to catalogue. The net result of the complication of the language

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Skill

continued from page 147]

and the technical maladroitness of the regulations is, however, a serious loss of productivity in the industry at large and mis-direction of much research and development, as manufacturers try to comply with the requirements. These consequential losses are all the more serious as, like the cost of other forms of muddle (e.g. traffic congestion and planning delays) they are suffered by the multitude and are perpetuated while national economies are sought in more easily identified fields.

We now have central regulations which are an unsatisfactory basis for technical development, favour traditional construction and do not define many of the terms used. After expecting better things we have again 'adequacy' undefined, exactitude without justification and a dispensation of arbitrarily chosen prescriptions.

The Building Regulations 1965 are, however, not truly national. There also exist the Building Standards (Scotland) Regulations 1963 and 1964 and the LCC Constructional By-laws. The regulations in England and Wales are narrowly based on public health and safety in construction, as laid down by the Public Health Act 1961. The Scottish regulations have a rather wider scope and cover some planning requirements such as escape in fire. The London Building Act remains and its writ still runs in the area once administered by the now defunct LCC.

Although there are differences in scope and administration, the requirements of the three sets of by-laws and regulations are basically the same. The Scottish regulations make greater use of performance criteria and are supported by detailed explanatory memoranda, and the LCC Constructional By-laws are more clearly presented than the regulations for England and Wales. Many clauses and deemed-to-satisfy specifications are almost identical in the two main sets of regulations. Yet, similar though the regulations are, differences exist: some major matters like the classification of building uses (see table 1, right), others of lesser significance such as changes in terminology, e.g. divisions and compartments, and different methods of giving section headings and clause numbering. Most of the differences seem wilful rather than necessary. For instance, why should identical classes for surface spread of flame be referred to as Class 'O' in England and Wales and Class 'A' in Scotland? Technical differences such as the interpretation of the word 'boundary' in the two sets of fire regulations suggest that flames are different in Scotland.

England and Wales, Scotland and the LCC agree on superimposed floor loads but present them in slightly different ways. In Scotland, however, a lateral loading of 15 lb. per foot run is not acceptable (a higher proportion of heavy men?) but reduced floor loadings may be allowed.

In some cases the differences are in wording only and in others technical requirements vary. The Building Regulations 1965 were published two years later than the Scottish regulations and these should have provided a good crib. Although advantage has been taken of this in some respects, there seems to be a time lag in transferring experience: for example, jointed ceiling constructions were

Table 1: Comparison of Occupation and Purpose Groupings

	England and Wales Building Regulations 1965	Scotland Building Standards (Scotland) Regulations 1963 Occupancy Group (Schedule 2 reg 5)	GLC* London Building Acts 1930-1939 Constructional Bylaws Class No (table 34)	Comments
Building Use	Purpose Group (reg E2)			
<i>Residential</i>				
2 storey house	I	A1	II	if combined with warehouse, trade or manufacture Class IV for part so used
3 storey house (excluding basement)	III	A2	II	
flats and maisonettes	III	A2	II	
hostels, hotels	III	A3	II	
accommodation for aged or handicapped	II	A4	II	
hospitals and sanatoria	II	A4	II	
<i>Commercial</i>				
offices	IV	B1	II†	Check application of Factories Act to laboratories and studios with HM District Inspector of Factories**
shops	V	B2	I	
laboratories	VI or VII	B2	I	
radio, television and film studios (not public)	VI or VII	B2	II†	
garages (used for maintenance or showrooms)	VI	D2 (E1 if over 400 sq. ft.)	VI	
<i>Assembly</i>				
passenger stations	VII	C1	II	in England and Wales it is implied that a club or public house is a place for immediate consumption of refreshments
grandstands	VII	C1	II	
schools and colleges	VII	C2	II	
clubs (non residential)	V or VII	C2	I	
clinics	VII	C2	II	
public houses (not hotel)	V	C2	I	
churches	VII	C2	II	
theatres, cinemas	VII	C3	I	
TV and other studios (public)	VII	C3	II	
restaurants and cafes	V	C3	I	
exhibition halls	VII	C3	I	
<i>Industrial</i>				
factories	VI	D1, 2 and 3 depending on use	I	England and Wales refers to all buildings covered by Factories Act 1961. Scottish regulations define factories in accordance with the standard industrial classification
agricultural buildings	Partially exempted	Exempt if part of farm of over 1 acre		
mines and quarries	Exempt	D1		
coal mines	Exempt	D2		
ship yards	VI	D2		
<i>Storage</i>				
hazardous goods	VIII	E1		VI
not hazardous goods	VIII	E2		
garages not used for maintenance	VIII	E1		
<i>Plant Rooms</i>				
high voltage transformers and switch gear			V	England and Wales and Scotland consider plant rooms part of main group
oil tank rooms			table 36	
boiler rooms (oil fired)			table 35	

* LCC by-laws principally concerned with multiple uses and cubical extent of building or division

** If manual workers are to be employed the Factories Act will apply

† If combined with warehouse trade or manufacture Class III for part so used

Table taken from Cape Building Products Technical Information 1966

allowed for the fire protection of compartment floors in Scotland before the regulations for England and Wales came into operation, yet they are still not allowed under the latter regulations and an amendment has not been issued.

At a time when the building industry is thinking about Europe as a market, we are still unable to forget the administrative boundaries of an ancient kingdom and a metropolitan administrative area which no longer exists. This is a crazy situation which only favours chaos and the rule of bureaucracy. Architects and builders may do work in all parts of the country, factory-produced buildings may be constructed anywhere and manufacturers may sell nationally. That all these must master three sets of regulations of the type described is a direct tax on efficiency. If the Building Regulations in their present form are unsatisfactory what is required?

First: the introduction of new enabling legislation or amendment of the Public Health Act to include all those matters which require regulation in the construction, installation and fitting-out of buildings.

Examples of those matters that might be included are given in table 2.

Second: the by-laws made under the London Building Act, and the regulations made for England and Wales and those for Scotland must be co-ordinated if not unified.

Third: the regulations must be written

in functional terms and could most conveniently be in two parts:

1. What is required legally: the functional criteria, as far as possible using performance figures capable of demonstration by test.

2. How it is to be achieved: a list of accepted solutions, products, agreement reports and references to national and international standards and codes of practice.

The legal requirements given as functional criteria would change very slowly, can be reasonably brief and would become familiar to users. In the form of a minimum performance specification, this part of the regulations would be of considerable assistance to those developing non-traditional materials and components.

Functional requirements involve no reference to present or future materials and methods. In addition, these are the only terms on which regulations can be brought together internationally.

The regularly published (annual?) catalogue/directory would ensure that the latest innovations were recognised. This part of the regulations would help to disseminate the results of research and development and would allow actual products to be listed in much the same way as is done in the USA by the Underwriters Laboratories.

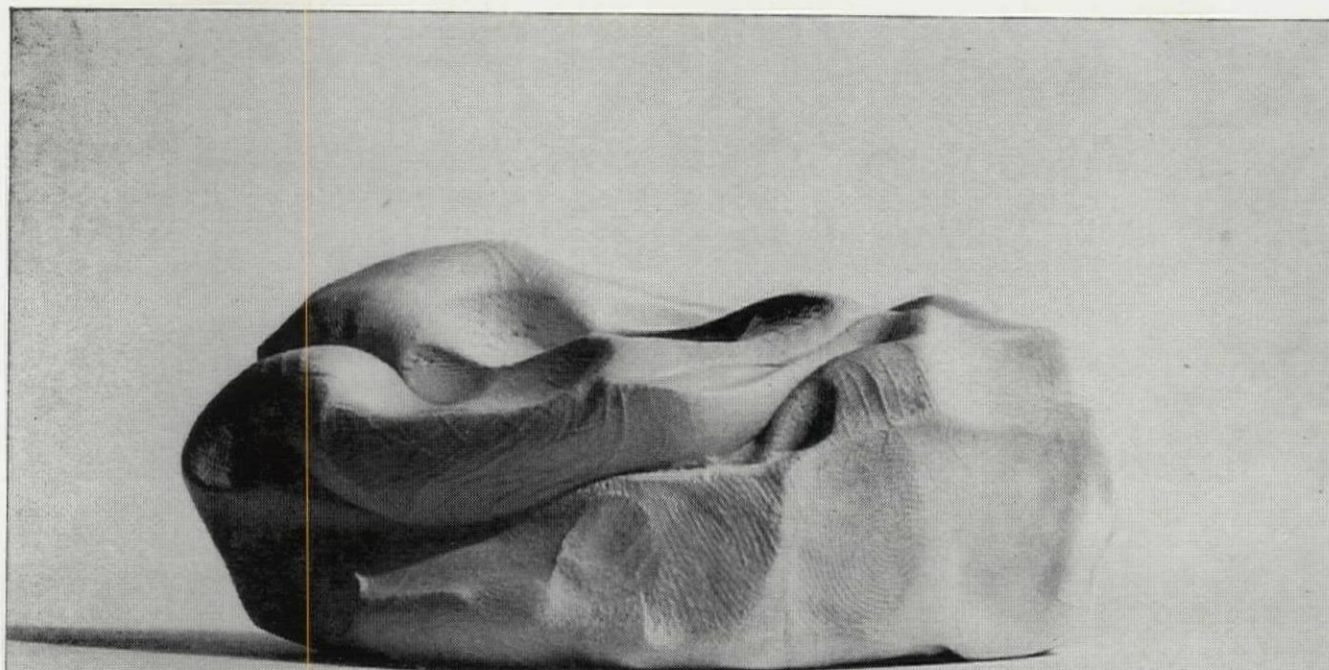
The Building Regulations Advisory Committee favoured the use of functional requirements but felt that

there was as yet insufficient knowledge for this. But regulations and testing go together, and the types of publication suggested would enable performance standards to be used without complicating the life of the building inspector or the small builder. The performance standards could be developed as research provided more exact ways of defining requirements. For example, the superimposed floor loads required by all the regulations at present bear little relationship to actual conditions of use and probably result in a good deal of over-design.

Fourth: the basis of the regulations should be changed from generalized requirements for all buildings to requirements for specific building uses. This is virtually the position at the moment as the present building regulations are orientated towards housing and would be far simpler if other building types were excluded. The requirements of educational buildings are already dealt with separately, and factories are substantially covered by their own legislation. Building uses are becoming more specific and regulations cannot be efficient if the requirements are generalized.

The recent return of responsibility for the Building Regulations to the MoHLG is a simple recognition of the fact that the regulations are essentially concerned with dwellings. The issue of new regulations in the

[continued on page 150]



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Turn the page !

continued from page 148]

Table 2

SAFETY:	FIRE: PROTECTION: structural installations ESCAPE ACCESS STRUCTURAL STABILITY ELECTRIC SHOCK ASPHYXIATION LIGHTNING CROWDS AND PANIC ATTACK BY INSECTS AND FUNGI STORAGE OF EXPLOSIVES, GASES, ETC.
HEALTH:	HEATING LIGHTING VENTILATION WATER SUPPLY HYGIENIC FINISHES SANITATION REFUSE DISPOSAL WEATHER EXCLUSION DAMP PREVENTION VERMIN AND INSECT INFESTATION DANGEROUS NOISE
AMENITY:	SIZE AND HEIGHT OF ROOMS OUTLOOK PRIVACY USE OF BUILDING NOISE CONTROL ACCESS FOR VEHICLES AND PEDESTRIANS
PROTECTION OF PURCHASER:	QUALITY OF MATERIALS THERMAL INSULATION
PUBLIC BENEFIT:	VENTILATION OF DRAINS ATMOSPHERIC POLLUTION STANDARDIZATION MATTERS AFFECTING THE PASSER-BY

form of minimum performance specifications for each building type in turn would allow a gradual transition from the present all-purpose regulations.

Fifth: the regulations must be comprehensive and include all the special requirements for each class of building. Check lists should be included showing all the legislation which must be complied with. An excellent example is the list for factories published in the AJ for May 18, 1966. Too many public offices are at present involved with building control, planning, surveyors, police, fire, water and other utilities, all with particular requirements. Smoke control and similar legislation has to be administered. Combining these requirements into one code for each class of building would ensure certainty of application and speed the design process.

Sixth: the layout of the regulations should be clear and of the highest typographical standard. The language should be plain, concise and unambiguous.

Much has been done to improve the presentation of Government publications generally. Unfortunately Statutory Instruments and similar documents have been left behind. It would be pleasant to think of the building regulations leading a revolution in their appearance and content. These regulations are one of the tools of the industry, and clarity and rapidity of reference would do much to speed production—the check list type of the AJ Design Guides has much to offer in this respect.

To Summarize

The Building Regulations confuse the user, are difficult to interpret and

revise, and will ultimately restrict development of new methods.

A synthesis of existing regulations is no longer satisfactory. Regulations must be a statement of what is required rather than how it is to be achieved.

The regulations must be comprehensive in content and national in effect, and new enabling legislation should be introduced to this end. The regulations should be simple to enforce and administer, clear and consistent, and flexible enough to take account of technical developments.

The speed of technical development, the complexity of building and the increasing importance of proprietary methods and materials must be catered for, possibly by regularly listing approvals in a separate publication. A form of indemnity might be demanded for new materials.

More research should be directed towards establishing the fundamental performance requirements of buildings: this will help both the industry and the formulation of regulations.

The regulations should be the responsibility of a single Government agency and should cease to be a shuttlecock between the Ministries.

There is certainly no easy recipe for the building regulations, but considerably more administrative and technical imagination and energy is required in the effort to achieve one.

The hidden consequential losses caused by the present regulations are immense and it seems that, like the Hapsburgs, we are cursed to move half-heartedly, to stop half-way and to adopt half measures hesitatingly.

