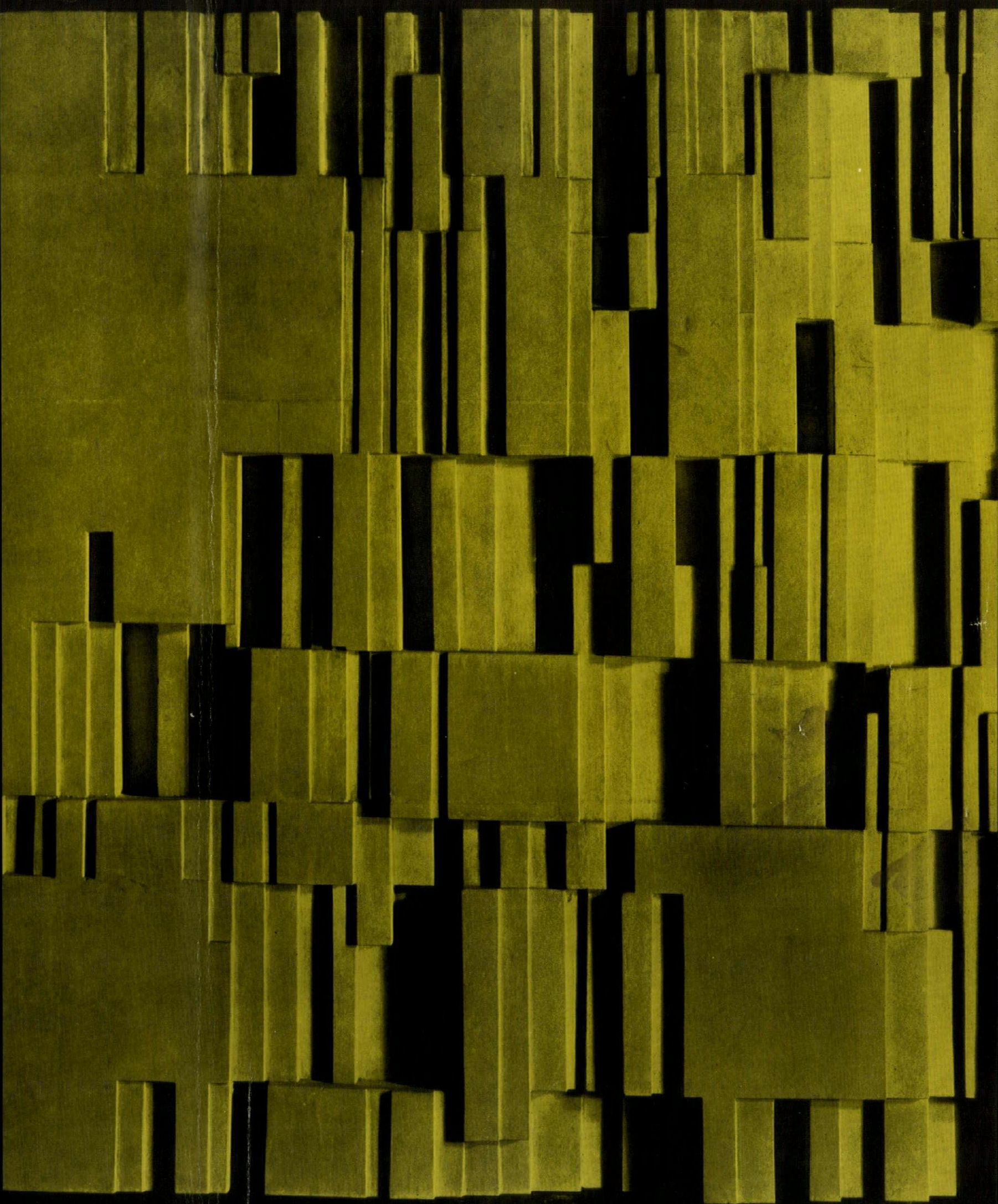


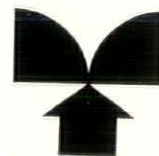




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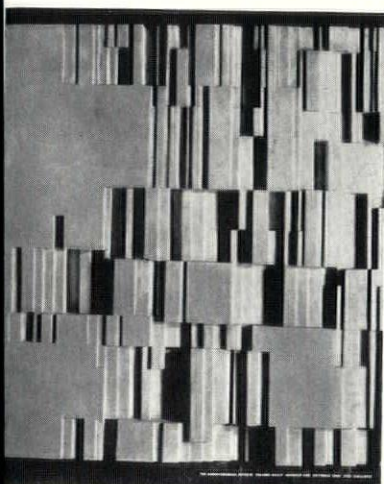
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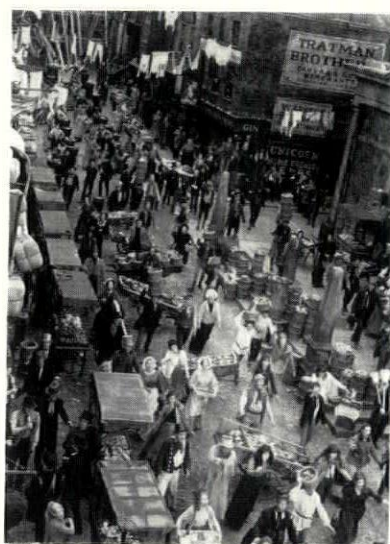
COVER

This month's cover is a photograph
 by Corry Bevington of a sculpture,
 'Rectangular Relief' by Gwyther
 Irwin. The sculpture is in the new
 British Petroleum headquarters in
 London, Britannic House, Moor Lane.
 Architects: Joseph F. Milton,
 Cashmore & Partners.

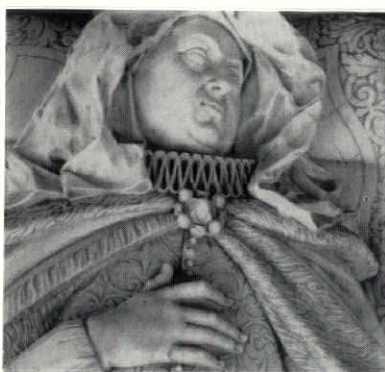


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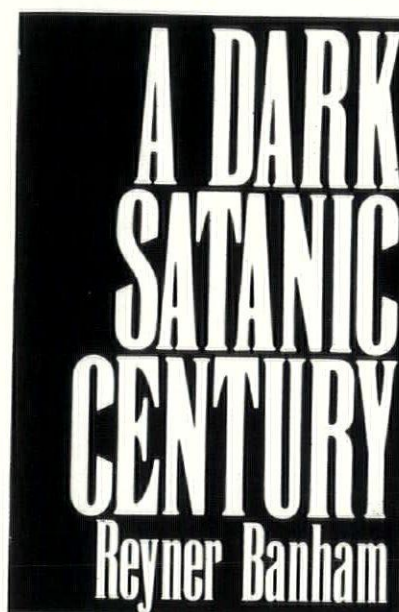


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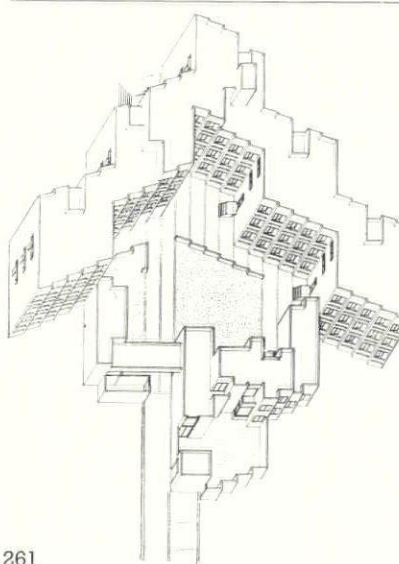


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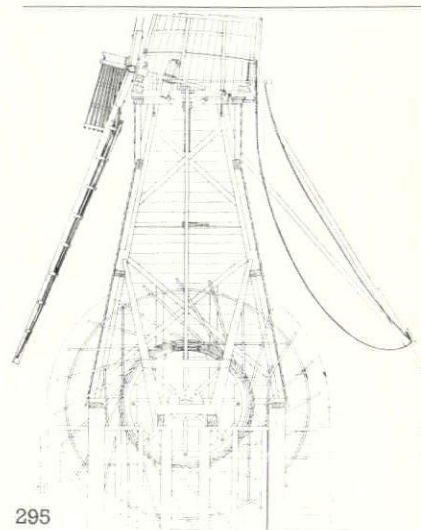
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The only street view of the Central Collegiate Building for University College, London, by James Cubitt and Partners. The back was grafted on to existing college buildings, and the gaps at each end will eventually be filled with extensions to the new building, making the precast concrete arches the central feature of a long façade. The projecting blind top of dark brown engineering brick conceals squash courts and a rowing tank. Behind the glass front nestles a fully equipped theatre, which forms the subject of one of the ID articles in this issue (pages 273-276).

SWING HIGH, SWING LOW

The social arguments against the proliferation of high flats were set out in the AR special issue, *Housing and the Environment*, of November last year and examples of some of the bad architecture that has resulted were illustrated. There is no doubt that high flats in this country have often been unwisely sited, poorly designed and indiscriminately used. But that should not lead to wholesale condemnation of them, which seems to be happening now partly as a result of the swing of the pendulum, partly through over-emphasis of their disadvantages, which better design and management can overcome, and partly because of the understandable but irrelevant public alarm over the Ronan Point disaster. If we are not careful we shall be back where we were in the 1940s when our suburbs and new towns were allowed to sprawl over the countryside as a result of the prejudice against building high worked up by the garden-city fanatics.

High flats are an acceptable—indeed an enjoyable—building type when properly used. The renewal of prejudice against them is due to improper use: to house families with young children without adequate provision of play space and to isolate their occupants from the community by poor overall design. The first need seems to be a far closer correlation between the design of housing and housing management. At present, housing authorities allocate accommodation with too little concern for what each family needs, and planners and architects do not get the briefing that would allow them to design a socially balanced range of accommodation.

High flats are criticized for their small, dark lift halls, inadequate lifts, lack of nursery facilities and so on, but this can be put right by better design—and by spending more money. Flats already, it is true, get a larger Government subsidy, but does not this present an opportunity to introduce a valuable element of choice into the occupancy of local authority housing by charging higher rents for higher living (in GLC tower blocks the upper flats already carry higher rents than the lower)? It is reasonable that those who prefer high flats—and there are many—should be given them but should pay, and this would bear least hardly on those least able to pay—the families with young children.

Knowledge of needs, and the briefing of architects accordingly, must be followed by intelligent land-use and a high standard of design, but this applies to all housing, high or low or—as it should be—a mixture of both. And, given good design, social coherence is not a matter of height. The traditional neighbourliness of the city street is easier to maintain by turning the street on end than by expanding it into a sprawl of semi-detached villas. In addition the privacy that some people seek before anything else is again more easily attained in high flats.

THE TRANSPORT BILL

Judging by the heat of the opposition, the proposed changes in the long and complicated 1968 Transport Bill, now being debated in the House of Lords, will not bring in the era of stability and freedom from party political interference which transport needs so much. It is the bus companies rather than the citizens that have led the opposition to the proposed Passenger Transport Authorities which will take over in the large conurbations. Eventually some better form of personal locomotion than the private car will evolve, but in the meantime improved public transport is the only answer. PTAs should achieve this, since they will effectively control public transport and roads, traffic and parking. Precepts on the rates to cover losses may be less costly than continual rate increases for more roads and carparks. Trains and buses will get grants when social need is shown, as in rural areas; buses will also get fuel tax rebates, grants for re-equipment and a lower vehicle licence duty than commercial vehicles of similar size. Both should be on the same footing, especially as the greater need in the conurbations is for trains that are unaffected by street congestion.