The Industry

Seating

A new form of component assembly seating has been produced by Hille. The designer is Robin Day and the British Aluminium Co. Ltd. through its subsidiary William Mills Ltd. has co-operated in the development by the production of the aluminium side members using a new technique of low pressure die-casting. This process produces an extremely fine finish to the metal. These side frames are formed with and without arm rest brackets. Separate seats and backs are either upholstered or of formed laminated veneers finished in teak or rosewood. Each aluminium side piece can be used as a single end frame or as an intermediate double unit. Thus single chairs of rows of units can be assembled as required. Further flexibility is provided by the inclusion in the range of a table top unit bolted between two frames and surfaced in wood veneer or white melamine laminate. Because of the knock down principles employed the units can be packed flat and boxed for easy shipment. No special skill is necessary for final assembly. The design, is, in effect, a develop-

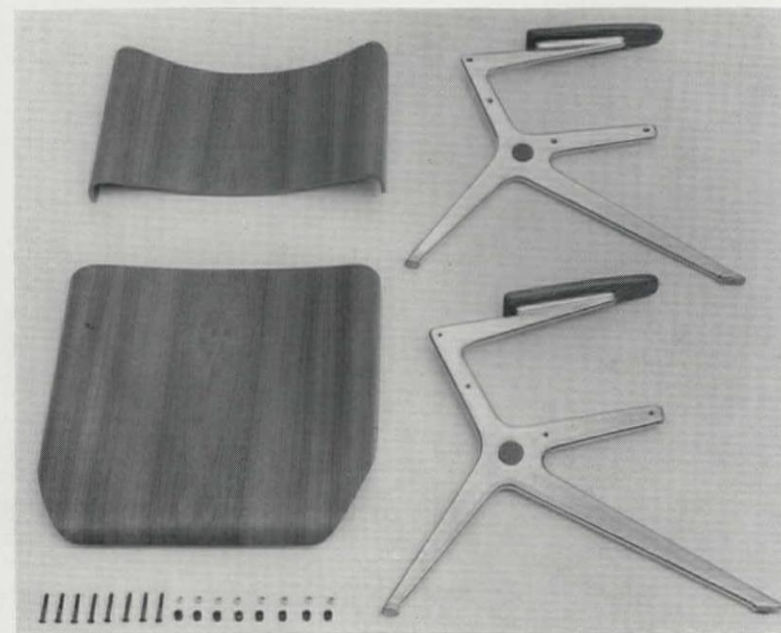


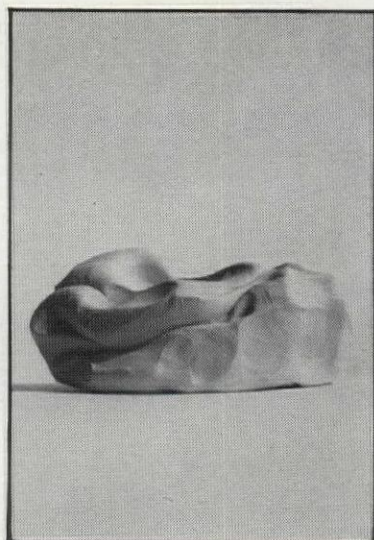
1, two of the upholstered seats in the Axis range designed by Robin Day, with table top bolted between. 2, demounted components of a timber seat with arms. 3, timber seating version of the Axis seating with arms at each end, showing how adjoining seats share one side frame.

ment of the principles used in the design of the successful polypropylene chair which the company produced some three years ago.

Although tooling costs are high, the units are fairly reasonably priced, varying from about £23 retail for a timber side chair to £36 for an upholstered armchair. Hille of London Ltd., 41, Albemarle Street, London, W.1.

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continued from page 150]

External venetian blind

A heavy service venetian blind fitted externally to an aluminium window as a single unit to be operated from the inside 4, is the recent result of co-operation between Venetian Vogue and E. D. Hinchliffe & Sons, specialists in the design and manufacture of aluminium building products.

The blind box of anodised extruded aluminium with its removal cover, is welded into the exterior frame of the window. The slats run on p.v.c.-coated wires held by tensioning blocks at the base and raising, lowering and tilting are controlled by a rod operating-handle (not cords) from inside.

The advantage of such an outside blind is that about 35 per cent greater reduction in solar heat gain can be achieved than with the internal type. For instance, the external blind will reduce 160 Btu/sq/h to approximately 40, while an internal blind would bring it down to only about 100 Btu/sq/h.

The 'Sunway' blind itself is manufactured by Venetian Vogue and stove enamelled in white or silver. It is available with Hinchliffe's aluminium windows of the top hung, bottom hung, or horizontal pivot hung type, the last of which allows maintenance to the blind to be carried out from inside as well as out. Sizes for opening lights go up to 6 ft. wide by 6 ft. high, while the maximum for fixed windows is 50 sq. ft.

E. D. Hinchliffe & Sons Ltd., Tipton, Staffs.

Venetian Vogue Ltd., 240-242 Bath Road, Slough, Bucks.

Copper tube

A notable victory in the struggle with the problems arising from the shortage and high price of copper has just been won by one of the leading manufacturers in the nonferrous tube industry. For the past year The Wednesbury Tube Co. (a subsidiary of Glynwed Limited) has been developing a lighter gauge copper tube for domestic water services.

The thickness of tubes made to BS.659 was established over 20 years ago when the use of copper for plumbing was considerably less than it is at the present time. Since then copper has become universally accepted and experience in the manufacture and usage has shown that the original thickness was unnecessarily extravagant in the use of copper.

The lighter tube (known as 'Black Label') is still more than sufficiently strong for its purpose. For example, $\frac{1}{2}$ in. tube, the most widely used of all sizes, can withstand well over 3,000 lb./sq. in., although pressures normally met in domestic use are less than 100 lb./sq. in. The tube can be bent in the same way as the standard tubing and, because its outside diameter is the same, can be joined by means of all the usual fittings.

Partly because of its novelty and in

order to gain experience with the tube it has been restricted until now to closed circuits (e.g. small bore heating installations) but already nearly 10,000,000 ft. have been supplied for this purpose. Now comes the news that the British Waterworks Association, which tests and makes recommendations to all water authorities about new materials, has decided to accept the tube for general purposes above ground. The originators of the tube are confident that other manufacturers will now follow their lead and that there will be a rapid switch to the lighter specification. Apart from saving copper, this will be of great importance in helping to offset the substantial price increases which have taken place during the last few months as 'Black Label' tube is up to 25 per cent cheaper than the standard material. It is equally important that the tube will make a useful contribution to the balance of payments problem since the tube making industry is a large user of copper. If there is a complete change to the new thicknesses some 10,000 tons per annum of imported copper will be saved, representing at its present price of around £500 per ton, some £5 million. From the point of view of the balance of payments the more economical use of imports is,

of course, as good as an increase in exports.

A leaflet giving technical details of 'Black Label' tube is available from the manufacturers.

The Wednesbury Tube Co., Oxford Street, Bilston, Staffs.

Contractors etc

Hospital Extension, Edinburgh. Architects: Morris and Steedman. General contractor: T. Boland & Co. Sub-contractors: Polishing terrazzo work: Allan & Sons. Tile work: M. McLaughlin Ltd. Hardwood flooring: A. M. Macdougall Ltd. Folding partitions: British Werno Ltd. Suspended ceiling: Stilsound Insulation Ltd. Synthetic screeding and vinyl floors: Dunlop Semtex Ltd. Bench fittings: A. Gallenkamp & Co. Curtains: The Silk Shop. Seating (reception): Findlater Smith Ltd. Plumber work: P. Blackhall & Sons. Bitumen felt roofing and d.p.c.: William Briggs & Sons. Structural steelwork: D. Clerk & Son. Glazier: City Glass Co. Precast hollow floor: Concrete (Scotland) Ltd. Siporex roofs: Costain Concrete Co. Tarmacadam work: H. V. Smith & Co. Scaffolding: Tubular Scaffolding Ltd. Heating: Underhill Heating Engineers Ltd. Sandtex spray finish: Waverley Decorators Ltd. X-ray

equipment: H. A. West (X-Ray) Ltd. Pathe. Carpets: Findlater Smith Ltd. Window blinds: J. Avery & Co. Automatic door controls: Electro-Hydraulics Ltd. Sliding doors: Aluminium Profiles Ltd. Electrical work: Eastern Electric Service. Painter work: Milne & Barclay Ltd. Blacksmith work: R. Thompson & Co. Curtain walling: John Thompson Beacon Windows Ltd. Auditorium seating: Hille & Son. Doors: John Sadd & Son. Pin-up boards: Westland Engineers Ltd. Windows: Cawood Wharton Ltd. Ironmongery: George Boyd & Co.

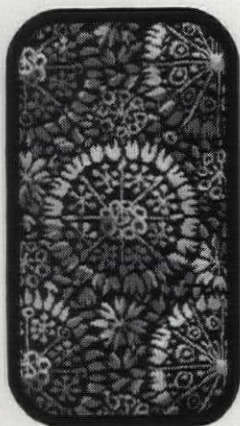
Cinema, Mayfair, London. Architects: Sir John Burnet, Tait and Partners. General contractor: G. E. Wallis & Sons. Sub-contractors: Electrical: Troughton & Young Ltd. Mechanical: Sulzer Bros. (London) Ltd. Lift installation: Hammond & Champness Ltd. Architectural metalwork: Frederick Sage & Co. Ironmongery: James Gibbons Ltd. Louvres: Stilsound Blinds Ltd. Lettering and signs: The Lettering Centre. Delta bronze metalwork: Morris Singer Co. Glass and mirrors: James Clark & Eaton Ltd. Sliding glass windows: P. G. Allday & Co. Terrazzo and mosaic: Alpha Mosaic & Terrazzo Co. Vinyl flooring: Dunlop Semtex Ltd. Ceramic tiles: Harradine Rouse & Co. Granite: Fenning & Co. Kitchen fittings: County Furniture (London) Ltd. Sanitary equipment: Stitsons Sanitary Fittings Ltd. Roller shutters: Haskins Ltd. Pavement and roof lights: J. A. King & Co. Marble and slate: Marmi (England) Ltd. Wood panelling: Richard Graefe Ltd. Signs and lighting: Strand Electric & Engineering Co. Terrazzo: Jaconello Ltd. Fibrous plasterwork: Jonathan James Ltd. Lead-faced panels: Flexo Plywood Industries Ltd. Partitions: Compaction Ltd. Architectural metalwork: S. W. Farmer & Son. Wood flooring: Hollis Bros. Sanitary fittings: Broads Manufacturing Co. Drilling: A. E. Skeet (Water Supplies) Ltd. Portland stone: The Stone Firms Ltd. Piling: Holmpress Piles Ltd. Bricks: Sussex & Dorking Brick Co. Cinema seating: H. Lazarus & Son. Projection equipment: The Rank Organization. Screen equipment: Andrew Smith Harkness Ltd. Sculptural work and lighting: William Mitchell & Associates. Furnishing fabrics: Hall & Dixon Ltd. Carpeting: J. E. J. Quiddington Ltd.

College Chapel, Kirkby Lonsdale, Westmorland. Architects: Building Design Partnership. General contractor: Arthur O. Thoms Ltd. Sub-contractors: Underfloor heating: Benham & Sons. Split block walling: Forticrete Ltd. Internal doors and sacristsy furniture: D. Whittle & Sons (Joiners) Ltd. Electrical: N. G. Bailey (NW) Ltd. Ironmongery: Parker Winder & Achurch. Steelwork: Thomas Blackburn & Sons. Rooflights: Heywood Helliwell Ltd. Lighting conductor: W. J. Furze & Co. Altars (side chapels): Arthur O. Thoms. Altars (tabernacle altar): Broughton Moor Green Slate Quarries Ltd. Foundation stone and side chapel nameplates: David Dewey.

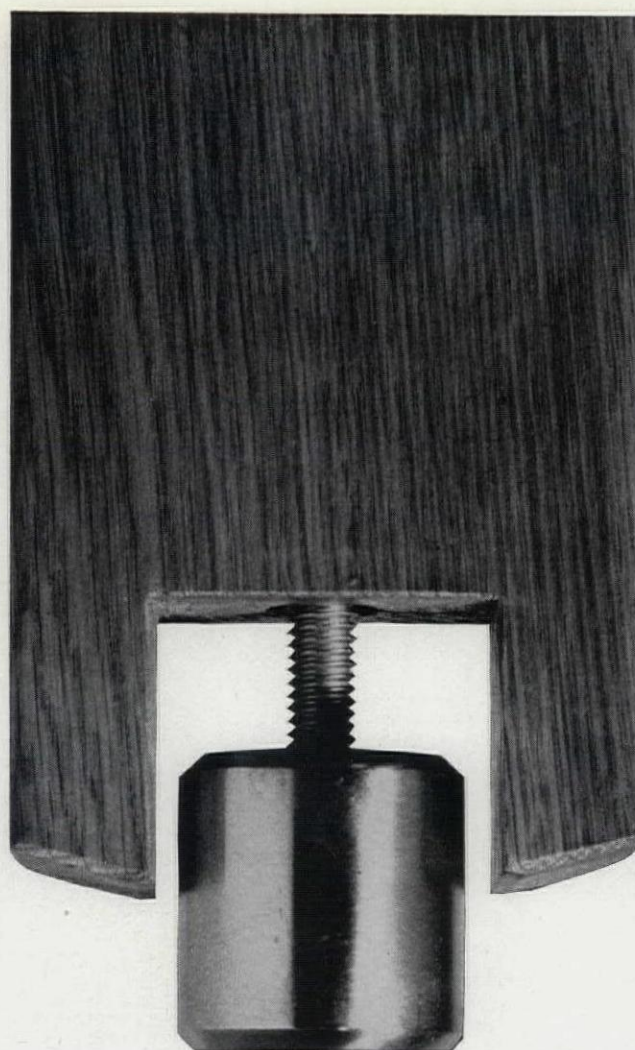
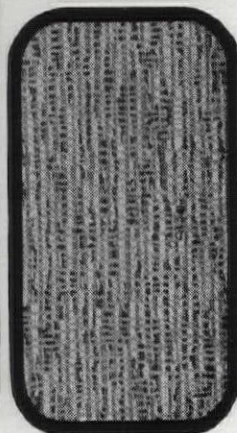
Building techniques, materials and equipment, furnishings and fabrics are the tools that architects must use. Many British and foreign products introduce themselves by way of the REVIEW'S advertisement pages and the AR Reader's Enquiry Service, contacted by using the reply-paid form at the back of the magazine, will produce more detailed information without waste of time.