A National Freight Corporation will take over the BR freightliners, the Transport Holding Company, British Road Services and similar bodies. That it will have its own road fleet under its direct control but will contract with BR rail services may cause it to use its own vehicles to capacity to the detriment of rail, whereas the transfer of goods from road to rail is said to be the intention. In Europe and in the USA rail and waterway freight have expanded with the economy; only road freight has expanded in Great Britain, which arises from an imbalance in the competitive climate which favours road, from lack of investment in new rail and waterway equipment (compared with the huge new road programme) and from the lack of vision at Ministry and management levels. The Bill proposed new charges for heavy goods vehicles and fees for the movement by road of loads of exceptional size to cover the damage done by heavy axles. Unfortunately the new charges were overtaken by the budget, which was less hard on the heavy lorries. Part VI of the Bill was dropped, and the whole future is left open to the whims of Chancellors who are more interested in raising revenue than in balanced transport. 'For the foreseeable future there will be a need, as part of the country's transport system, for a substantial railway network'. This quotation from the White Paper Cmnd 3057 illustrates the negative outlook of those who have run our transport for the last twenty years, and in spite of the Bill the self-defeating policy of building more roads to create more congestion seems likely to continue. Britain's off-street transport will continue to wither until the contractionist philosophy at Ministry and board level is replaced by an expansionist one.

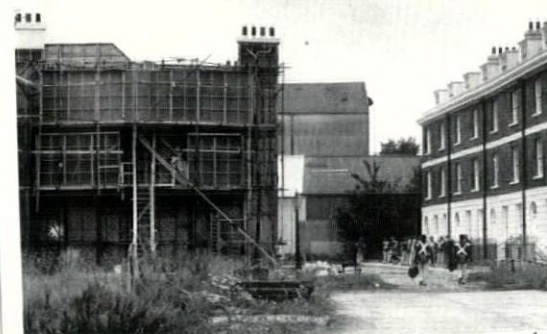


OLIVER'S LONDON

The film version of Lionel Bart's musical play *Oliver*, directed by Sir Carol Reed, had its first showing on September 29th. The set designer was John Box, who had the task of reproducing, with authentic detail, the late eighteenth-century London that Dickens described. These photographs, taken by Penelope Reed while the film was being shot, show a crowded street-market, 1, and Bloomsbury Square, 2 and 3. The total area of sets, all at the Shepperton Studios, was 5½ acres. The Bloomsbury Square set, like most of the others, had to combine architectural authenticity with the flexibility of space required for the large amount of choreography the film contains. Mr. Box's first designs were embodied in sketches and then in miniature models, in which form the sets could be examined, researched into and discussed and subsequently adapted to the detailed needs of the script and the logistics of the shooting programme.

The Bloomsbury Square set was eventually built to the full size of the actual square, with the basements in front of the houses excavated, the windows glazed and curtained and real flowers growing in the window boxes. The lead rainwater pipes and the street lamps were actual examples of the period obtained from various sources. The house-fronts were designed so that smoke could be emitted from the chimney-pots. The pipes conveying the smoke from burners at ground-level can be seen in 4, a view of the Bloomsbury Square set from the back.

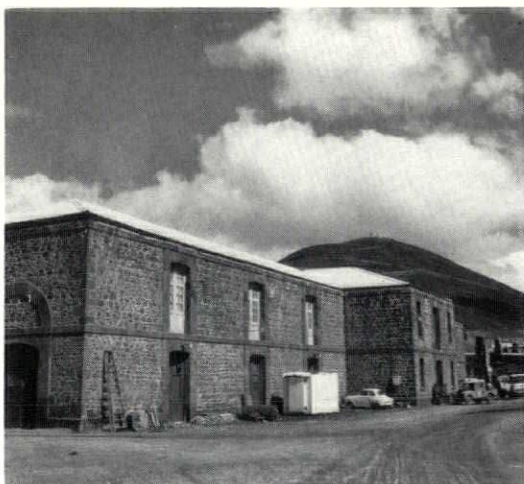
1 The research workers whose task it was to make



4
architectural details and details of equipment, vehicles, costume and the like as complete and authentic as possible, besides referring to the text of *Oliver Twist*, made particular use of files of *The Times* and of *The Illustrated London News*. They consulted a first edition of Mrs. Beeton's cookery book to be sure that loaves of bread were of the right shape for the period, and Mr. Box had an exact copy made of the only surviving example of the horse-drawn omnibus in the Clapham transport museum.



ISLAND RELIQS OF THE R.N.



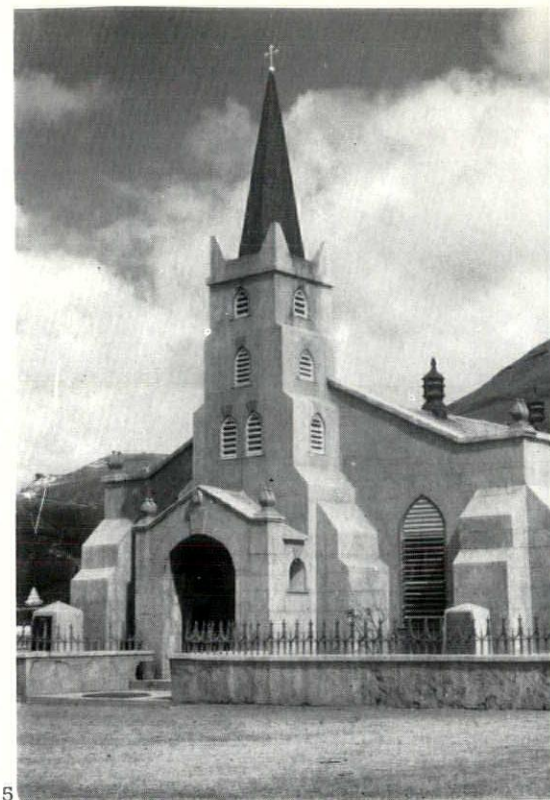
Although the Royal Navy left Georgetown, on Ascension Island, in 1922 (handing it over to Cable and Wireless, some of whose undersea cables between South Africa and South America come ashore there), the little settlement still preserves something of the character of a naval station. The navy did a lot of building there, since they had a garrison at Georgetown for well over a hundred years. It was established when Napoleon was imprisoned on St. Helena (750 miles to the south) to forestall rescue attempts by the French; afterwards it was a base for the navy's anti-slave-trade patrols and then a coaling station.

Until the navy began its occupation Ascension was uninhabited, and until long after they left, Georgetown—on the north-west coast, where sailing ships could be partially sheltered from the trade winds—was the only settlement. There is no harbour; only a blunt stone jetty. Ships lie three-quarters of a mile out and unload their cargoes on to pontoons from which they are hoisted ashore—a perilous operation in the steep Atlantic swell. At the foot of the jetty is the handsomest of the old navy buildings; a great storehouse, made of roughly squared blocks of the local basalt, 1, and at the top of the dusty road leading up from the jetty is a two-storey arched building, 2, that dominates the place. This was originally the officers' mess; now

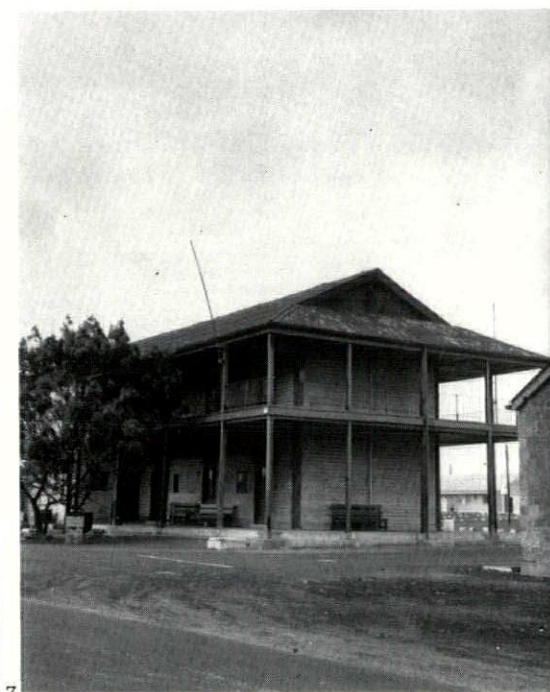




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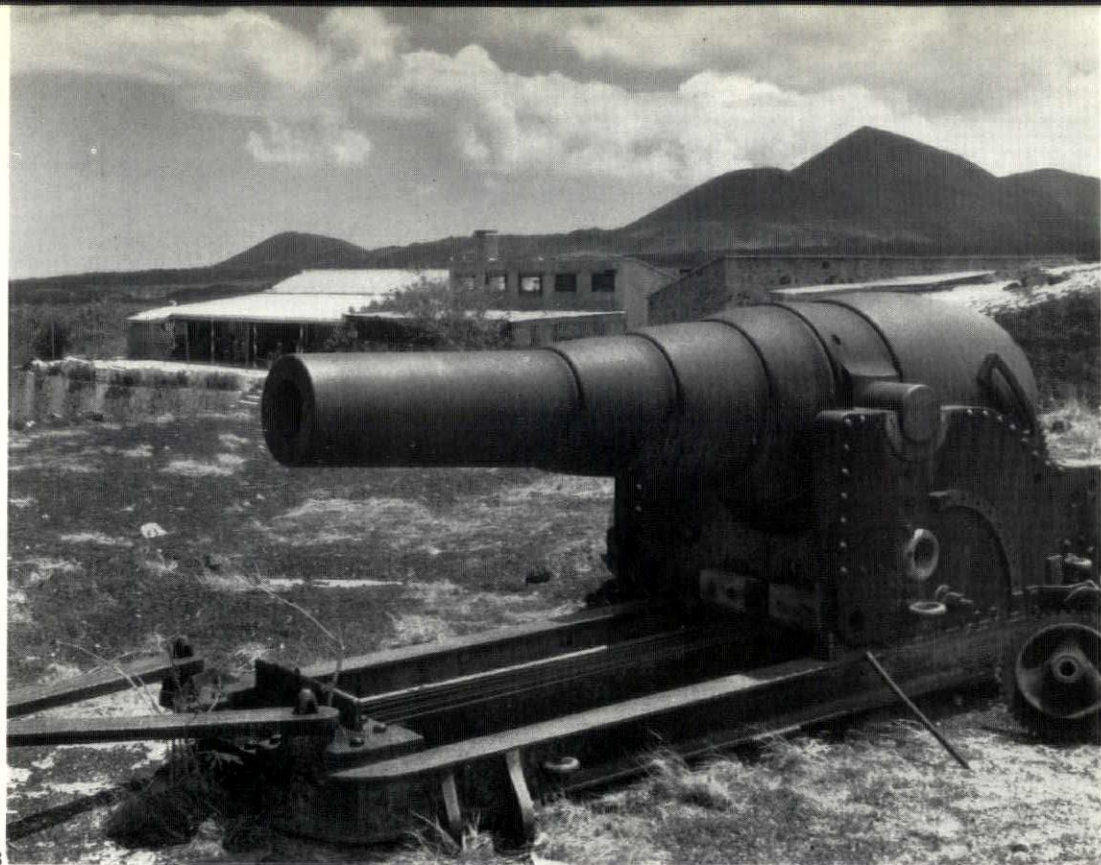
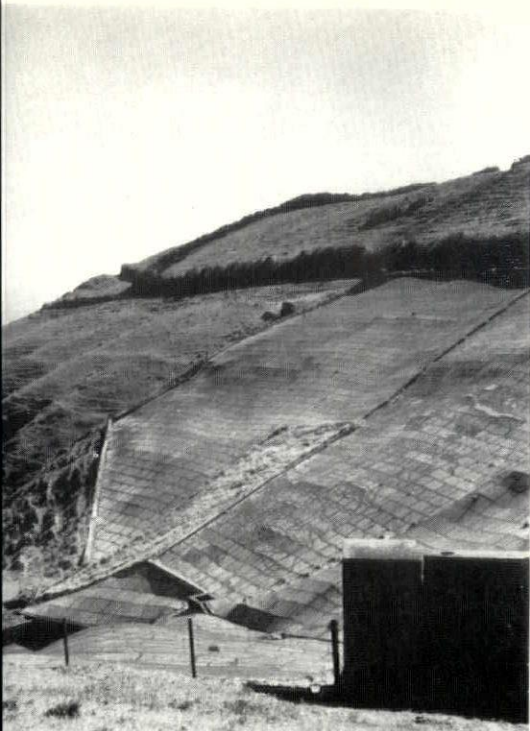