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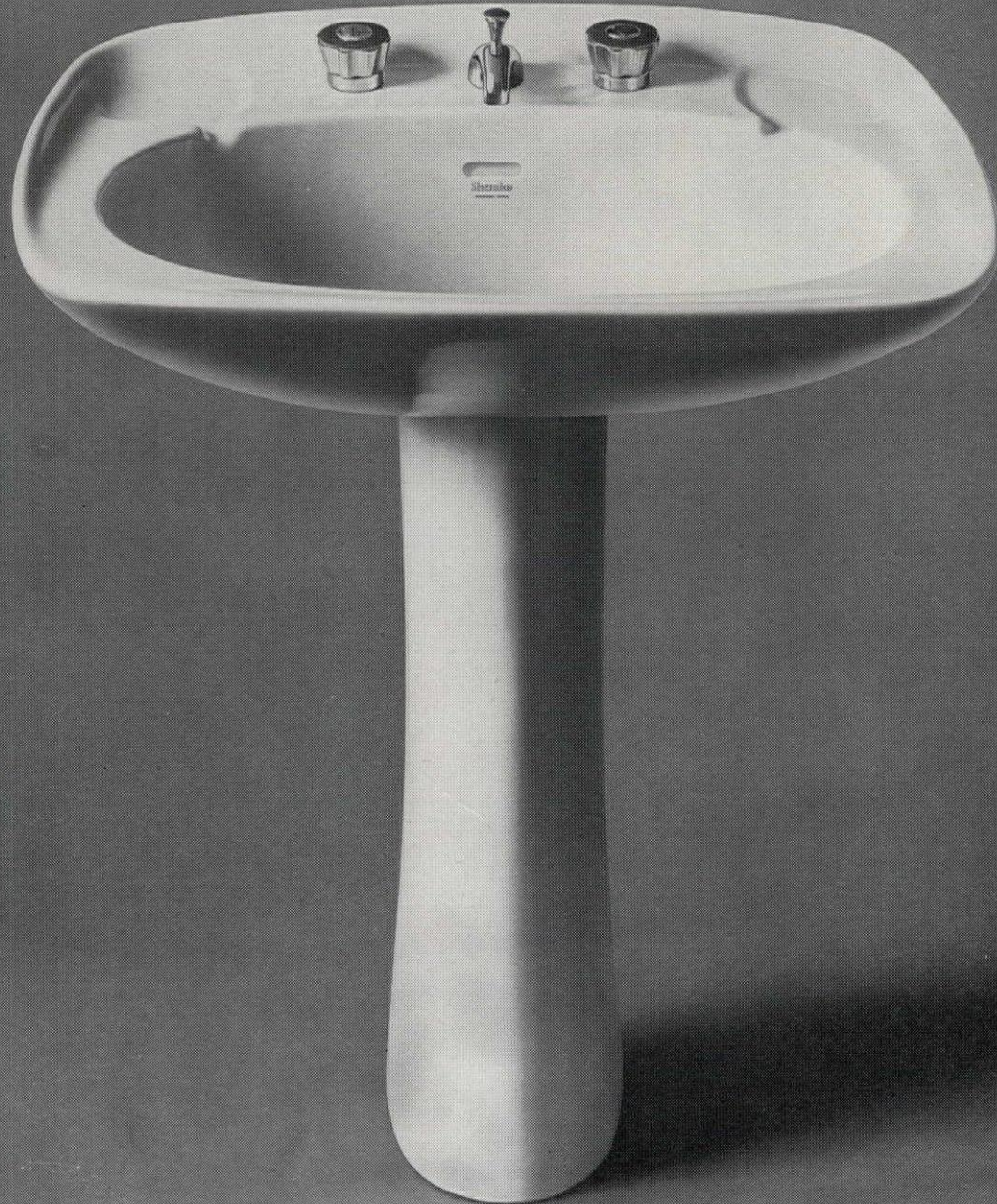


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Barbour Index

Shanks

Ian Nairn

STOP PRESS

A monthly anthology from all over Britain of townscape problems, outrages and opportunities, compiled by Ian Nairn with drawings by Kenneth Browne and G.J.Nason.

SOS

NEW ROMNEY

Just as if its own 'Traffic in Towns,' emphasizing the importance of environment, had never been written the Ministry of Transport carries on the good work of destroying our towns. New Romney is a case in point. The whole character of this attractive place depends on the way the broad, straight High Street is part terminated at its east end by Ivy House which projects at right angles and, in the medieval manner, encloses the street space, 1. A good late Georgian building (listed Grade 2), it is now on the market and 'this favourable opportunity,' to quote the Kent County Surveyor, is being taken by the Ministry to buy it in order to knock it down. Why? All sorts of reasons are given but the main one would seem to be that the High Street, as a trunk road, comes under the Ministry and this is its opportunity to erase an eccentric kink. It can then continue the width of the High Street out beyond the town to join widening already carried out. This brilliant feat will not only effectively destroy once and for all the townscape of New Romney but will invite traffic to charge unimpeded through the only shopping street. Yet one of the reasons given for demolition is the safety of pedestrians. A by pass to the north is shown in the Development Plan but at this rate by the time it is built there will be little or nothing to save. K.B.

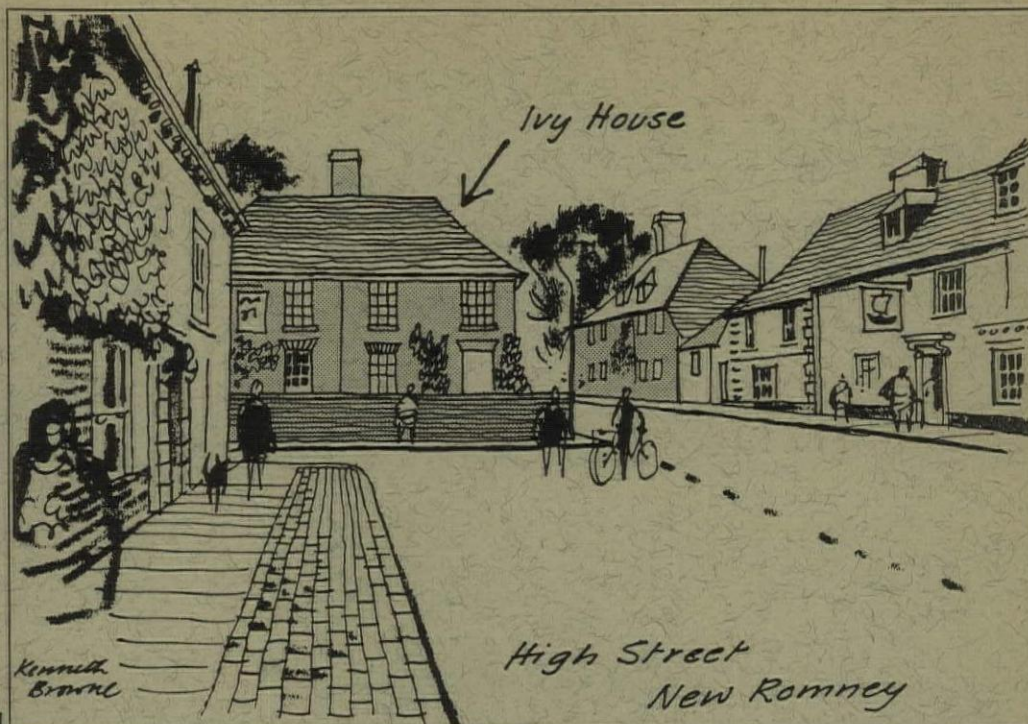
HAMILTON, LANARKSHIRE

Chatel Herault, the Duke's Dog Kennels, 2, built by William Adam after a bet with a Frenchman and now menaced all too clearly by sand workings. As Scotland's nearest equivalent to William Kent it is well worth keeping. The present contrast of elegance threatened by chaos is emotive too.

CREDIT

NIDDRY CASTLE, NEAR EDINBURGH

An accidental credit: the medieval castle, 3, thrown into the landscape against a huge bing of pink shale. Pointless to soften, plant or remove the industrial evidence: each is enhanced by the other.



1



2



3

DUBLIN

A new shop near Trinity College, 4, a happy indication of the wit that modern Irish architects could bring to town renewal—if they were given the chance.

ASHWELL, HERTS.

With so many shrubs bedded out in the wrong parts of towns, it is especially refreshing to find them used wittily and



5

in the right place. This shop has enough chic to take its place in the best of French towns, 5.

MONMOUTH

The Beaufort Arms, 6, after an unhappy diversion into lime green is now back as it should be, in black and white. Thanks.

OUTRAGE

PONT-Y-BEREM, CARMARTHENSHIRE

Architecture as she used to be spoke in



7

England 15 years ago and still is in Wild West Wales as this new school in Carmarthenshire shows, 7.

HOLLESLEY BAY, SUFFOLK

Stupidity rather than outrage. A notice some miles away from H.M. Hollesley Bay, 8—you may know it better as Brendan Behan's Borstal on the Suffolk



8

coast—an attractive heathland which in fact is the perfect place for 'camping, picnicking.' We do not have land enough to fritter away on this kind of idle authoritarianism.

EAST KILBRIDE, LANARKSHIRE AND WARE, HERTS.

Bad weathering on new buildings four hundred miles apart; blotched walls on a C.C. fire station at East Kilbride, 9, and stained lintels on the Bridgefoot scheme at Ware, 10. No way to gain converts for modern architecture.



4



6



9



10



Clinical Colour

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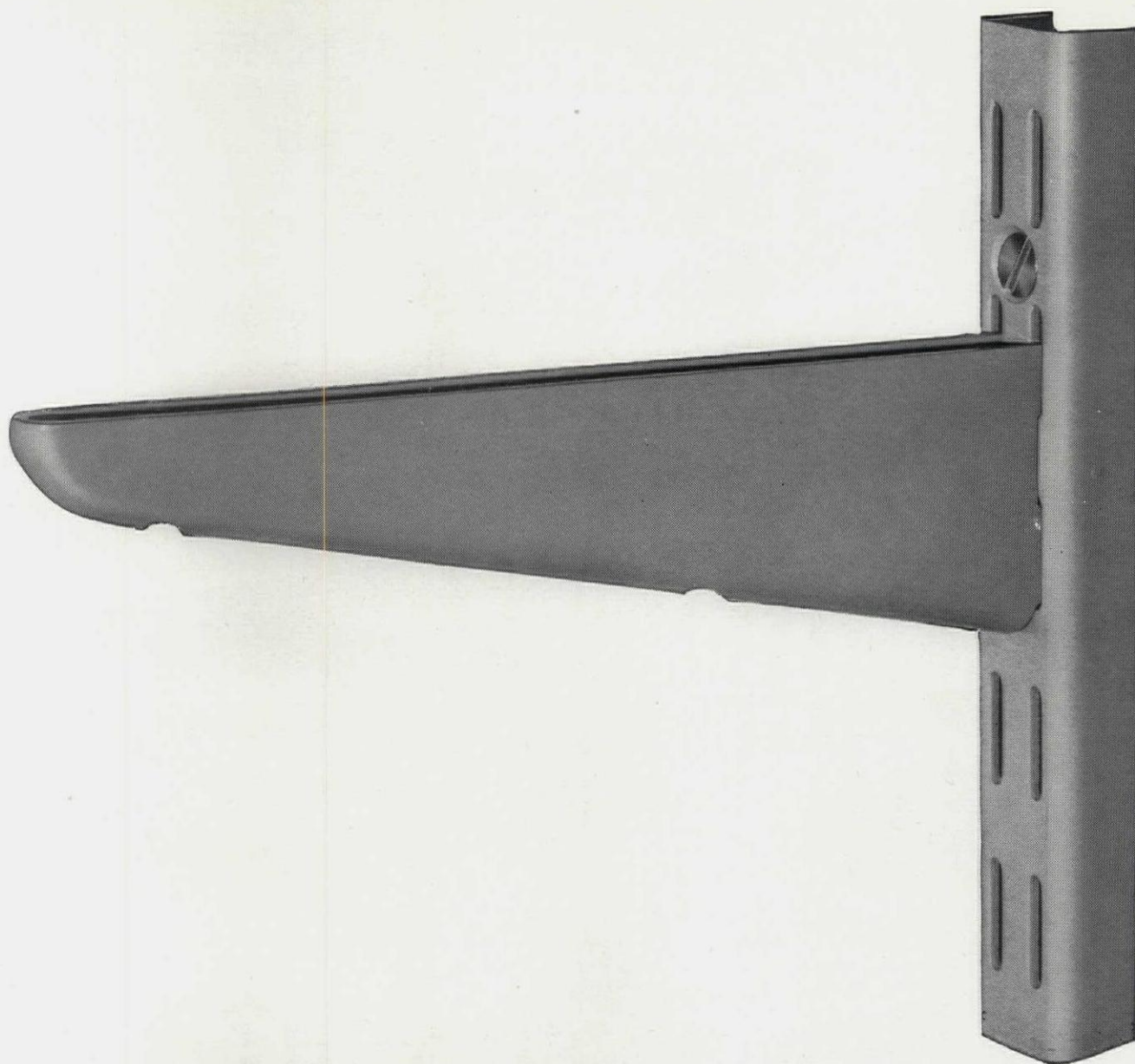
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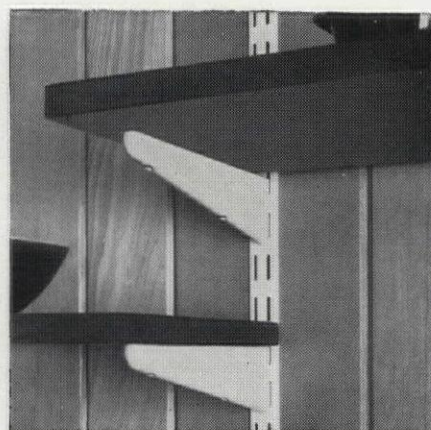
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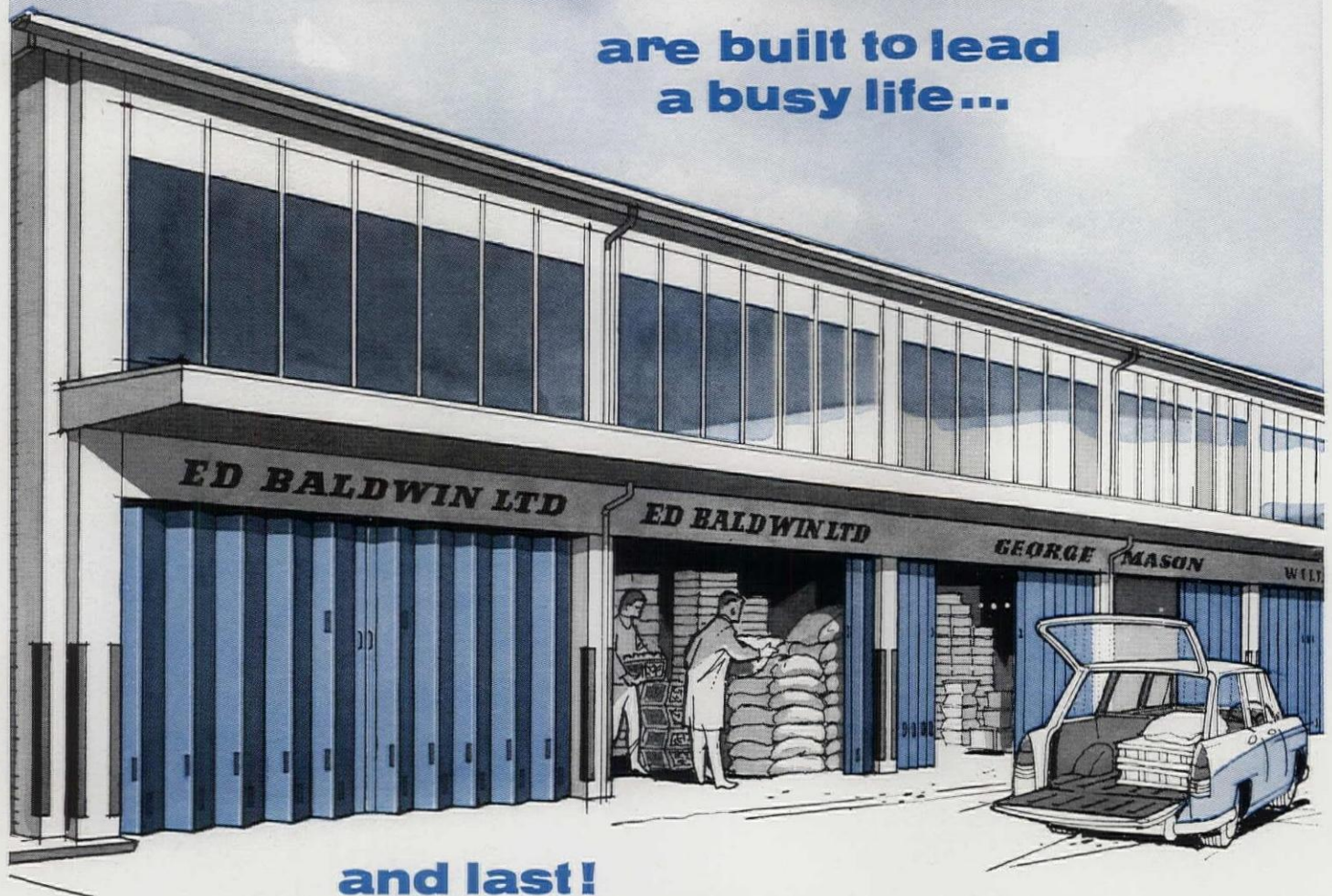