6



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it is a clubhouse for the Cable and Wireless staff. From its verandah there is a sweeping view over Georgetown and its jetty, 3. Just to the right of the jetty, behind the naval storehouse, are two stone-walled turtle-pools (shown closer in 4 which is taken from the jetty) now largely in ruins. Turtles come ashore once a year to lay their eggs, and the sailors of the garrison used to capture them and keep them in these pools until a ship was leaving for England, when good money could be earned by sending them home as deck-cargo. For many years the turtles eaten as soup at the Lord Mayor's banquet came in this way from Ascension Island. To the right of the flag-pole seen in 3—another relic of the navy—is a flat, sandy patch of ground that was the parade ground, and beyond it is the garrison church, 5, dated 1843: a valiant attempt by a naval (or, more likely, a Royal Marines) engineer—for Ascension was largely manned by the marines—to achieve an appro-



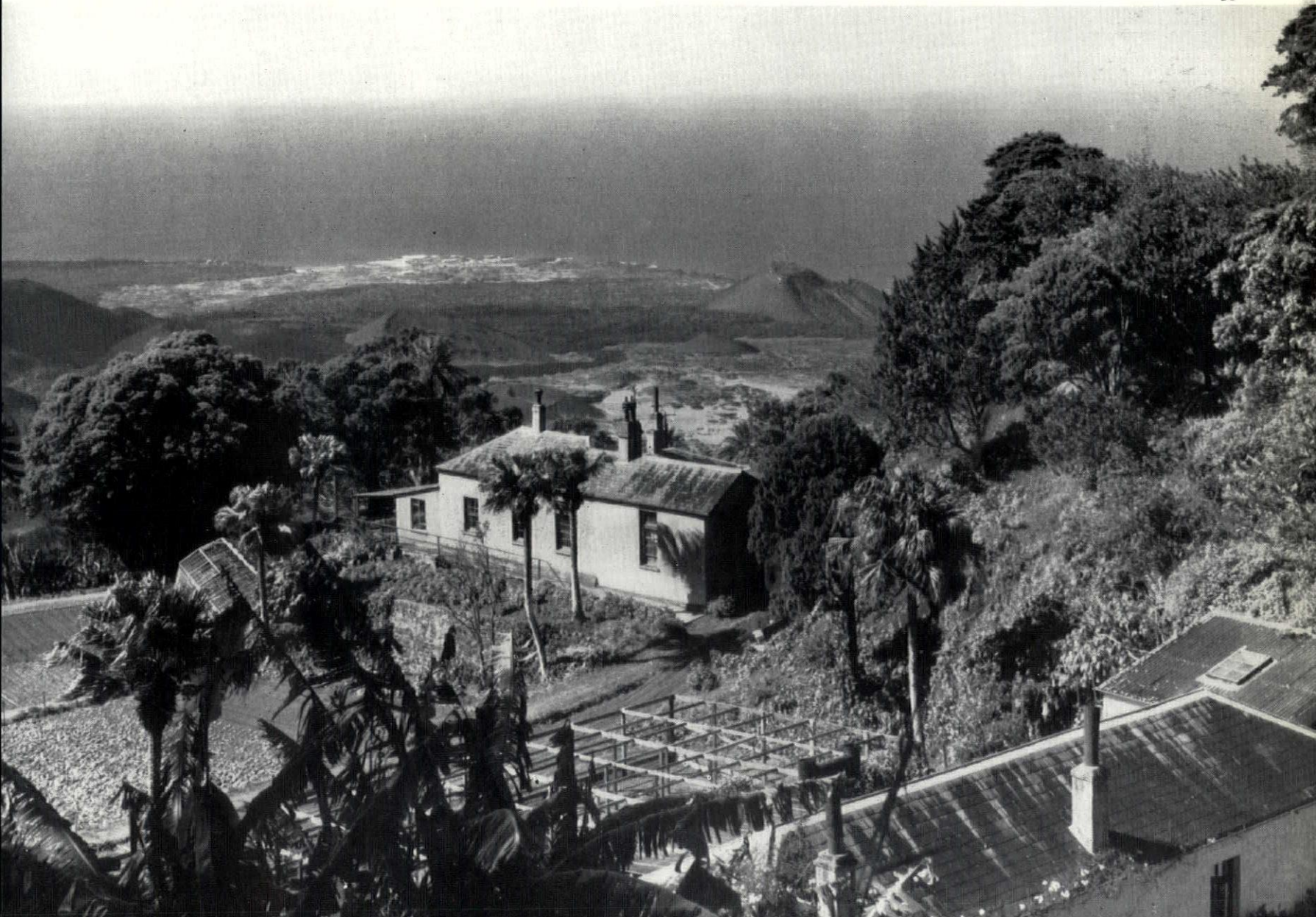
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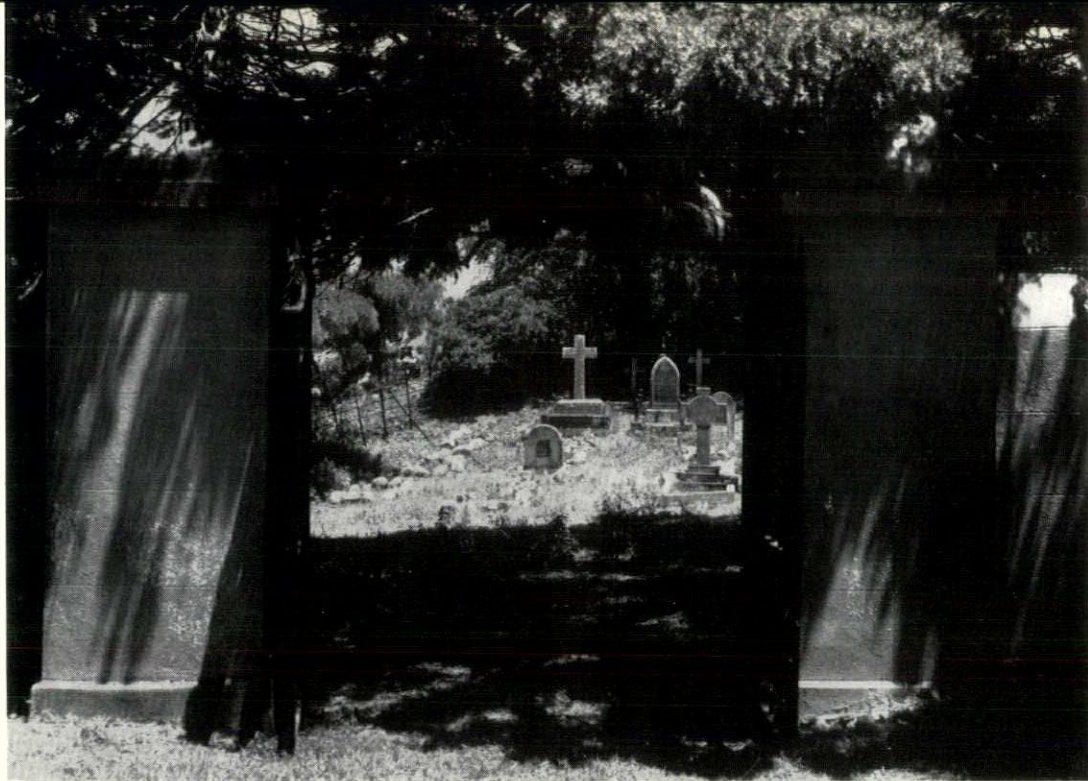
priate ecclesiastical style. Inside the church the walls are lined with plaques commemorating members of the garrison who died from a variety of causes: drowning; yellow fever; sharks; falling down the jagged cliffs while

exploring the island. Some of the fever victims were from passing ships who put in at Ascension to unload their sick, and a few miles along the coast, at Comfortless Cove, there is a grim little cemetery, 6, where they were taken to die and

buried by their comrades: a steep cleft in one of the lava fields that sweep down to the shore, with at its foot a forlorn little cluster of graves, each marked with a headstone, of whitewashed stone or weather-beaten wood, with the ship

10





11

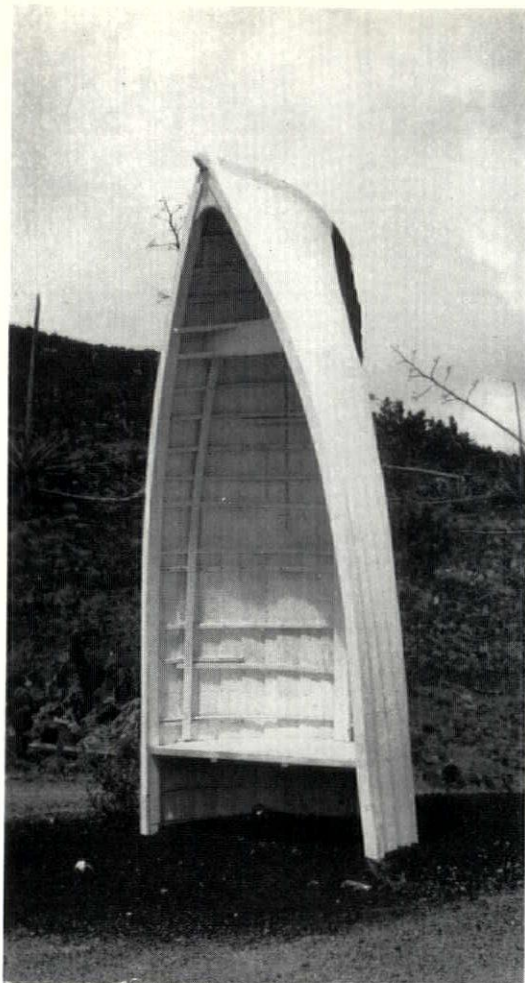
and the name and the date—mostly in the 1830s.