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SSO

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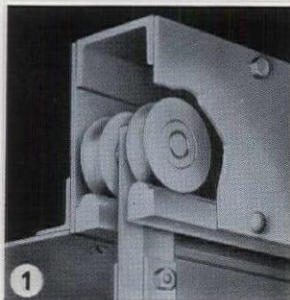


and last!

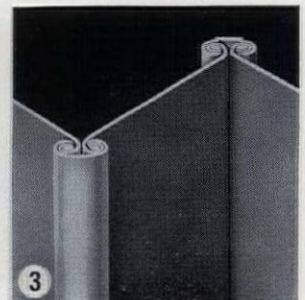
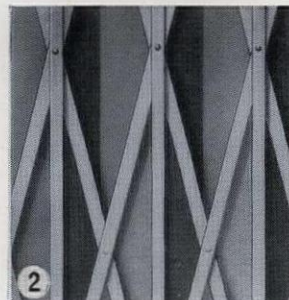
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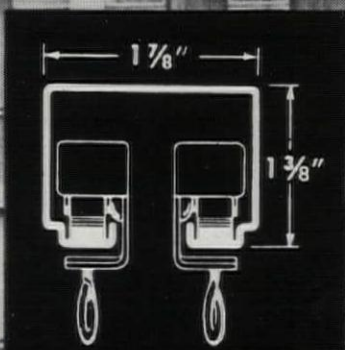
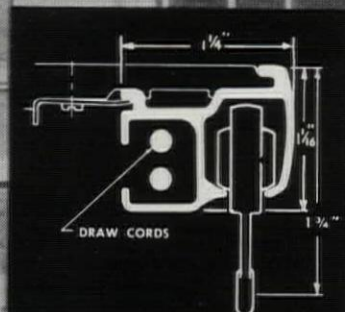
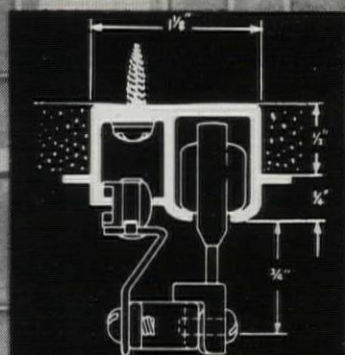
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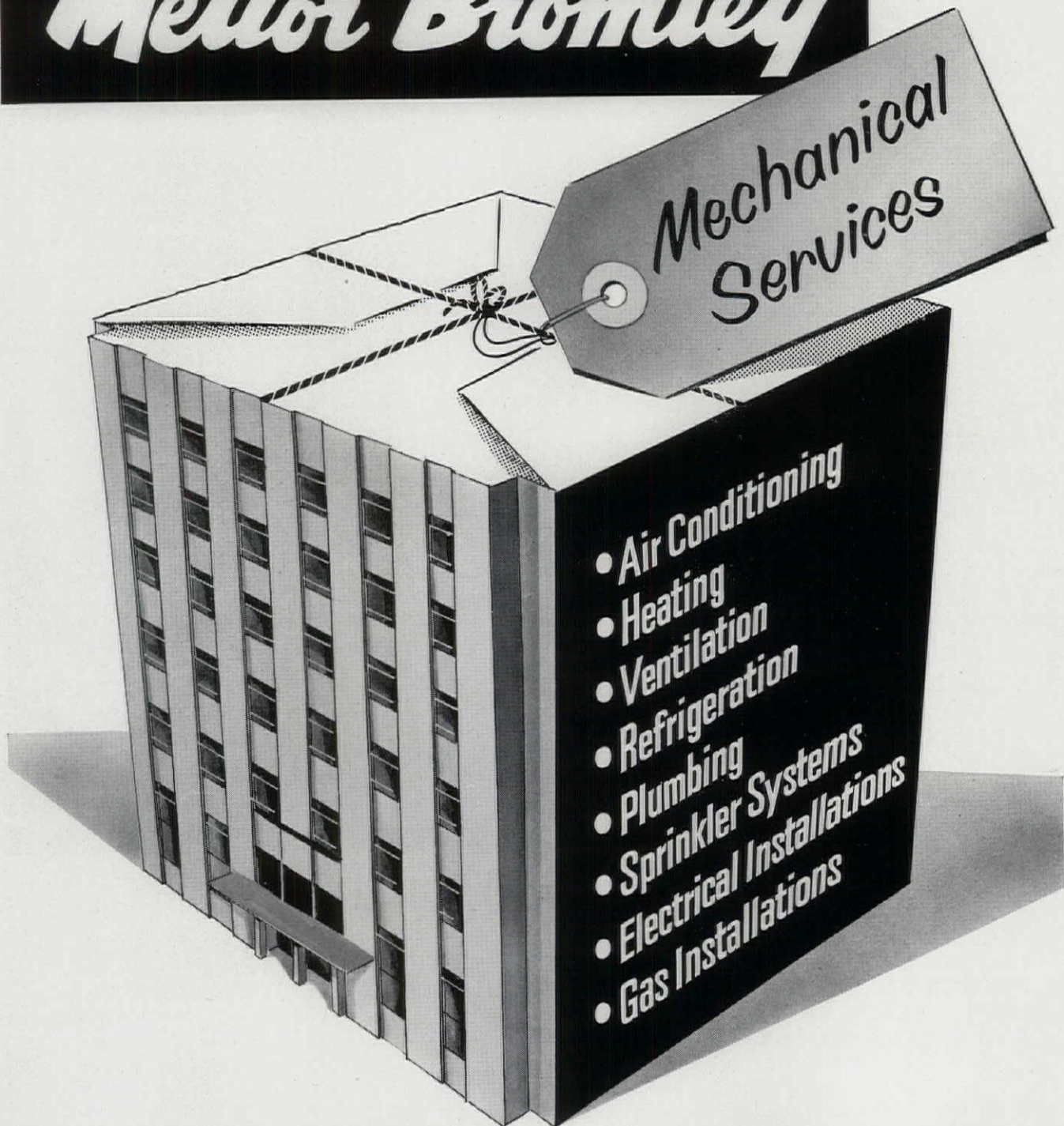
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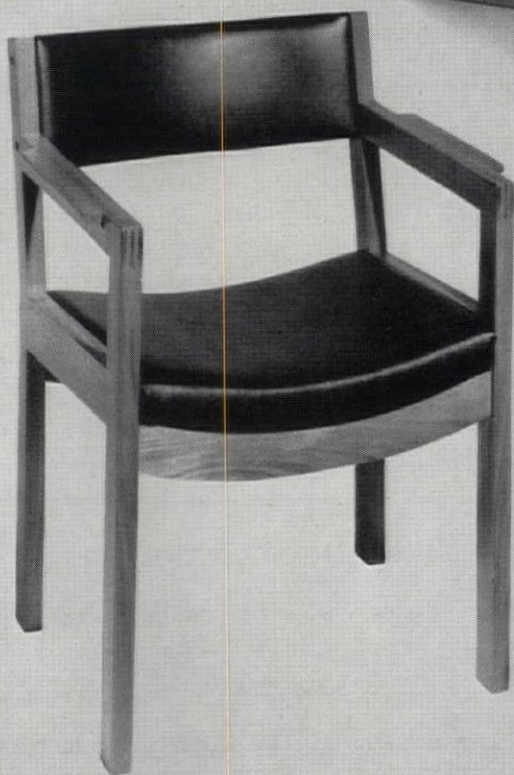
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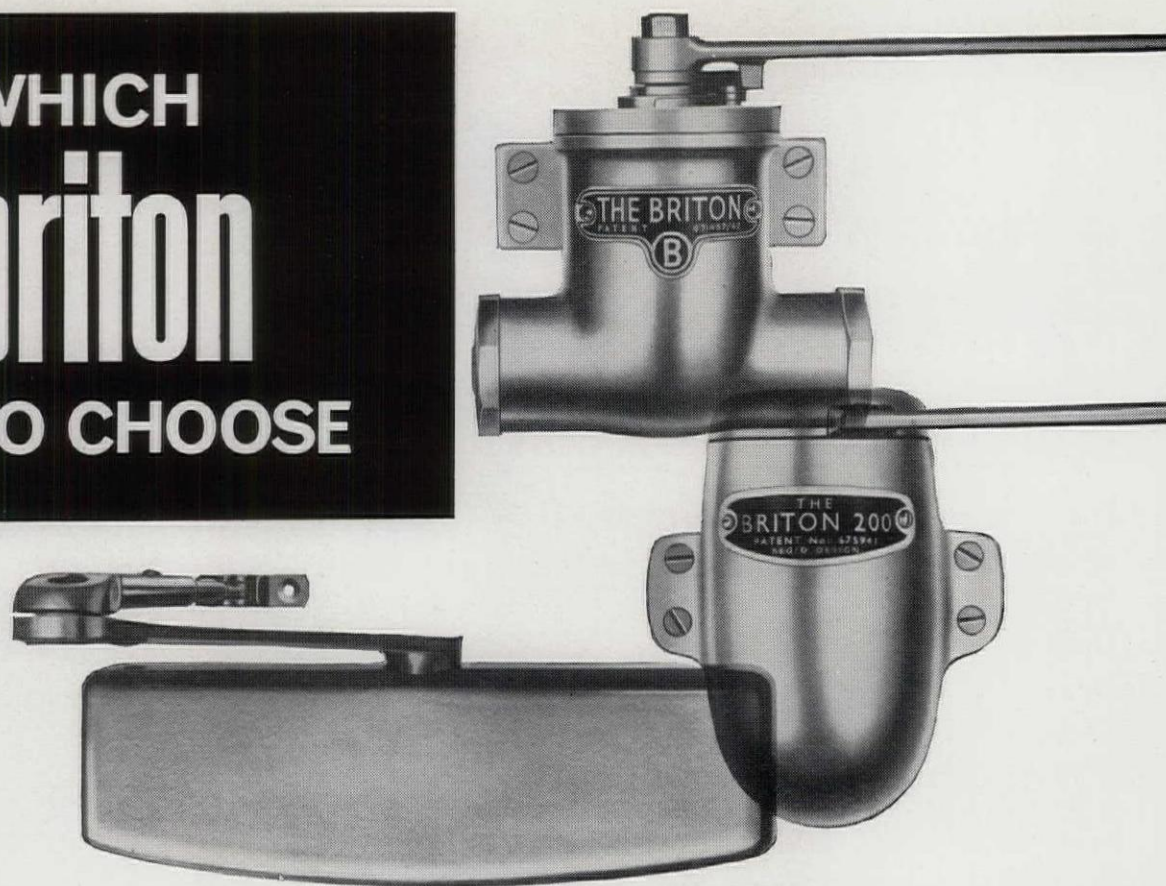