The small settlement of Georgetown huddles round the old naval buildings, which also include a hospital in the same arcaded style as the officers' mess and the Royal Marine barracks, an early example of iron-frame prefabrication by Boulton and Paul, 7. The navy's buildings are all still used, with one exception: the admiral-commandant's residence, 8, which is too remotely sited, high up on a hillside, to serve any present purpose. It is already half in ruins, and the garden that stepped steeply down below its seaward-facing verandah is a tangle of rubble and weeds. Alongside it is a gun-platform, and behind it rises one of the strange, conical hills of orange-red volcanic ash that populate the lower slopes of the island.

Although Georgetown was the only settlement, the navy also did some building high up on the mountain (see *Exploring Eye*, AR, March, 1968) that rises to 2,800 feet in the centre of the island. Here was their only source of fresh water: one or two small springs which they increased by constructing a catchment, 9, and piped the

12





15

water down to Georgetown. The mountain-top was also the only place where vegetation grew, and as humidity increased as a result of the catchment, and the fertile area spread, the navy established a farm to provide them with fresh produce, 10. With advice from Kew they planted a great variety of trees, and below the farm among the trees they built a long low stone house, 11, to serve as a sanatorium for the sick. From the sanatorium a gravel walk leads through a shrubbery to the cemetery, 12. Shaded by yews and with its enclosing walls hung with bougainvillea, it makes a cosy contrast to the cluster of naked graves among the stones of Comfortless Cove.

The sanatorium is now the Residency, the home of the Administrator, who was appointed by the Commonwealth Office when, a few years ago, Ascension suddenly acquired a population far beyond that of the small cable-station at Georgetown. Following the setting-up of an American satellite-tracking station on the island in 1954, the BBC decided, in 1963, to build a transmitting relay station and this has meant also a power-station, workshops, a water-distillation plant, housing for the men to run them and their families and for everyone needed to look after them. This housing (built, like the other new installations, by the Ministry of Public Building and Works) takes the form of a village, 13 and 14—complete with school, shop, clinic, laundry and club—900 feet up the mountain at a place called Two Boats, a name that brings us back once again to the time when the only occupant of Ascension was the navy; for Two Boats is so called from two halves of an old naval cutter, erected and still standing, 15, by the navy as shelters for carrying-parties making the long trek from Georgetown up to the farm on the green mountain peak. J. M. RICHARDS



13

14



STONE'S SCULPTURE

English sculpture since the Reformation was long under a cloud. Pugin hated it; Ruskin hated it; Morris hated it. The distinction of making it respectable must go to the late Mrs. Esdaile, whose poorly illustrated *English Monumental Sculpture since the Renaissance* appeared

in 1927. But the discovery that it was also worth looking at had to wait for the photographs of H. Gernsheim taken for the Warburg Institute (and especially Professor Wittkower) during the war. They were used to illustrate several features in *THE ARCHITECTURAL REVIEW*

in 1943 and 1944 with appreciative texts by Sir Kenneth Clark and Nikolaus Pevsner. Now English sculpture is accepted and even tourists allow themselves to be carried away by Roubiliac and Rysbrack.

Another landmark in the appreciation of

1





3

English sculpture was the late Rupert Gunnis's *Dictionary of British Sculptors, 1660-1851*, which was published in 1954. The most recent appraisal, Dr. Margaret Whinney's volume of the *Pelican History of Art*, appeared in 1964. Rupert Gunnis was assisted in more than one way by the photographs of Mr. Bruce Bailey, and examples of his work were recently exhibited in the Northampton Museum and Art Gallery. The catalogue (with five large pictures) compiled by Mr. Bailey is excellent value at 5s. On these pages appear a group of his photographs and others will appear in future issues. Nicholas Stone, whose work the first two photographs illustrate, was the leading English sculptor in the first half of the seventeenth century. As master mason to the Crown, he worked under Inigo Jones. Under Jones' influence, and from his training under de Keyser in Holland, he developed an accomplished and relaxed style of portraiture unlike anything that had existed in England before. His use of white and black marble instead of alabaster or local stone is an instance of his originality. His monument to William Lord Spencer and his wife at Great Brington, 1, of 1638—the costliest (£600) he ever made—is more conventional and shows less feeling than his effigy of Dame Elizabeth Carey at Stowe-Nine-Churches, 2, of 1619. If John Bushnell, to whom the bust of the first Earl of Elgin of 1663 is convincingly attributed, 3, exhibits much more pathos, it is certainly due to the fact that he visited Italy in the 1650s and 1660s and came under the vitalizing influence of Bernini. The comparison of Stone with Bushnell tells of one of the great watersheds in English art.

2





PUBLISHER'S OFFICE, HARLOW

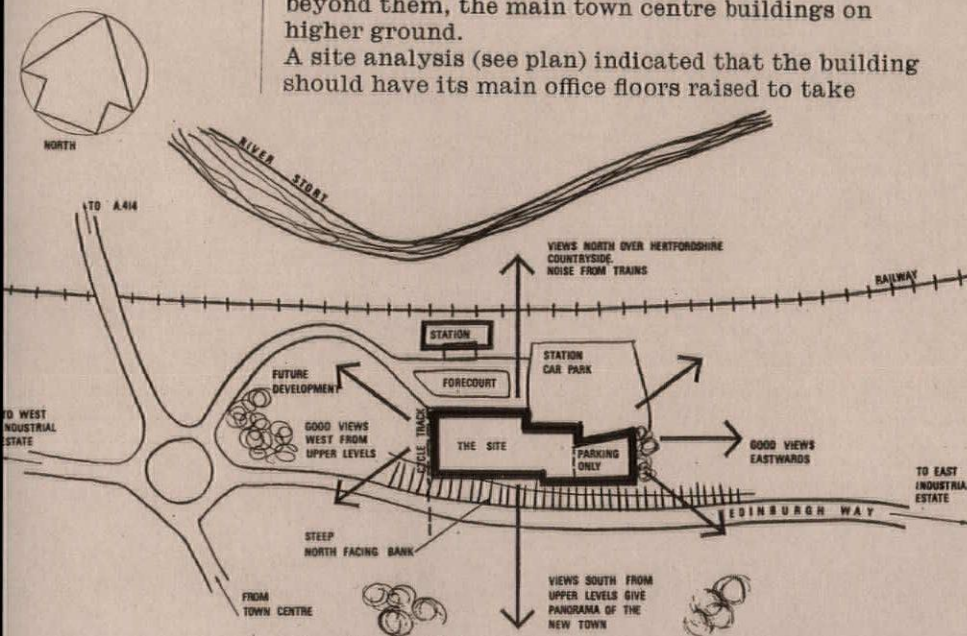
ARCHITECTS: FREDERICK GIBBERD & PARTNERS

photographs by Henk Snoek

1 (facing page),
close-up of the upper
storeys of Longman's
offices at Harlow,
looking north-west.
Below, site analysis.

A study of their long-term space requirements led Longmans Green, the publishers, to decide, in the spring of 1965, to move their headquarters from London, where they had started book production in 1724, to Harlow new town. The new building is part of a group which, with Harlow Town station, forms one of the introductions, or gateways, to the town. The site lies in the valley of the river Stort, which is the baseline of the new town, with open countryside on the north, the town centre on the south and the two industrial estates on either side. The building faces the station forecourt on one side and on the other it overlooks Edinburgh Way, which links the two industrial estates, the town park and sports area with, beyond them, the main town centre buildings on higher ground.

A site analysis (see plan) indicated that the building should have its main office floors raised to take



advantage of the views from the upper levels, and should have rooms on the east and west sides as the views in these directions were particularly good. This led to a plan form with a central core for lifts, lavatories and stairs. The office accommodation was planned in a central high block with two wings to allow for building in stages over a period of ten years, but the pace of expansion and a merger with another company led to the complete project being built at the outset. The site is low-lying in relation to Edinburgh Way and the raising of the main façades brings the building out of the dip. At ground level there are no good views, and an enclosed environment has been created by the courtyard on to which the reception and dining areas look.

In Longman House, book design in the broadest sense takes place. Markets are surveyed and books commissioned and shaped to meet worldwide needs. This activity proceeds mainly by means of meetings between authors and publishers. Analysis of the client's schedule of accommodation showed an overwhelming need for private offices and little demand for larger office spaces. The functional problem was therefore to find the ideal individual office, and the aesthetic

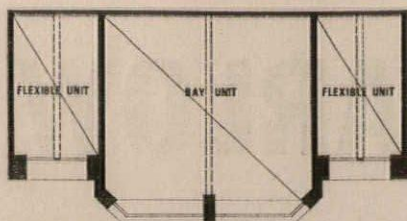
problem was to give visual expression to this idea. Individuality has been provided by a system of two basic units; the bay and flexible unit. These can be linked in five ways to give a variety of room-sizes and forms. (See diagrams overleaf). The projecting bay units allow diagonal views from each office, and the windows in the flexible units are glazed to floor level, so that even from a sitting position the mental relief of the long landscape view can be enjoyed.

Boardroom, conference-room and private dining rooms are at eighth floor level, opening on to roof terraces. The seven office floors below consist of private or shared offices of the five alternative types, arranged to suit departmental needs. The ground floor of the main building has a greater ceiling height than the floors above, and has fully glazed external walls between structural columns. The main reception and waiting areas have views through to the York stone paved courtyard which is enclosed by a single-storey structure of exposed steel-frame, housing kitchen, cafeteria and bar areas. A gallery, which will be used for display, leads from the showroom to the cafeteria, which seats 120. A bar and light snack room are placed on the east side of the courtyard. All the rooms surrounding the courtyard have sliding glass doors; external lighting is incorporated in the projecting eaves.

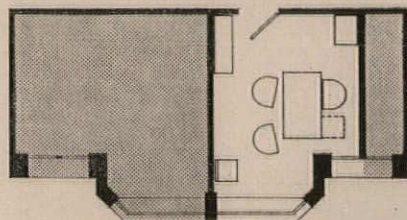
The precast concrete bay units which comprise the main façades are storey-height and weigh 4½ tons. White cement and Portland stone aggregate, fine-spun, give a near-white hard, smooth finish. The units are supported by the outer edge of the floor-slabs and by the columns of an insitu reinforced concrete frame. No back-up walls are used. Instead, a vapour-seal barrier is applied to the complete inner face of insitu and precast concrete, and the required insulation value attained by using 1in. expanded polystyrene with veneered mahogany blockboard linings to the complete external wall. This wall-lining includes the air conditioning units and ducts and is standard in all the offices. Window frames, cills and grilles are of anodized aluminium.

The building is fully air conditioned. Floor screeds are laid on fibreglass quilts separating them from the structural concrete slabs. Office floors and corridors have plastic tiling and the ceilings in offices are of acoustic tiles. Permanent partitions are of concrete blocks, plastered, and demountable partitions are of double-skin construction, internally lined, with perimeter seals and acoustic baffles above the false ceiling, to give an equivalent standard of insulation. Finishes in the ground floor reception and showroom areas include grey-green Broughton Moor slate paving, which is carried through outside the building as a low podium, and Botticino marble wall lining. Certain wall areas are hessian covered panels between recessed support-channels as a background for displays. The cafeteria has white sandlime brick walls, a vinyl tiled floor and a ceiling of Columbian pine boarding with felt-lined gaps for sound absorption.

Structural engineers, Lowe & Rodin. Services engineers, G. H. Buckle & Partners. Quantity surveyors, Banks, Wood & Partners. For contractors see page 314.

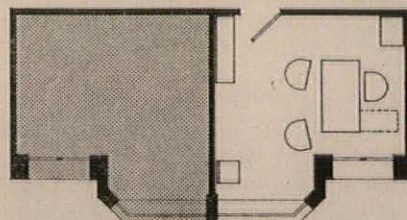


BASIC PLAN FORM



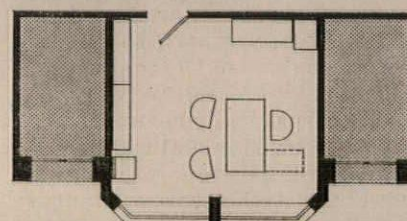
1/2 BAY UNIT + 1/2 FLEXIBLE UNIT
STANDARD SINGLE PERSON OFFICE

TYPE 1



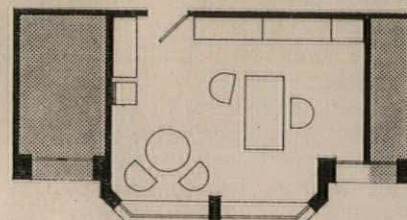
1/2 BAY UNIT + FLEXIBLE UNIT
MEDIUM PRIVATE OR SMALL SHARED OFFICE

TYPE 2



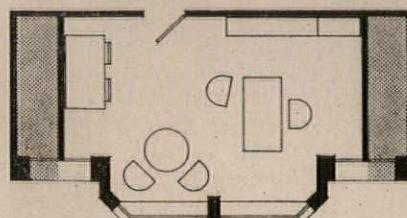
BAY UNIT ONLY
LARGE PRIVATE OR SHARED OFFICE

TYPE 3



BAY UNIT + 1/2 FLEXIBLE UNIT
LARGE PRIVATE OR SHARED OFFICE

TYPE 4

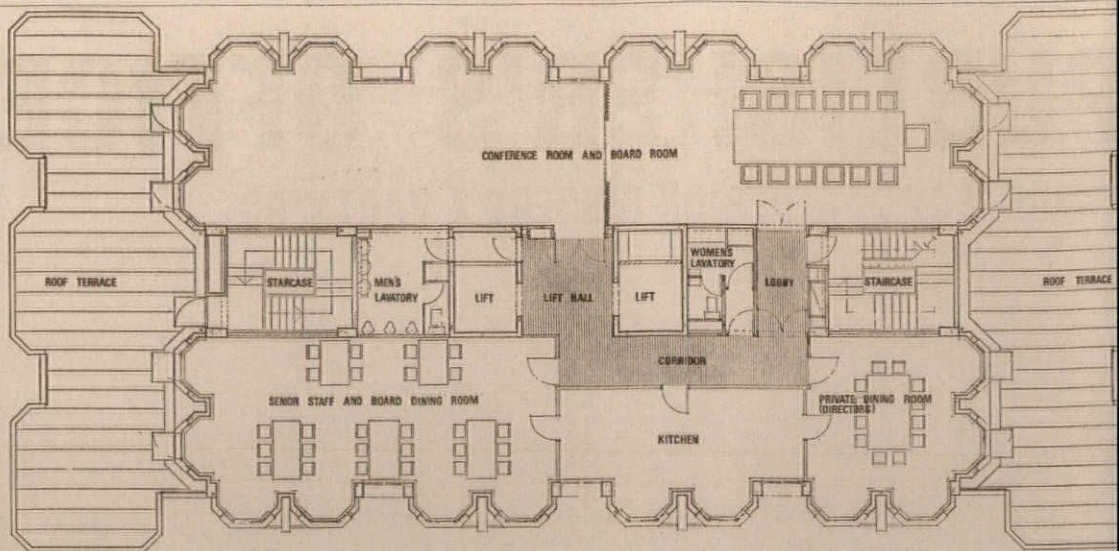


BAY UNIT + TWO 1/2 FLEXIBLE UNITS
LARGE PRIVATE OR SHARED OFFICE

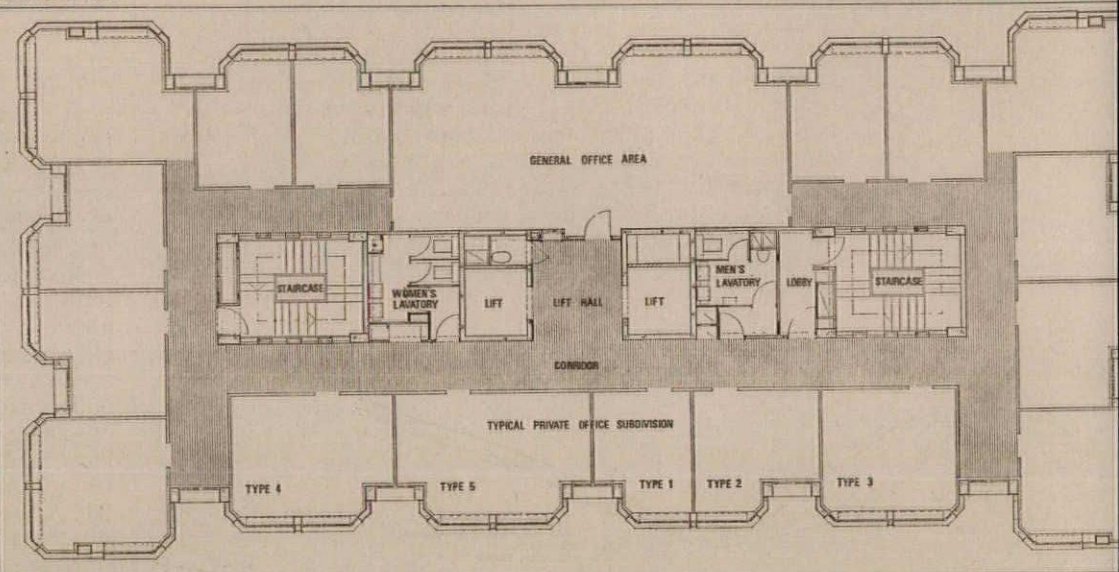
TYPE 5

The plans above show the five standard types of private office provided by the floor-plan with its projecting bays. The furniture layouts shown employ the same basic units.

PUBLISHER'S OFFICE, HARLOW



Eighth floor plan



Typical upper floor plan

key

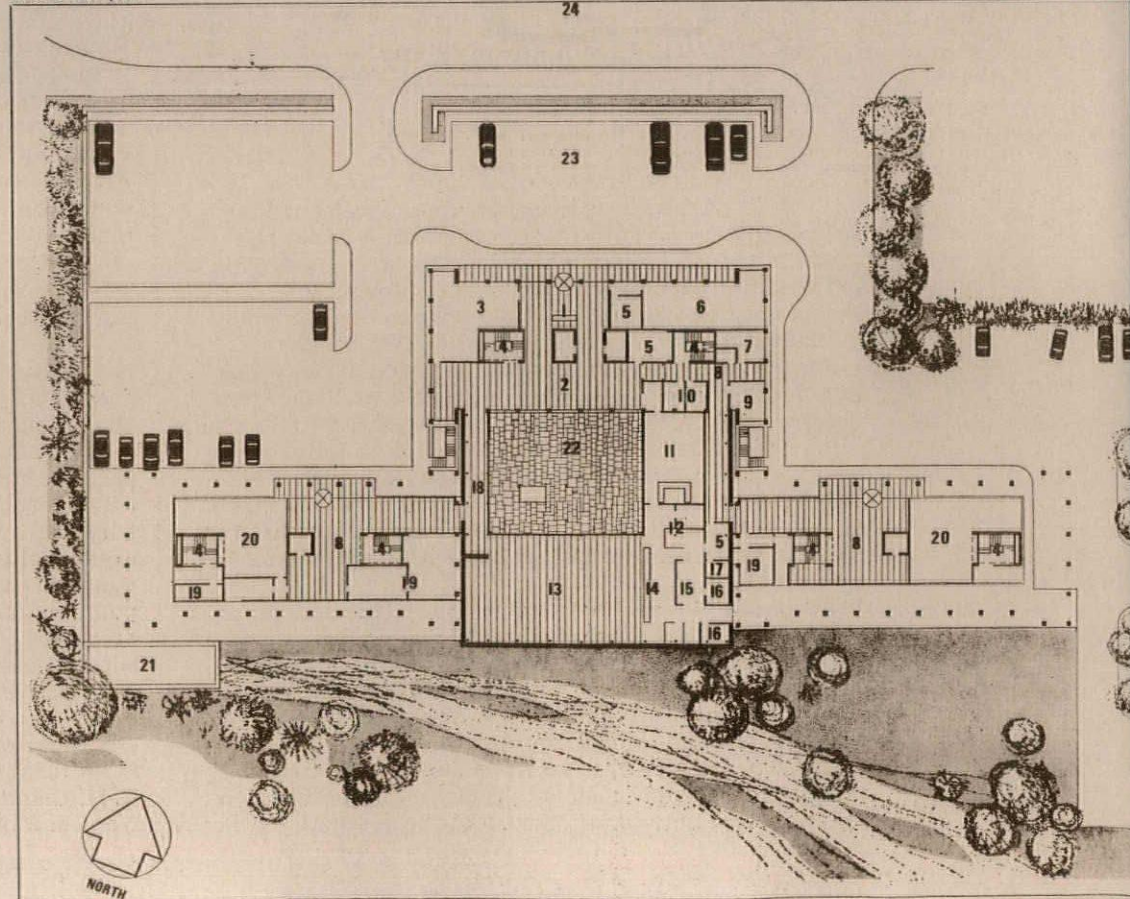
- 1, entrance hall and reception
- 2, showroom
- 3, showroom and waiting
- 4, staircases
- 5, W.C.s
- 6, postal dept

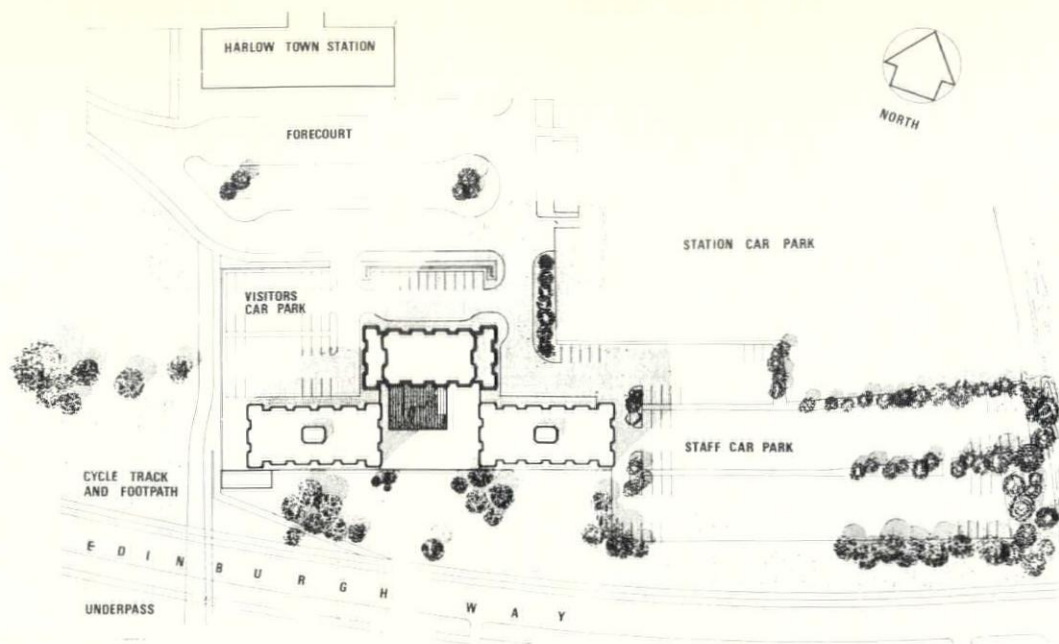
- 7, drying
- 8, secondary entrance
- 9, switchboard
- 10, changing
- 11, bar and light snacks
- 12, bar store and wash-up