PL 81



PL 80

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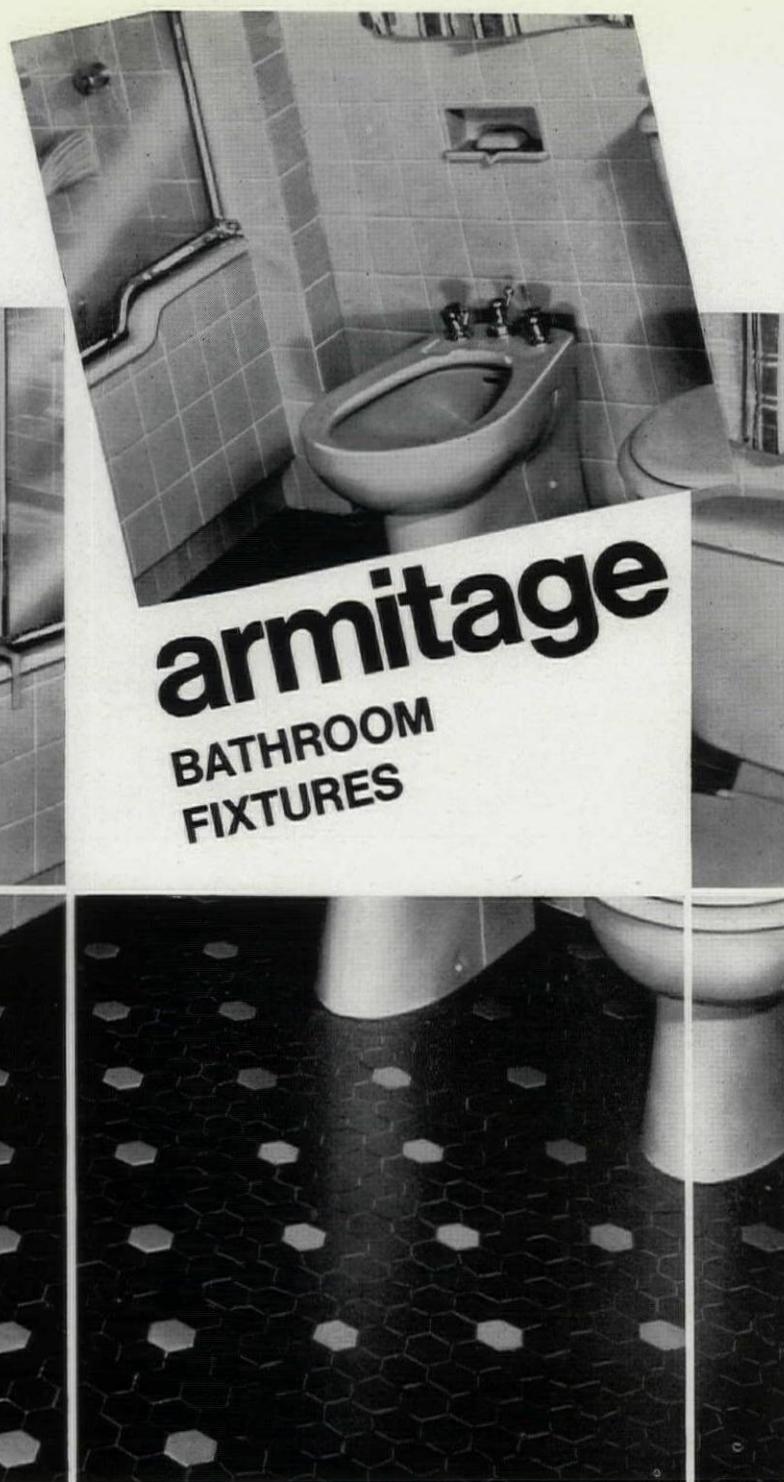
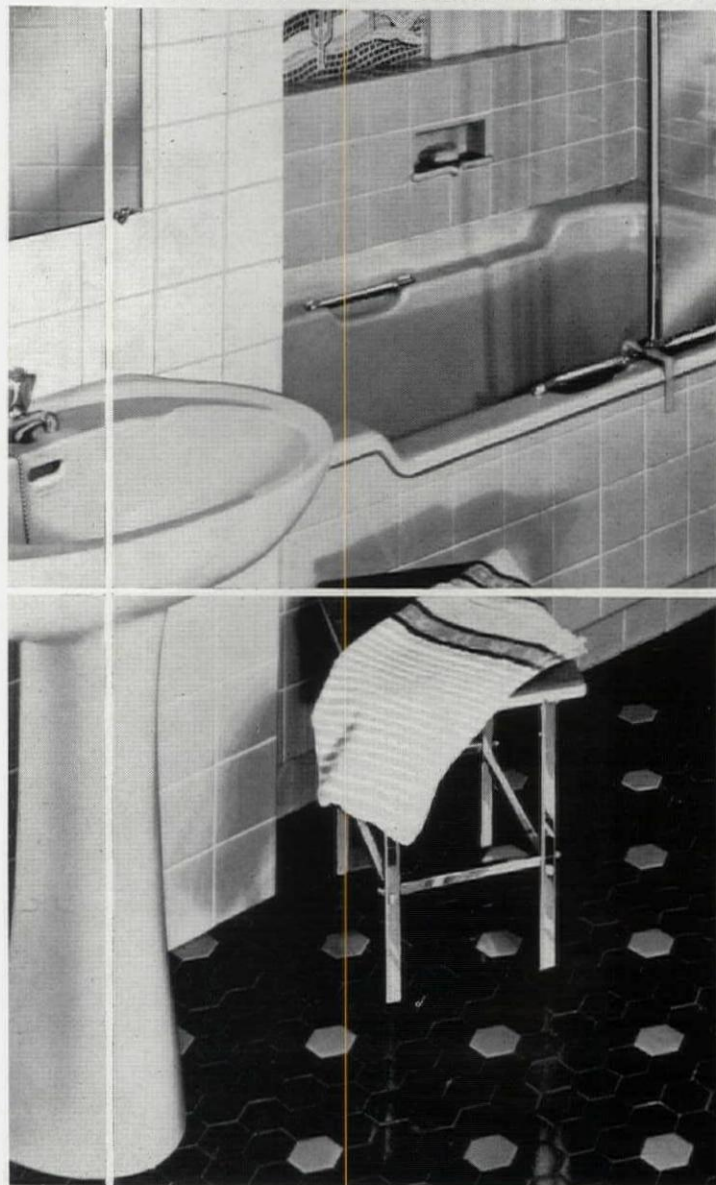
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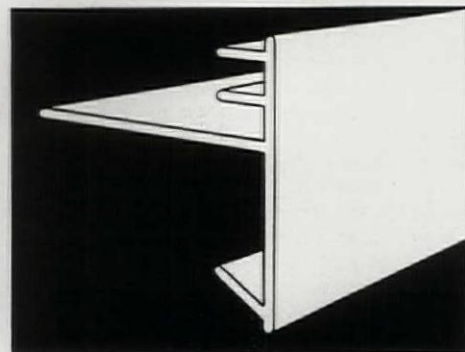


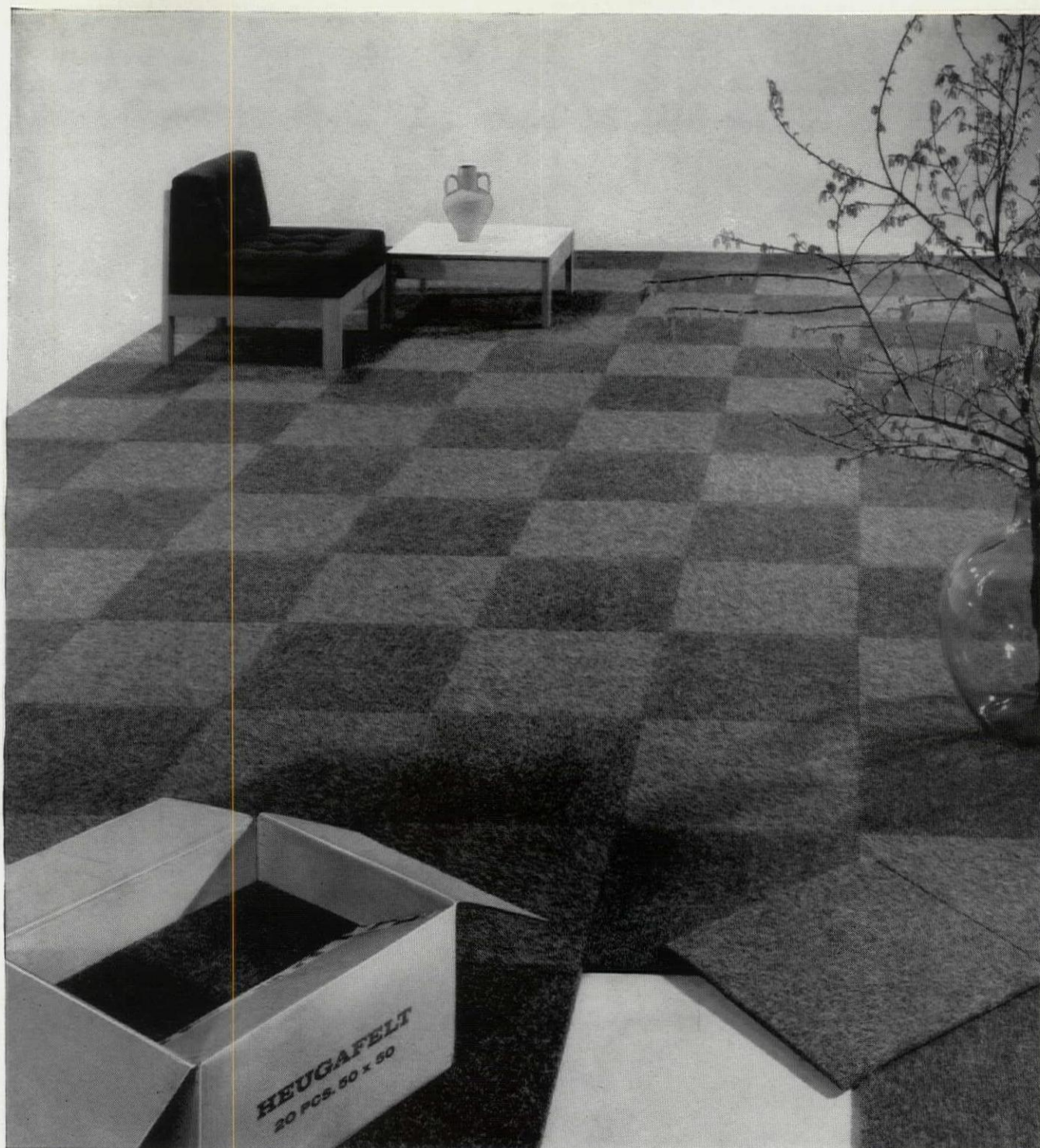
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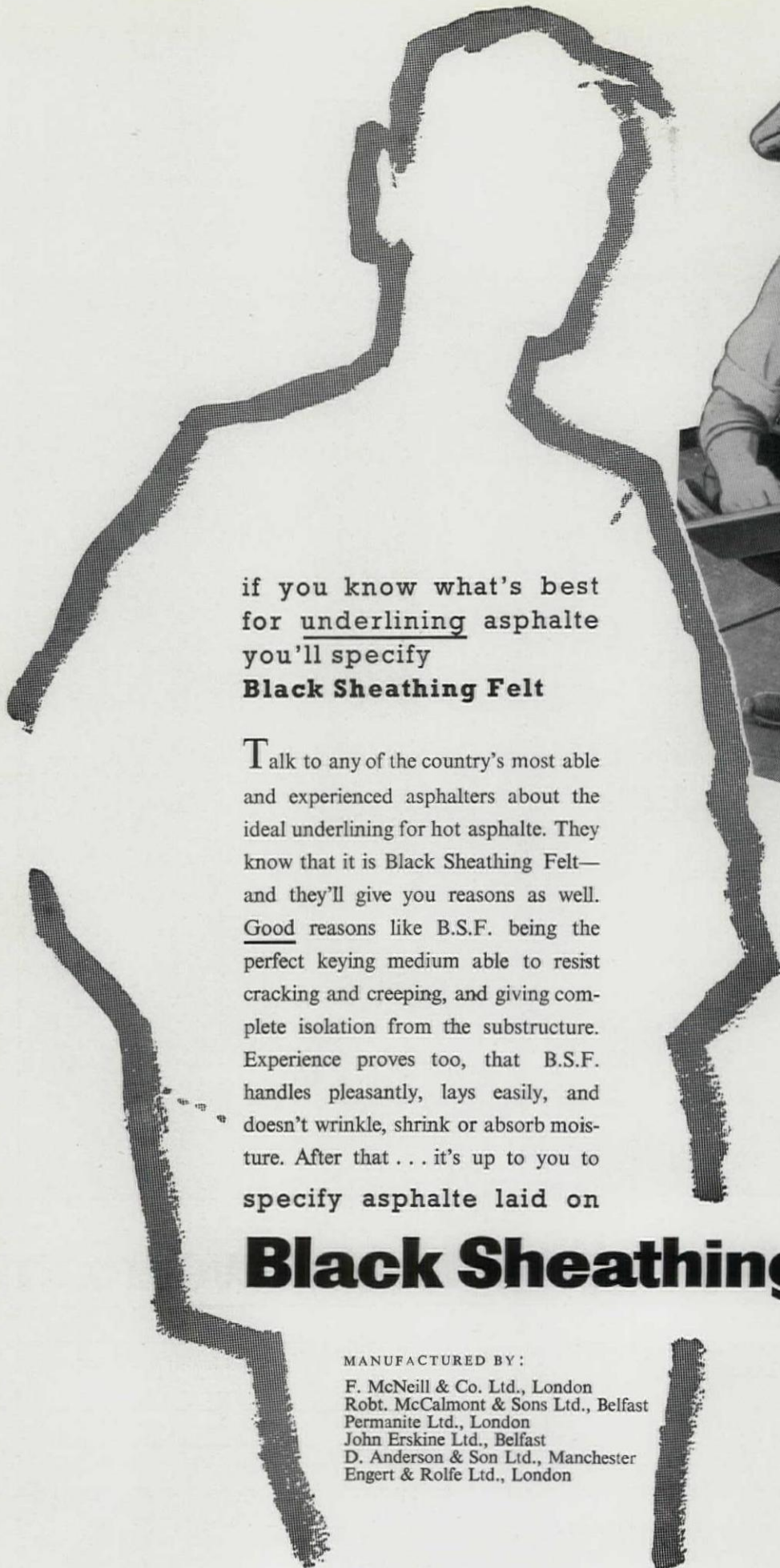
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Patent glazing has had a very distinguished history. Its roots go right back to the splendid early Victorian greenhouses and in its heyday, a hundred years ago, this early mass-produced product was a contributory cause of some very astonishing buildings—not least the many big metropolitan railway stations, the Crystal Palace, and the Palm House at Kew.