- 13, cafeteria
- 14, servery counter
- 15, kitchen
- 16, stores
- 17, staff coat
- 18, gallery

- 19, telephone rooms
- 20, plant
- 21, sub-station
- 22, courtyard
- 23, visitors' car park

Ground floor plan



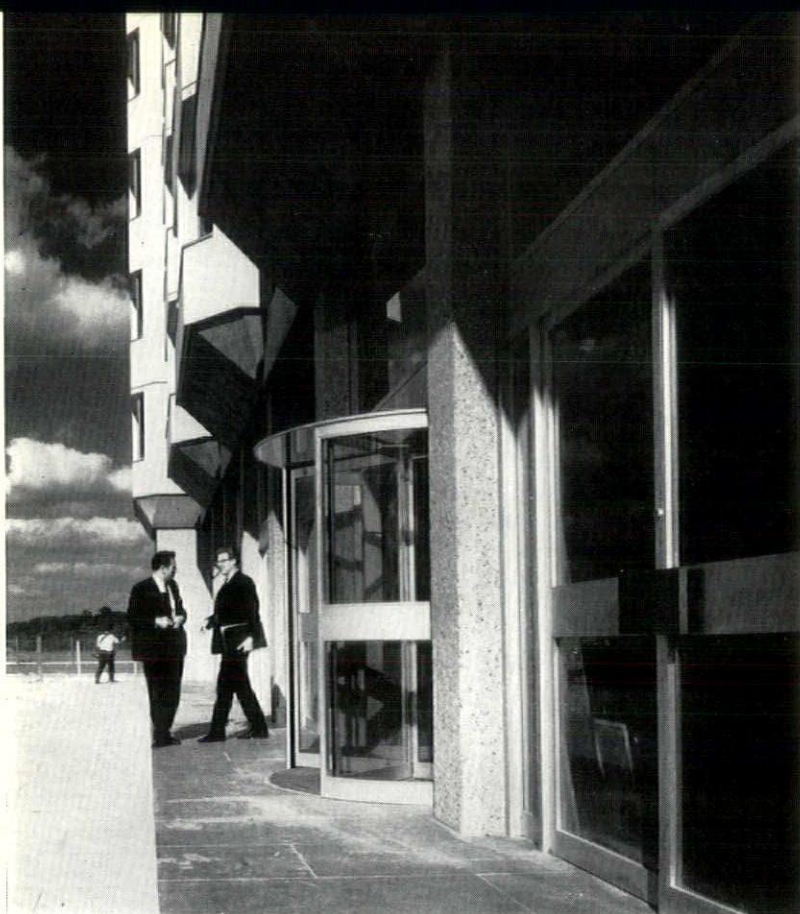


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2, the building from the south-east; i.e. looking from the new town across Edinburgh Way. The storey-height bay units are of white precast concrete using a Portland stone aggregate.

2





3, the main entrance. A major perimeter beam supports the bay units above first-floor level. The ground-floor columns are bush-hammered. The slate paving is an extension of that in the reception area.
 4, facade detail showing the pre-cast bay units separated by storey-height link units formed by pairs of in-situ concrete columns.
 5, gallery corridor linking the entrance area to the canteen.
 6, the canteen, which closes one side of the central courtyard.
 7, the north side of the building, seen from the platform of Harlow station.



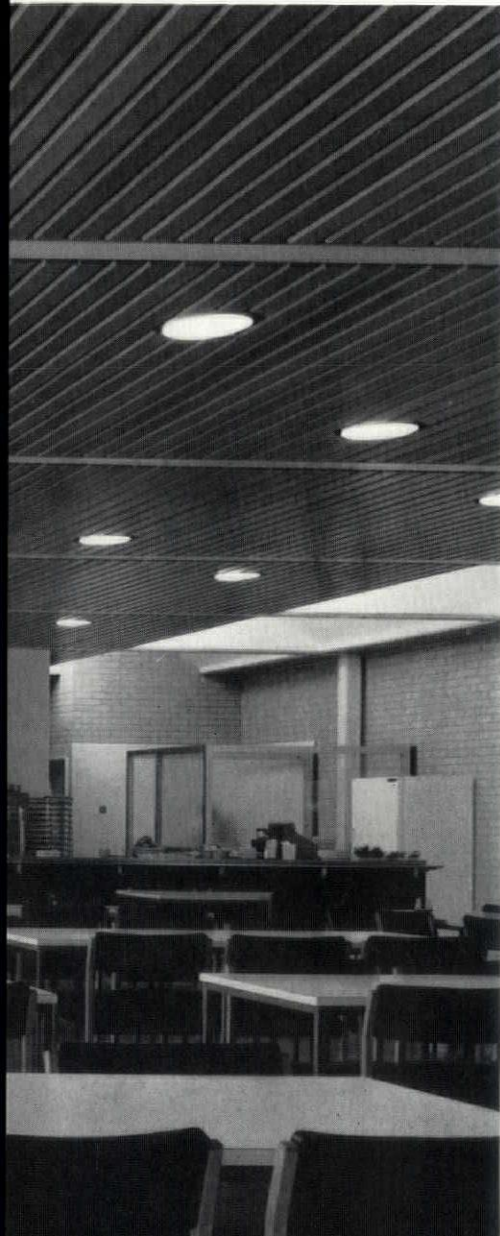


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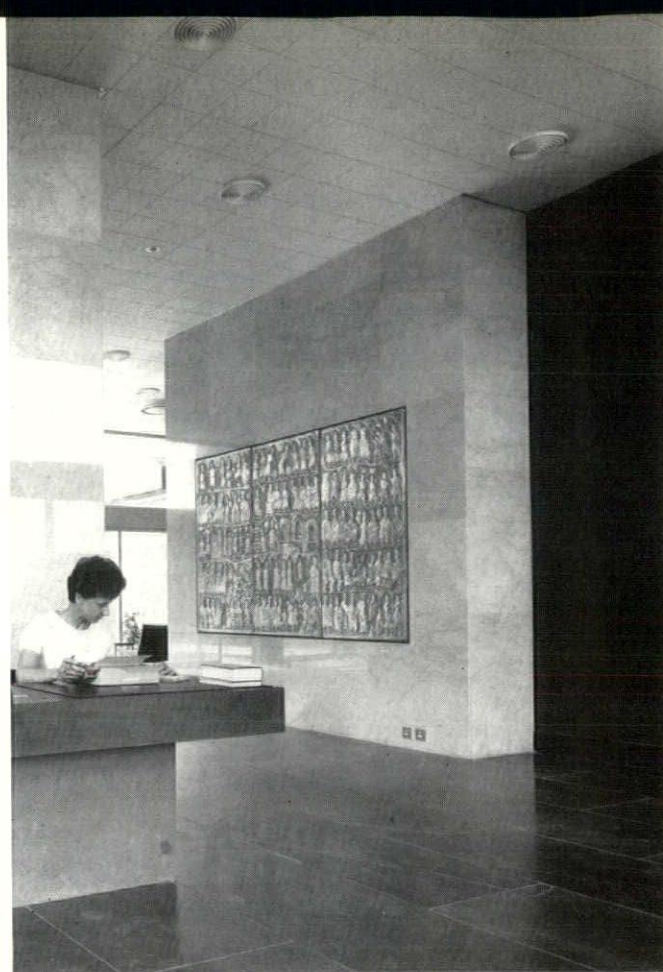
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8



9



8, the east terrace, with the doors from the boardroom and the directors' dining-room. The windowless floor above houses air-conditioning plant.
9, the reception area seen from the main entrance. The floor is of Broughton Moor grey-green slate and the walls enclosing the lift of Botticino marble. The embossed aluminium panel is by Asiru Olatunde.
10, the eighth-floor boardroom, which can be subdivided by a sliding partition.

Reyner Banham

The following article is a chapter from Dr. Reyner Banham's forthcoming book entitled 'The Architecture of the Well-Tempered Environment', to be published in January. The book is about buildings as revealed by services and the internal environments they help to create, as distinct from buildings as revealed by the structures that enclose them, which is the usual form of architectural and historical classification. Dr. Banham begins his book by protesting that 'the art and business of creating buildings is not divisible into two intellectual and separate parts—structures . . . and mechanical services' and goes on to analyse the part mechanical services have played in the evolution of modern architecture. The book will be published in England by the Architectural Press and in America by the Chicago University Press.

An understanding of the way in which radical improvements in environmental technology came about requires a knowledge, not only of the mechanical opportunities and cultural advantages of the improvements and inventors, but also of the atmosphere in which they worked. The word 'atmosphere' is to be read literally. Whatever complaints may circulate today about air-pollution, about traffic-congestion, we tend to forget that there is ample evidence that both were conspicuous evils of the nineteenth-century urban scene. Our common mid-twentieth-century habit of blaming both on the automobile, like the nineteenth-century habit of blaming them on the railways, the factory system, or other fashionable evils ignores the fact that the root causes are simply the crowding of men together into restricted spaces. While it was necessary for men, in Aristotle's phrase, 'to come together in cities in order to lead the good life', those cities, by virtue of the coming together of men, would become places of pollution and congestion. The contribution of the industrializing nineteenth century was to bring even more people together at even higher concentrations and to mark the gravity of the situation by means of new industrial wastes that gave unavoidable visible and olfactory form to the threat to health.

Phrased in the coolest possible terms, the working and living conditions of men in industrialized societies gave rise to environmental problems of the utmost urgency and baffling novelty. The sheer size and human density of settlements posed problems of waste disposal, and threat of epidemic (a threat magically often fulfilled) that called for powerful legal action. The accumulation of large numbers of workers and mechanical plant in

such places as factories and mines called for more than Factory Acts and similar legislation; sanitary and ventilating techniques had to be renovated and improved by radical inventions. The length of the working day required an unprecedented provision of artificial light (with its attendant fire-risks) even in structures above ground like shops and office-blocks. Furthermore, the pollution of the external atmosphere by the waste products of industry and primitive power-generation, and the matching pollution of the indoor atmosphere by human respiration and the inefficient combustion of illuminants, both served to aggravate problems that would have been almost intolerable without them.