When patent glazing began it was mainly a wooden bar with lead flanges to hold the glass. Today, the glazing bar is made of either steel or aluminium alloy. The steel bar is of three types: (a) enclosed in an extruded and jointless lead sheath sealed at both ends and with the glazing wings as part of the sheath; (b) a hot dipped galvanised bar fitted with a non-ferrous metal cap; and (c) a steel bar completely enclosed in an extruded jointless PVC sheath with sealed ends and fitted with plastic capping. Aluminium alloy bars have extruded lead wings inserted as part of the bar or aluminium wings or cappings. Glass thickness is normally $\frac{1}{4}$ in and is usually Rough Cast or Wired although toughened, coloured and heat absorbing glass can also be used.

After years of comparative obscurity and utilitarian application, when it was mainly viewed as a satisfactory way of providing north light for factories and studios, the technique of patent glazing has lately re-emerged as a vital element in some of the best of modern British architecture.

Mentioned in this review are some recent projects where patent glazing has been used with the greatest *élan*. Far from it resulting in stereotyped, repetitive solutions, which is one of the dangers of a mass-produced product, this cheap, flexible, maintenance-free, standardised building system is capable of astonishing exploitation leading to exceptional results—as this review bears out.

Leicester University Engineering Laboratory

architects: James Stirling and James Gowan

This building was finished in 1963. Its impact has been profound and its influence on current architecture, both here and abroad, is enormous. Its importance in the context of this review is that conventional patent glazing bars, of a type normally used in industrial buildings, were used to support the glass and cladding panels throughout the building. Speaking of it Stirling said: 'To construct the shape of the roof lights, and the complicated ceiling glazing, and the slope-sided glass walls in the tower that were fundamental to the design concept a glazing bar had to be found which could adapt to the complicated geometry and junctions which resulted. Without the flexibility inherent, but not normally exploited, in this aluminium bar, it would have been impossible to build this particular design. By using this material an architect is less inhibited in designing the outer building skin than when he uses any other form of curtain walling. He is therefore able to achieve a freer and more unique architectural solution. The University required this building to be of low cost and maintenance. This type of aluminium bar is one of the cheapest forms of metal glazing available and by placing the structural part of the bar inside, only the non-structural caps, which are exposed to weathering, will have to be replaced. This may be necessary after several years, however it will be a rapid operation and the overall cost considerably less than normal annual maintenance.' One of the side results of this use of cheap glazing materials was that the architects were able to use the money saved in their budget to specify more expensive materials elsewhere. The detail shows the cross section through the podium wall and roof of the lower workshop block. The cladding is a light-diffusing sandwich of two sheets of glass enclosing fibreglass mats.

Photo: James Stirling

ShIPLEY Salt Grammar School, West Riding of Yorkshire

architects: Chamberlin, Powell and Bon

This building was finished in 1965. All the classrooms have side-lighting on two sides in conventional windows and the first floor classrooms are also lit from above by $\frac{1}{4}$ in Georgian Wired glass in normal patent glazing bars. Where the Thermalite block partitioning between the rooms meets the continuous overhead glazing (A in detail) the daylight frames and timber purlins butt against the glass with a sponge plastic strip

seal (B). 32oz double sheets of glass (to reduce airborne noise) are set in wash leather and held by 1in by $\frac{1}{4}$ in hardwood beads.

Photo: John Isaac for Architects' Journal

Comprehensive School, Pimlico

architects: Hubert Bennett,

Architect to Greater London Council;

Michael Powell, Education Architect,

Inner London Education Authority

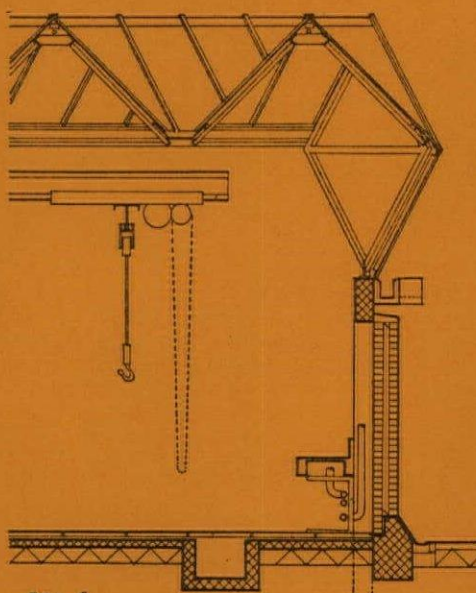


fig 1

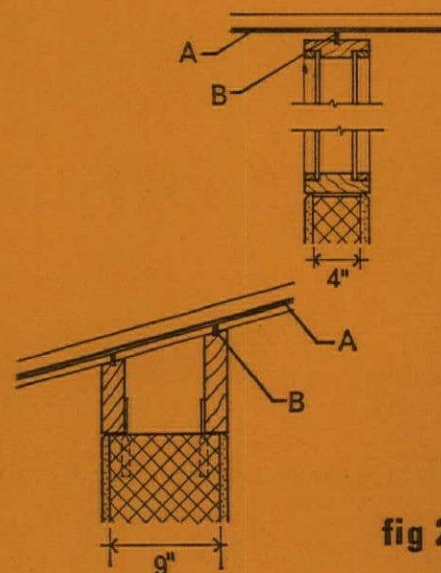
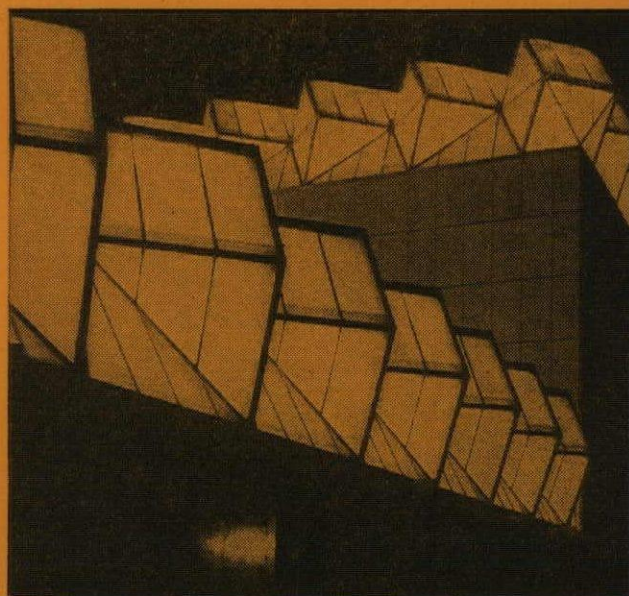


fig 2

Construction of this project will start in April next year. The entire school, whose layout must be near-unique even for London schools, will be double patent glazed (A) in a bold window design with a character not unlike that of an artist's studio. Here, to bring daylight right into the depths of the long narrow classrooms, the glazing becomes both the walls and the roof. Running



right down the spine of this 3-4 floor building will be a wide, lofty 'circulation street' overlooked by galleries leading to the rooms. This, too, will be lit via patent glazing. In the roof between the double sheets of glass a sheet of expanded polystyrene will be sandwiched to cut down glare and diffuse light. Blinds, which can be drawn across roof and walls, will exclude sunlight when necessary. The final form of the glazing which the architect says is fundamental to the whole design, is still being worked out so the actual detail is not shown here.

Swimming Baths, Walton-on-Thames, Surrey

(4)

architects and engineers: Arup Associates

This indoor pool, with an exceptionally graceful structure, was finished in 1965. It provides public swimming facilities throughout the year and will be used for teaching children to swim during term time. The whole pool is covered by a glass envelope of ordinary patent glazing which is set vertically at the gable ends as huge transparent walls, and between the precast concrete 3-pin arches spanning 76 feet across the pool. Each trough section frame, which is 9ft 3in wide at the springing is supported on a column and counterbalanced by the overhanging tail forming the roof of the changing rooms along the long sides. The triangular shaped rooflights (A) set between each frame, have $\frac{1}{4}$ in Wired Cast glass set in lead-sheathed steel patent glazing bars. The gable curtain walls have $\frac{1}{4}$ in Sheet glass.

Photo: Colin Westwood

Hunterston Nuclear Power Station

(5)

architects: Howard V. Lobb and Partners

Patent glazing has been extensively used (a total of $7\frac{1}{2}$ acres of which a quarter is double, see detail) in this vast power station which was opened officially in September 1964. The site is very exposed, on a bluff by the sea, and is buffeted by Atlantic gales. Even so, conventional patent glazing has been used throughout. Although such glazing on so large a scale is fairly commonplace today, this example is one which comes closest, it might be said, to the design concept of a building as a free-standing glass weather-resisting envelope. The effect at night, particularly, when the structure is illuminated from within, is very dramatic.

Photo: Bryan & Shear Ltd.

Glengall Grove Footbridge, Millwall Docks

(6)

engineer: G. A. Wilson, Director of
Engineering, Port of London Authority

This totally glazed footbridge which has just been finished at the Isle of Dogs spans a channel used by sea-going ships. One section, therefore, was designed to lift vertically to let them through. As can be imagined, this unusual structure raised some interesting design problems. All the materials used had to be capable of resisting stresses caused by live, dead and wind loads and the effect of hinging from the horizontal to the near vertical position. The side walls of the whole bridge, which has a total run of more than 2,000 feet (with 900 sheets of $\frac{1}{4}$ in 'Armourcast' glass) is clad in aluminium patent glazing with the only departure from normal practice being the provision of special sponge seating (B in detail) and beading-in of the glass on the 104ft long lifting span. The height of the glazing is 7ft 5in. While this design may not have a direct bearing on architecture as such, it nevertheless could point the way to some very original ideas in future schemes where movable roofs, walls, etc. may be envisaged.

Photo: Sydney Newbery

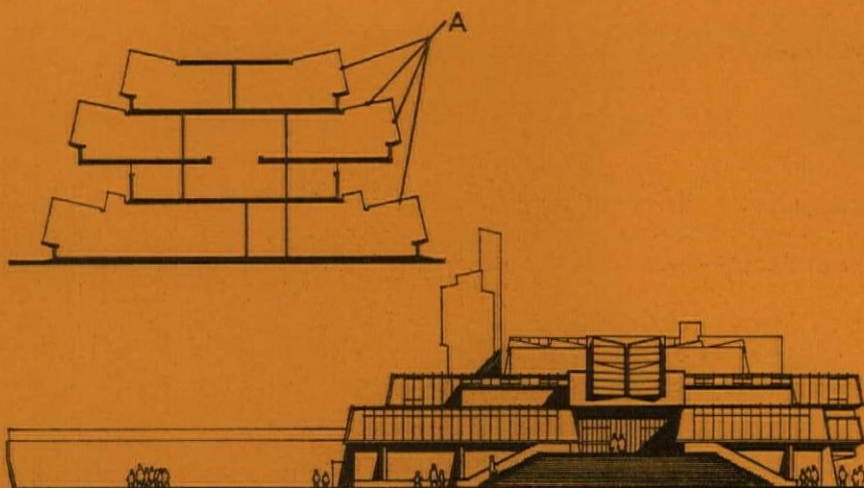


fig 3

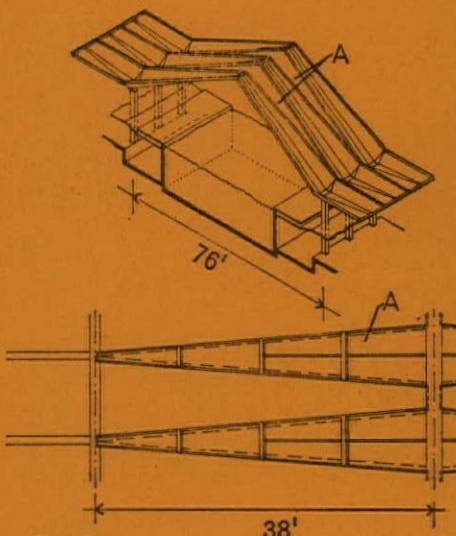


fig 4

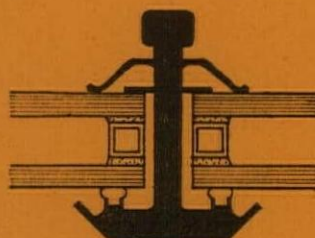


fig 5

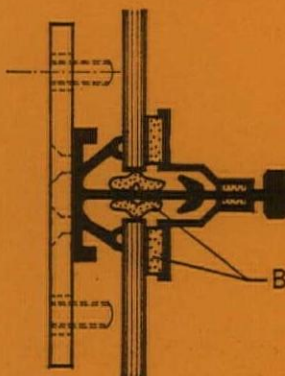
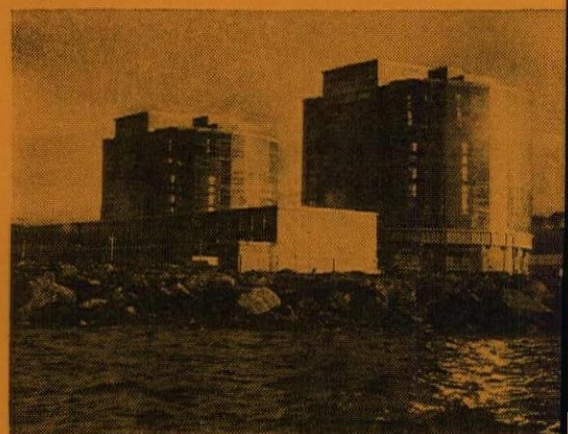
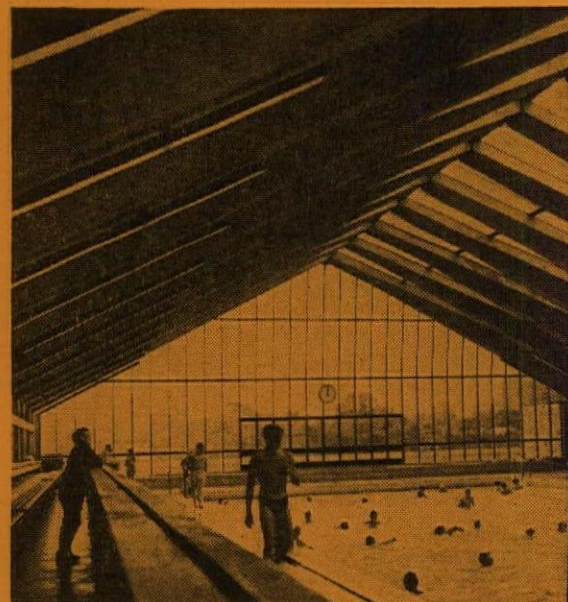