However, the mere fact that the combustion of illuminants was inefficient and that most of the outdoor pollutants were wastes, gave an immediate and compelling motive for environmental improvement without waiting upon humanitarian legislation or political action by the victims of pollution. The inefficiency and waste represented lost profits to somebody, and the prospect of gain to any ingenious inventor who could reduce those losses. Below two dramatic panoramic photographs of Chicago wreathed in impenetrable palls of smoke, with the headline *Wastefulness*, the heating engineer M. C. Huyett declared in 1895

'While looking from a window on the fifteenth floor of the Monadnock building and observing smoking chimneys and escaping steam, the above headline (ie., *Wastefulness*) was suggested, because in it was expressed the economic condition presented to sight. Crossing the Chicago River and seeing hot water and steam from the sewer pipes of individual buildings emptying into the river, and when walking along the streets and seeing steam escaping from manholes, fixed in mind "*Wastefulness*" and suggested the thought; "What does the needless waste from

these sources cost Chicago daily—\$50,000—\$100,000?"¹

Not only this, but there was obviously a matching wastefulness of human resources. However much, or little, nineteenth-century mill-owners and factory bosses may have regarded child-labour as an expendable commodity, that commodity was little use, even while fresh and unmaimed, if it could not see or breathe. One of Willis Carrier's earliest industrial air-conditioning installations was for the purpose of laying a fog of tobacco dust in a cigar factory, where conditions were so bad that the efficiency of workers was seriously affected. The foulness of the average nineteenth-century industrial environment is now almost beyond twentieth-century belief; its killer smogs and constant soot-fall little more than legends kept alive by the entertainment industry as picturesque effects in Sherlock Holmes stories. Yet the incidence of compulsive hand-washing in the early literature of psychoanalysis suggests that atmospheric pollutants may have corroded the minds, as well as the bodies, of those who had to endure these conditions.

If the elimination of profitless waste was one ever-present incentive to environmental improvement, the mere preservation of human life, and sufficient health for survival, was another, and ultimately more important one. As early as the eighteen-sixties, the difference in health of those working in controlled—even crudely controlled—environments and those in relatively uncontrolled ones, was a matter of public record. Ernest Jacob, in his posthumous *Ventilating and Warming* cited Sir John Simon's report to the Privy Council

'In the year (1863) the deaths from consumption in country districts being taken as 100, the deaths in Manchester

counted 263, and in Leeds 218. The greatest mortality took place among printers and tailors, classes who work largely by night, requiring a strong light, which necessitates the burning of much gas. On the other hand, contemporary statistics showed that the miners of Northumberland and Durham, where the pits were freely ventilated, formed an important exception to this rule . . .'²

Since the safeguarding of health was so important an incentive to environmental study and reform, there should be no surprise at the important part played by medical men in these fields. What may occasion surprise nowadays is that their progressive activities involved direct action in the field of building. Their writings often reveal an intimate practical knowledge of the environmental performance of buildings, an expressed contempt for the architectural profession's apparent indifference to such matters, proposals for the improvement of building-design, and even the construction of reformed buildings by doctors themselves.

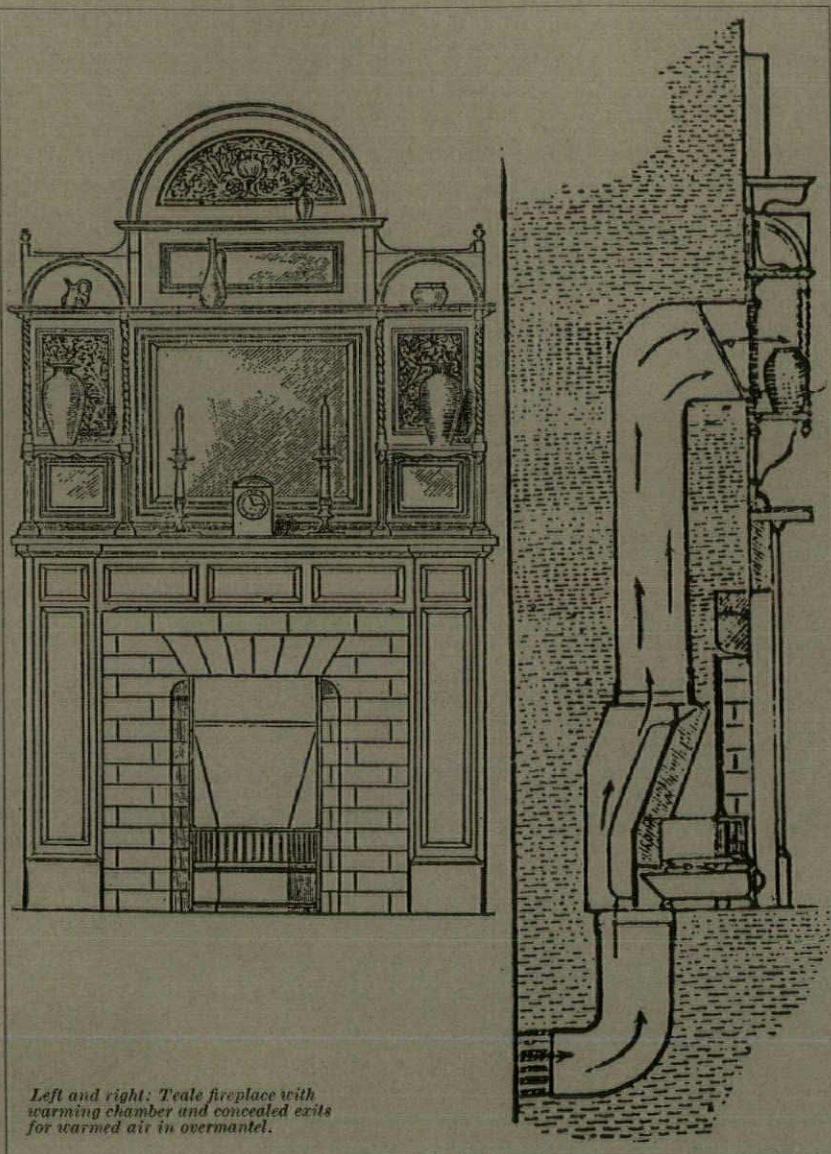
Thus Professor Jacob, who was quoted above, had no doubt at all that, as a pathologist, he was far better informed on such matters as heating and ventilating than were the architects whose work he had to visit, professionally or privately. The views of architects on environmental matters he regarded as little better than superstitious

'... in most cases architects are content to introduce an occasional air-brick or a patent device called a "ventilator" . . .

Real ventilation is so uncommon that . . . the architect usually thinks this object has been attained if some of the windows can be opened. Some think that the presence of "ventilators", especially if they have long names and are secured by "Her Majesty's letters patent", ensures the required end. We may as well supply a house with water by making a trap-door in the roof to admit rain."³

This last point is of some importance in the context of the common state

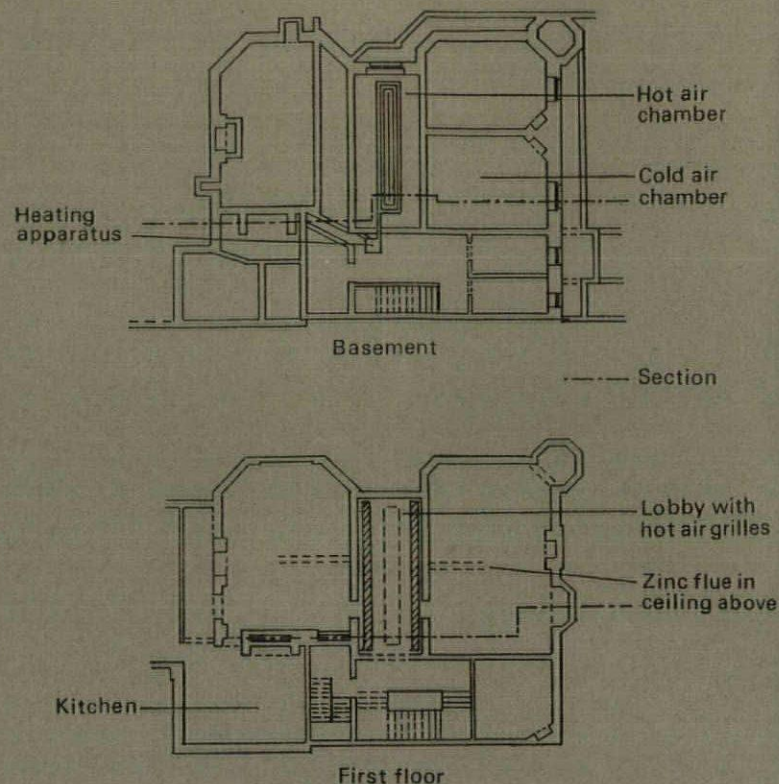
A DARK SATANIC CENTURY



Left and right: Teale fireplace with warming chamber and concealed exits for warmed air in overmantel.

of architecture in the second half of the nineteenth century. In the effective absence, from most buildings, of any system of ducted and force-fed ventilation (comparable with piped water under a sufficient head of pressure to make it go where it was needed) the movement of air was an almost uncontrollable function of the entire building structure, complete with its ancillary services and external weather conditions—the shade of a single tree, the closing of a door or the lighting of a fire in a spare bedroom might make the difference between tolerable and intolerable conditions. On the effect of innovations in ancillary services Jacob observes, for instance, that in concert halls 'Electric light being generally used, the heat from (gas operated) sunburners—which were formerly used for lighting purposes—is not now available for ventilation...'¹⁴ and, again, on the uses of external weather as an environmental aid 'A perfectly still day is the time when the greatest change of air is required, and the time when all wind-actuated schemes fail.'¹⁵ The concept of the total involvement of the entire structure, its inhabitants and their activities, in the processes of ventilation and the distribution of heat, is what Professor Jacob's slim volume was

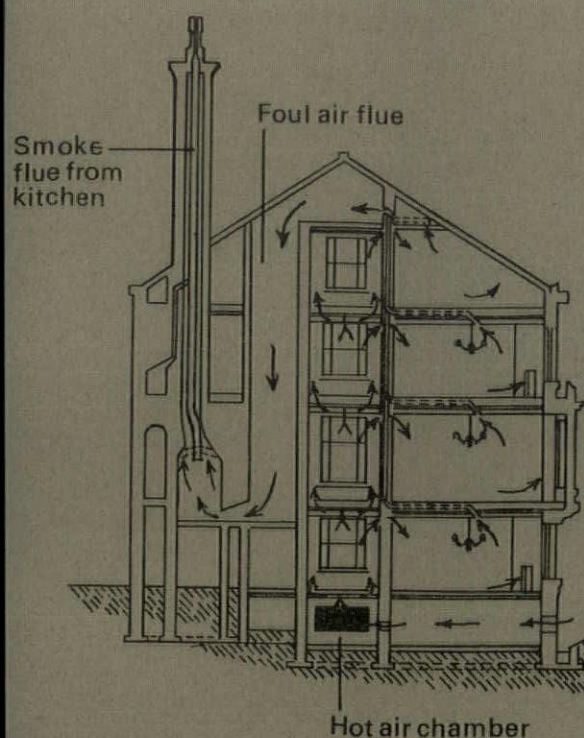
all about. It was written primarily for the guidance of clergy, ecclesiastical building committees and church architects. The environmental insufficiencies of buildings for religious ritual and study always bring out his most caustic and characteristic blend of intellectual scorn and humane sympathy: 'The worst offenders against the laws of health are those responsible for the building of churches and other places of worship. The reason for this is not far to seek...'¹⁶ Then follow some admirable examples of 'whole-building' environmental analysis: 'A church is built on a conventional plan, fixed in mediaeval times, when churches were less crowded, services shorter, and above all, at a time when there was no lighting by gas... It is generally built in the form of a nave and side aisles, lighted by clerestorey windows. This gives, including the chancel, four ceilings of different heights, making it most difficult to extract the air at the level of the roof. The clerestorey windows chill the air as it rises, and send it down in the form of a cold douche on the heads of the congregation. The roof is lofty and dark, necessitating a large amount of light, and as a rule about twice as much gas is burned for lighting purposes as is necessary... Nonconformist chapels are generally worse, on account of the frequency of galleries and the consequent crowding. Worst of all are probably the numerous mission rooms which, through the energy of the