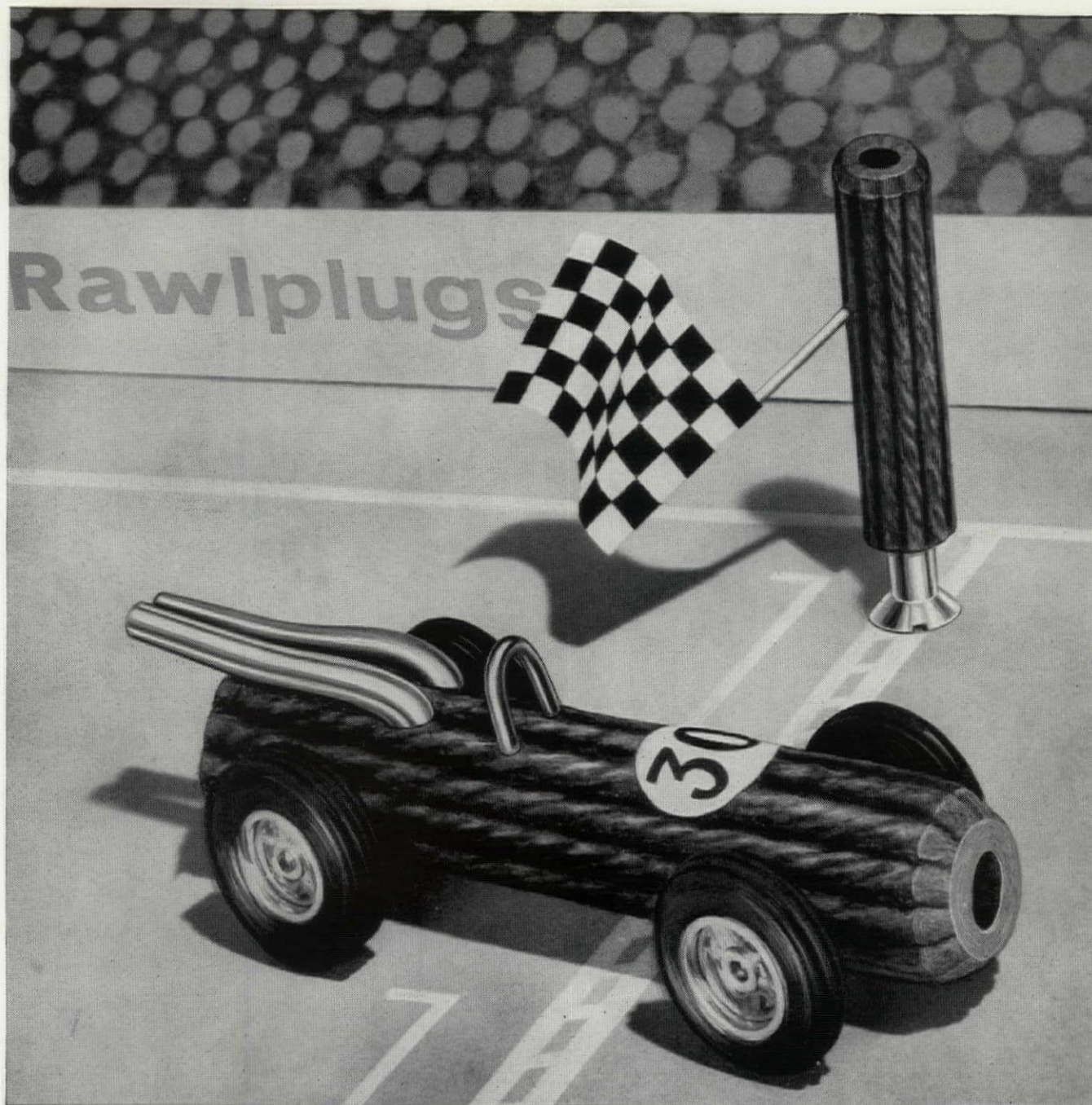
fig 6



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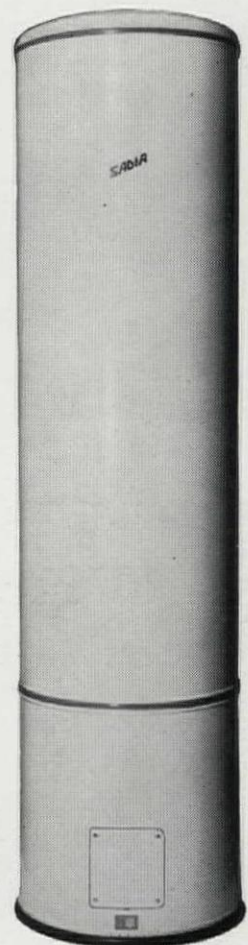
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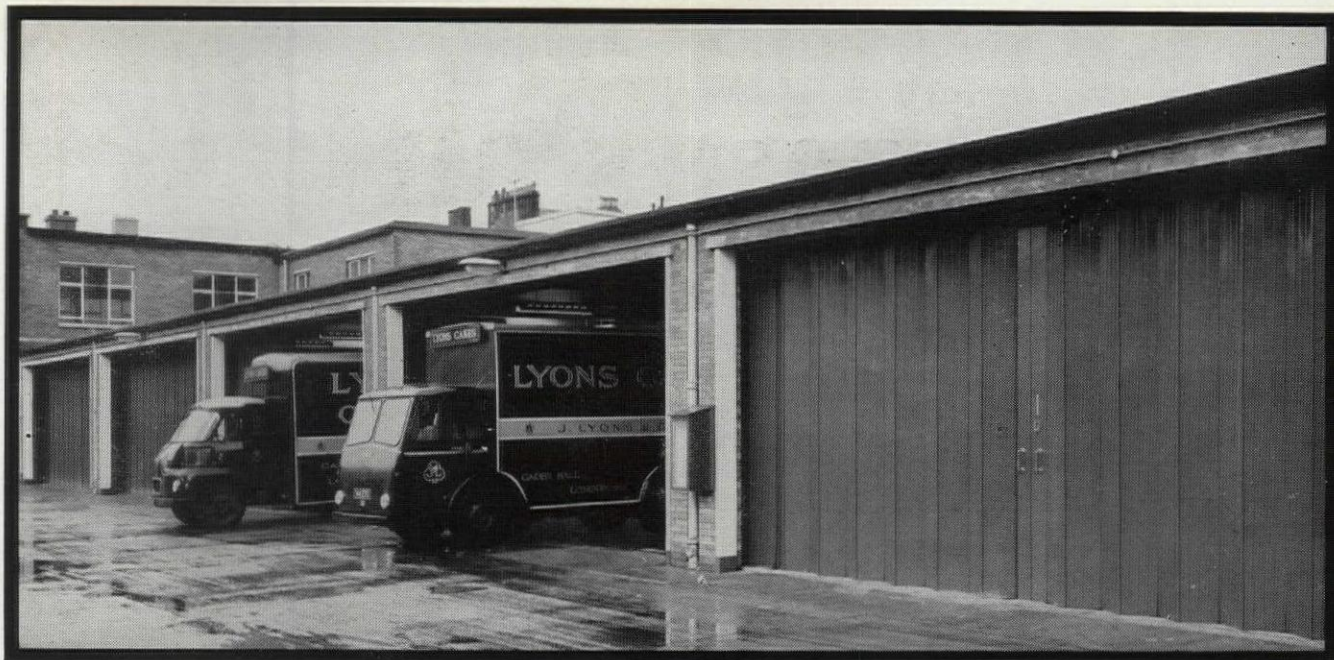
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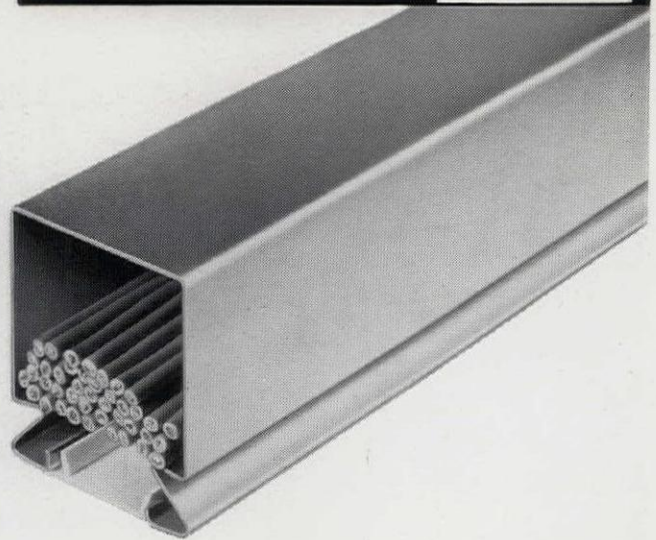
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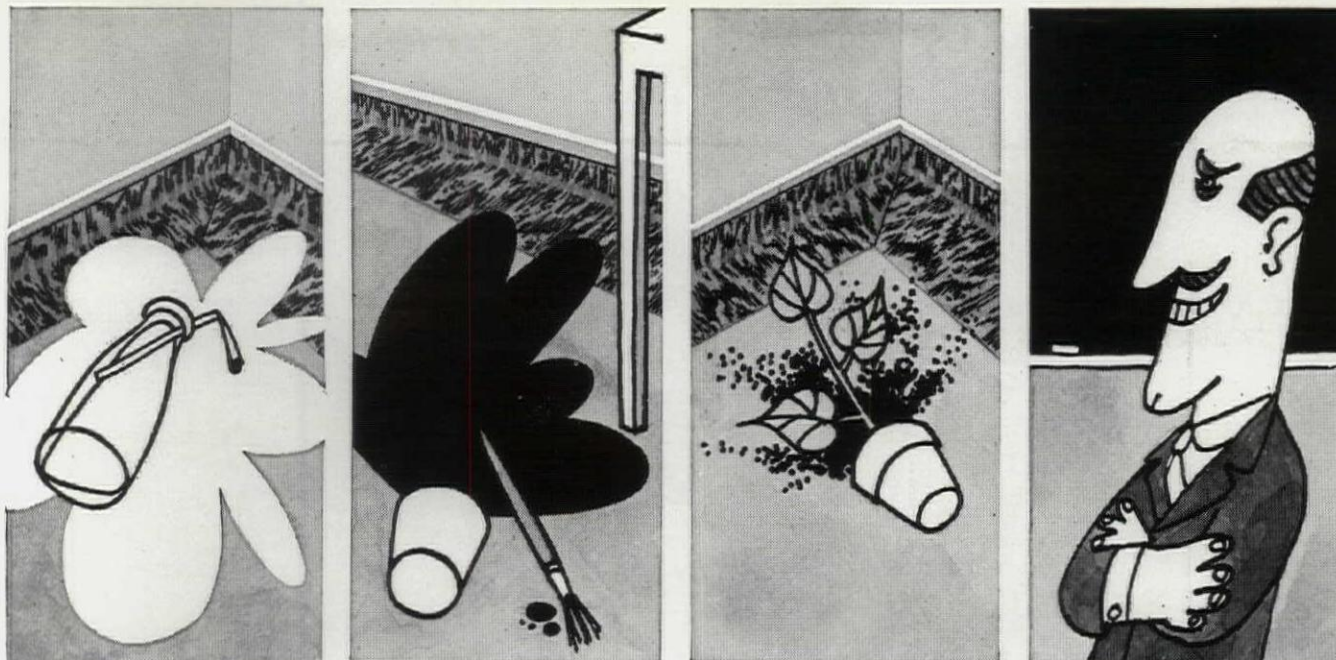
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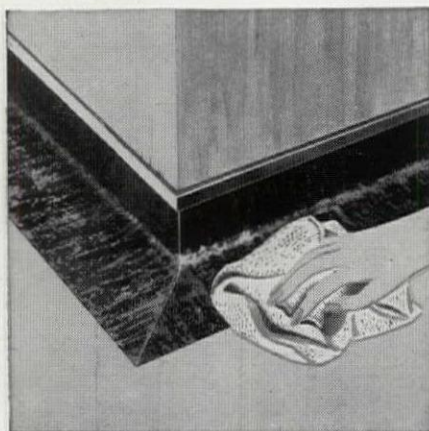
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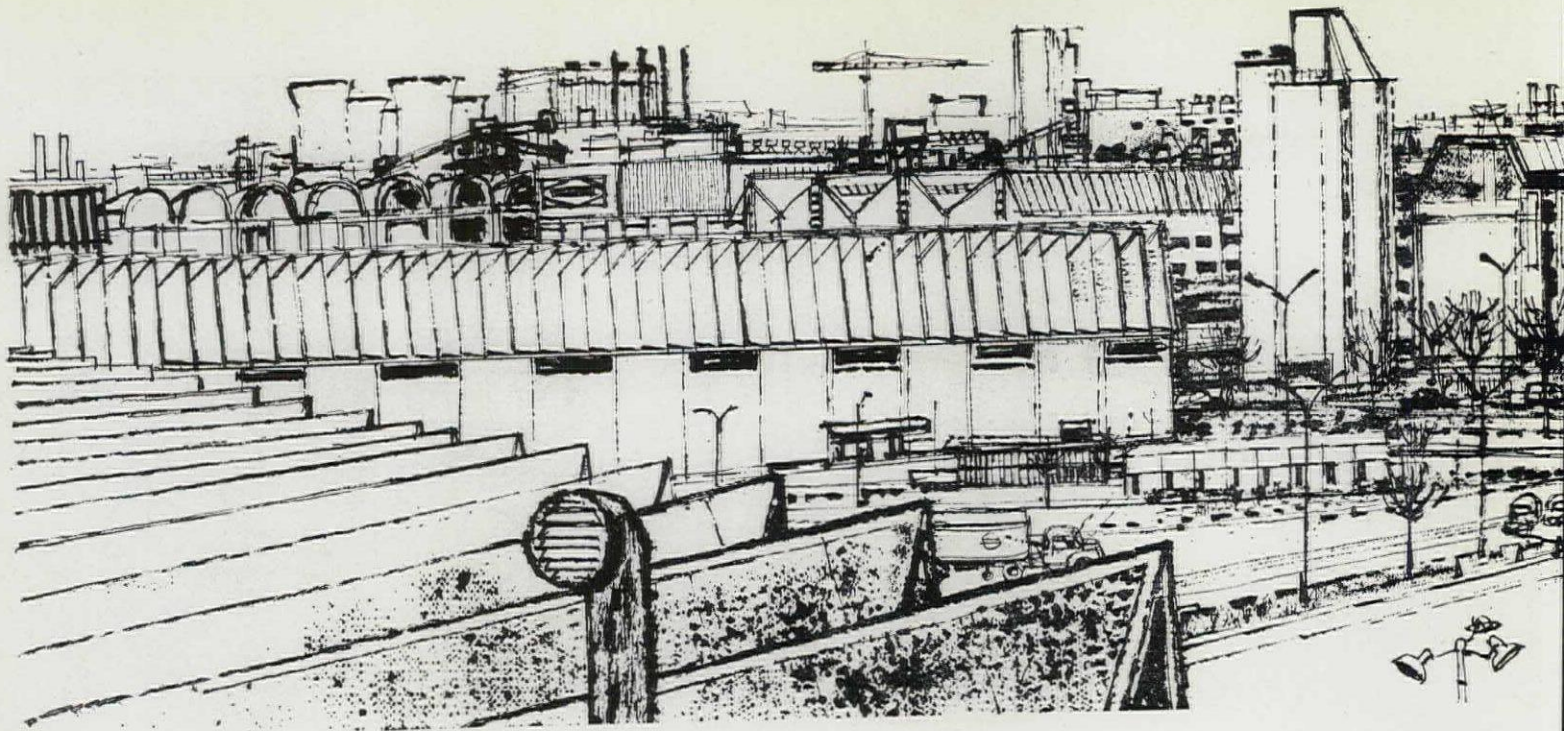
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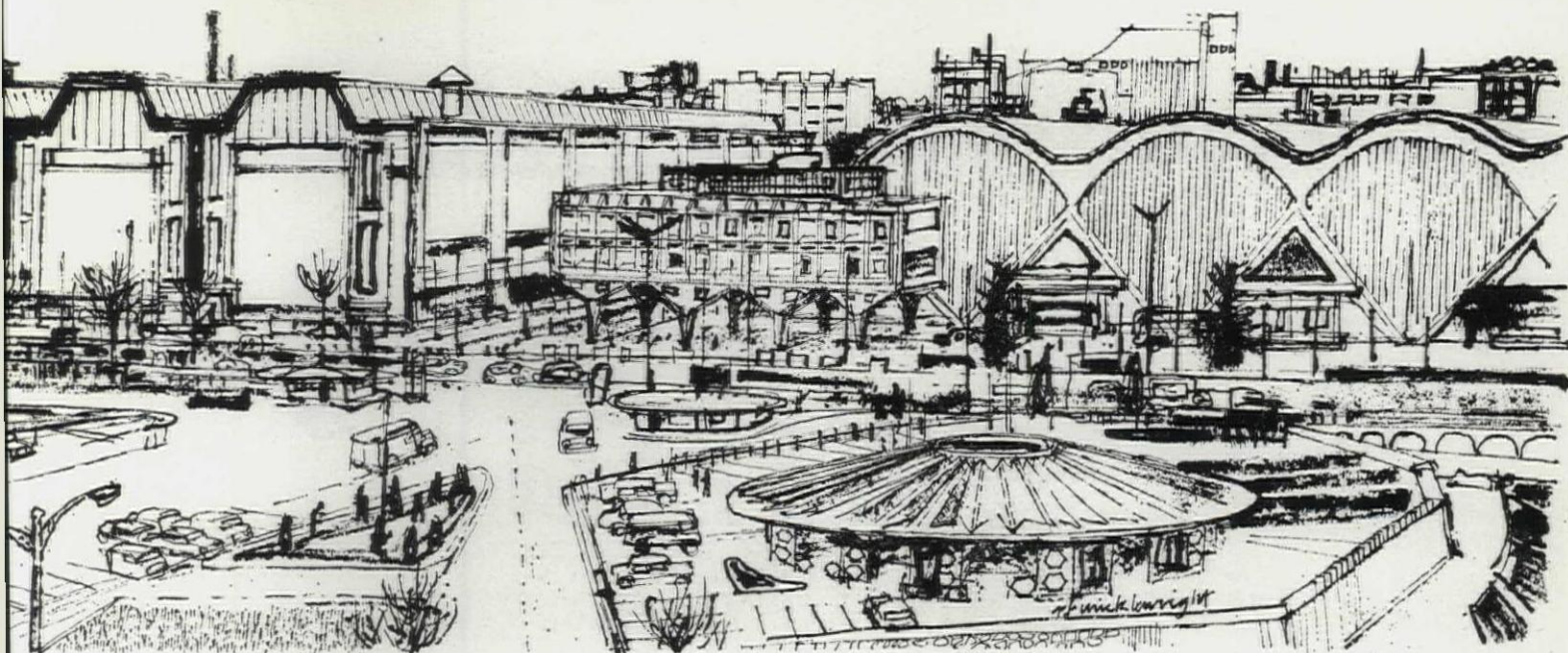
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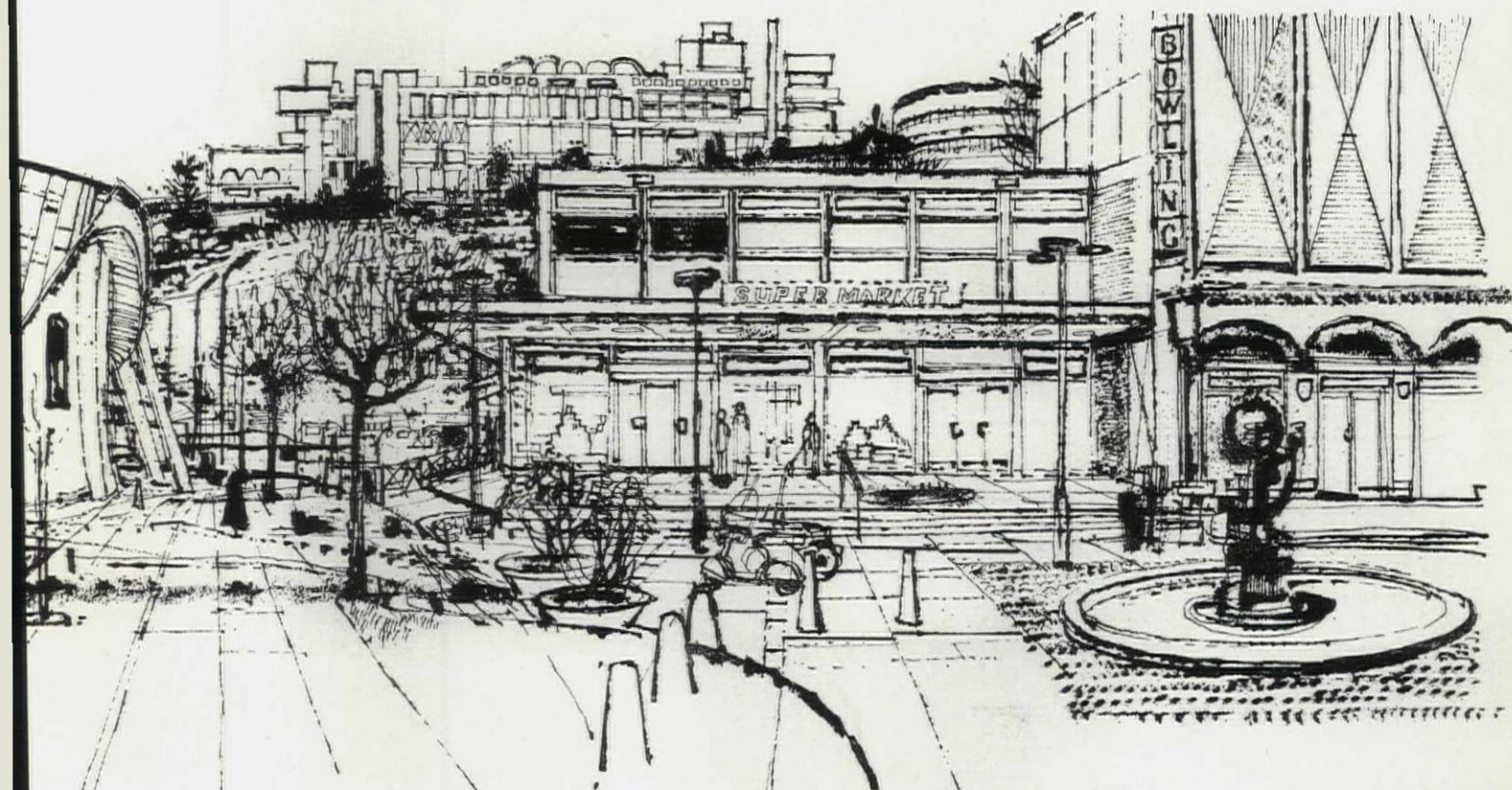
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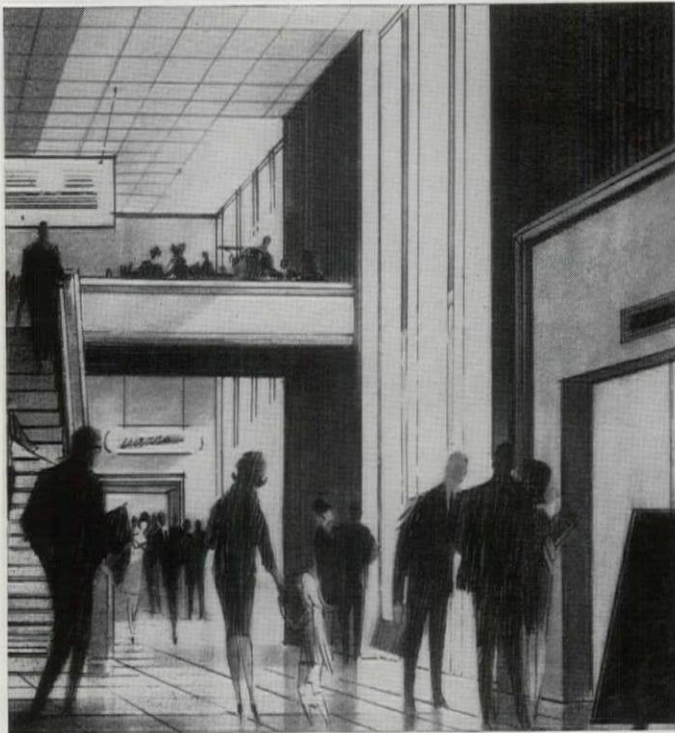


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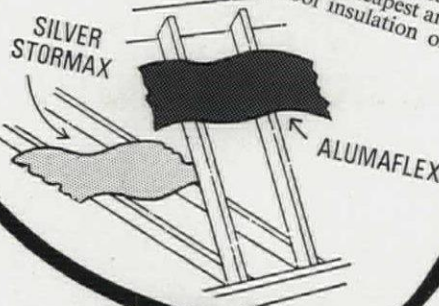
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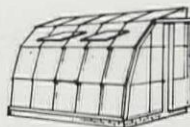
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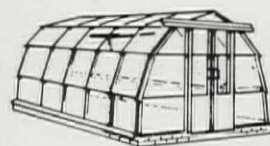
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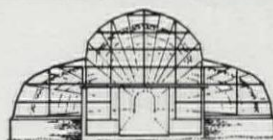
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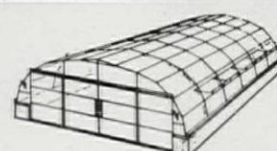
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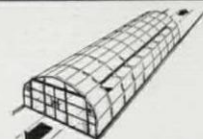
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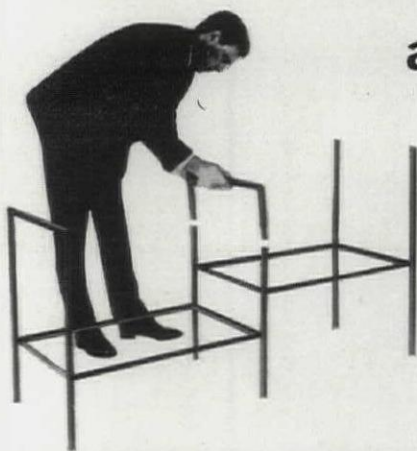
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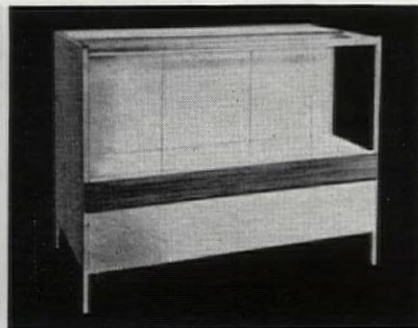
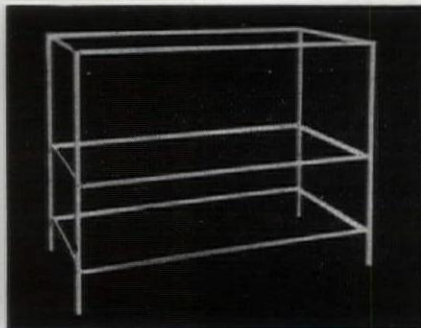
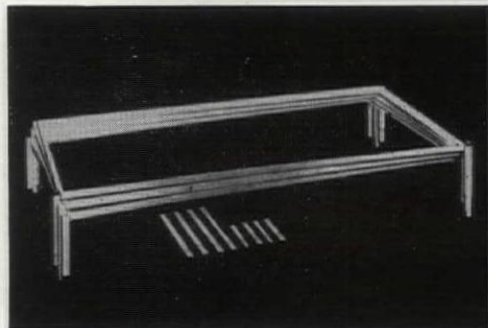
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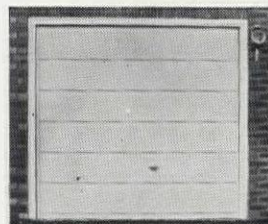
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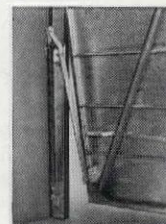
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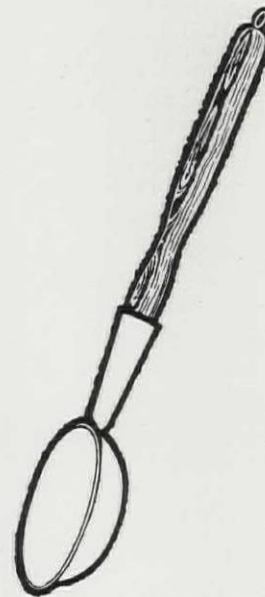
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