Above: plans of the Octagon, Grove Street, Liverpool, built for his own occupation by Dr John Hayward, 1867.

clergy, are found in such large numbers in the poorer districts of our large towns. These are frequently improvised out of a couple of cottages. No architect is consulted on the subject, the alterations are made by a local builder, and sanitary conditions are absolutely unthought of. The strictest economy is observed, especially in the heating apparatus, which is generally a small stove, and every Sunday a large class of more or less unwashed children is succeeded by a crowd of totally unwashed adults, till the atmosphere can only be described as sickening.'¹⁷ These last observations on the 'great unwashed' are not snobbery; Jacob clearly spoke sober truth based upon personal observations. Medical practitioners, in the course of their normal rounds and as visitors accompanying inspectors of mines and factories, had unrivalled opportunities for observing the varieties of environmental disaster the nineteenth century had bred, and would be exposed to conditions that rarely came to the notice of architects. The common contempt of medical men for the inhibitions of convention, and their rationalist belief in direct physical action are well enough known to leave no reason to be surprised that they frequently went beyond mere verbal protests at the conditions of the time. Not only did they often exert political leverage at the local and national level, but some also put up exemplary structures. In the absence of any convenient source of directly applicable environmental power, they had to apply their medical knowledge and elementary principles of environmental physics in precisely the same holistic manner as is implicit in Jacob's

critiques, designing the whole structure and use of the house anew, in order to achieve their environmental aims. In Liverpool, for instance, a Dr Drysdale, and a Dr Hayward both built houses in the 1860s whose whole design turned around problems of ventilation and heating. J. J. Drysdale was the pioneer; his Sandbourne House of 1860 still stands. John Hayward's house, the Octagon in Grove Street, is a more complex and slightly more sophisticated affair, and was completed seven years later, and also survived though in a very dilapidated condition. Both houses are well documented, as are their designers' intentions, because the two doctors collaborated on a text-book, *Health and Comfort in House-building* (1871), while Hayward read a paper on his Grove Street house to the Liverpool Architectural and Archaeological Society shortly after its completion. His descriptions of the form and functioning of the Octagon in these two documents are so lucid and systematic, and give so good a picture of the environmental technology available and exploited in practice, that there is little left for later scholarship to add. All that need be said, in truth, is to draw attention to the way in which the whole plan, section and construction of the house, has been affected by his determination to control the ventilation, and the matching manner in which practically everything within the house, including the gas lighting, is consciously set to work to assist the structure in realizing



Diagrammatic cut-away perspective of the Octagon drawn by Mary Banham, to show the circulation of the air.

- 1, fresh air intake
- 2, settling chamber in basement
- 3, heating coils
- 4, air passages in lobby floors
- 5, air passages in cornice
- 6, extract above gas lamp
- 7, foul air chamber
- 8, foul air down duct
- 9, foul air chimney
- 10, flue from kitchen range

Section of the Octagon, Grove Street, Liverpool.

that aim. A compact description of the house is given in *Health and Comfort*:

The basement is devoted principally to the collection and warming of the fresh air. On the ground floor are the cellars (scil. cold stores) a ballroom, two professional rooms . . . The first floor is the living floor . . . The second consists of the family bed-rooms with breakfast room . . . and the third floor of the servants' bed-rooms with children's play-room, store room and two water-cistern rooms. And above, beneath the ridge of the roof, is the foul air chamber, into which all the

vitiating air of all the rooms in the house is collected, and from which it is drawn by the kitchen fire, by means of a shaft passing down to the ground floor, and then ascending behind the kitchen fire, and up the kitchen chimney stack round the smoke flue.⁸

The use of an ascending/descending convection-duct of this sort, powered by waste heat (in this case, from the ever-burning kitchen range) was a pretty common form of air extract in the era before suitable fans were available. What is uncommon in the design of the Oct-

agon is the way in which all the principal rooms open off closed lobbies, separated by doors from the hall and staircase. These lobbies, superimposed exactly in plan, from a vertical supply duct (called a 'corridor' by Hayward) delivering clean and warmed air to the rooms, in a manner described as follows, to the Architectural and Archaeological Society:

'Along the centre of the ceiling of each storey of the central corridor is an ornamental lattice-work two feet wide, and along each side of the floor above is an iron grating one foot wide, these allow the warmed air to ascend from the lobby beneath to the lobby above, but check it for the supply of each floor, and prevent it rising directly to the top one.

Along beneath the ceiling of the basement of this corridor run five coils of Perkins' one-inch diameter hot water pipes. Fresh air enters into the lower part of this basement and, rising, is heated by the heated pipes, and passes through into the lobby of the ground floor, and thence into the lobby of the second floor and thence into that of the third floor, so that the central corridor is filled from the ground floor to the attics with fresh warmed air.

' . . . Out of this central corridor all the principal apartments of the house open; and out of it, and out of it only, they receive their supply of fresh air.

'The cornice round the ceiling of the corridor, and of each of the rooms opening out of it, has a lattice enrichment seven inches deep, and the wall between these two cornices is perforated by as many seven-inch by five-inch openings as the joists will allow . . .

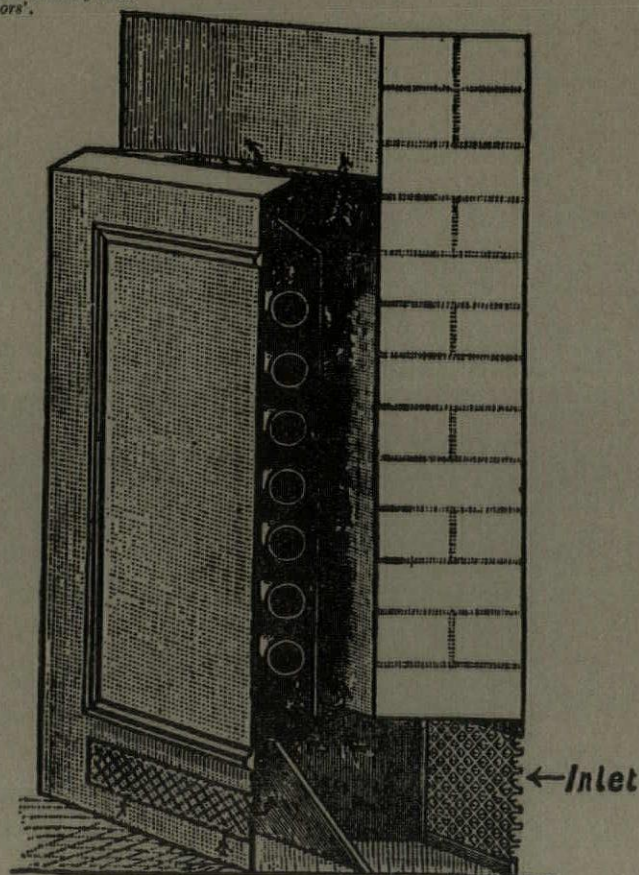
Over the gasolier in the centre of each room is a perforated ornamental, covering a nine-inch square opening into a zinc tube nine inches by four-and-a-half inches . . . this zinc tube goes along between the joists of the ceiling into a nine-inch by four-and-a-half inch flue in the brickwork of the wall, between the corridor and the room above, where it is regulated by a valve. The flue rises up inside the wall and opens into the foul air chamber formed under the roof of the attic. The flue from each room opens separately

into this chamber, and there is also a flue from the cloak room, the dressing room, the bath room, and the kitchen, and from all the water-closets, even the servants' in the basement; there are eighteen flues . . . Out of the north end of this chamber goes a brick flue or shaft, six feet by fourteen inches, taken from the back staircase . . . this outlet or shaft goes straight down to below the first floor, and then crosses eastward and rises up behind the kitchen fireplace, it is then collected in a square shaft . . . of at least five square feet surrounding the kitchen smoke flue, and these together form a large chimney stack, which is carried up to a greater height than any other chimney in the house, so as to secure a long siphon and a strong draught.⁹

It might appear from the above that the ventilation would be restricted in practice, to a shallow zone below the ceiling, the air entering through the perforated cornice and leaving through the ornamental rose over the gas lamps. But this supply of warm air was not intended to heat the house—heat was provided in every room by a conventional fireplace, whose chimney would pull the fresh air down from the cornice and across the room. The function of the elaborate supply system for fresh warmed air was the same as the reasoning behind the permanently sealed windows: to prevent cold draughts, which were the normal concomitant of any supply of fresh air in conventional structures of the period. The elaborateness of the provision that had to be made to achieve this, and the consequential effect upon the whole form and structure of the house will probably seem nowadays to be totally disproportionate to the benefit gained, but one must remember that 'the draught' was (and is) an obsessive enemy of thermal comfort in England. To have gained a draughtless air-supply, free from the common dusts and grits of the urban atmosphere (they had been allowed to settle out in the chambers of the basement) would have appeared a major gain in domestic environmental management at the time, especially when it is seen against a background of the going state of environmental knowledge and practice.

By the 1860s, the practice of heating had begun to stand less upon rule of thumb than upon a quantifiable body of knowledge of performance and control—at least the performance of boilers and radiators seems to have been within the scope of numerical expression and calculation. The progress of quantification, plus the solidification of custom, were to have a stultifying effect on speculative and humane thinking about the supply of heat, however, and by the end of the century the use of ordinary human imagination, if we are to judge by works like Baldwin's *Outline of Heating, Ventilating and Warming* (1899), had almost come to a stop. For Baldwin, it appears that questions of human comfort and physio-

Professor Jacob's 'mixing valve' oil-box radiators.



logical response to thermal stimuli either do not exist, or are not open to discussion. The aims and priorities of heating are set out in crisp phrases of crushingly mechanistic insensitivity, thus:

BOILER: in warming by steam or water, the boiler is generally the first consideration.¹⁰

'It is usual to maintain a temperature of 70°F within a room.¹¹ It may be asked "Why is the question of condensation the first consideration?" and in reply I will say that it furnishes us with the first item of data on which to base all our other calculations . . .'¹²

It may be objected that Baldwin can treat matters thus because there was a going consensus of opinion that rooms should be kept at 70°F and that no further human study was needed at the time. In fact, there was no such consensus, and never has been, though later 'environmentalists' have made equally procrustean propositions—eg., Le Corbusier's proposition to maintain a temperature of 18°C in buildings in all parts of the world irrespective of local need or preference. In any case, what makes Baldwin's approach to heating appear unattractive and mechanistic is that his observations on ventilating, which was not yet a quantifiable topic, are humane and direct. They are truly observations, based upon manifest personal experience, and they support a genuine discussion of the problems involved, without the short-hand dogmatism of his views on heating. He notes that:

'The early investigators depended largely on the sense of smell as a guide to the vitiation of rooms.'¹³

and he, like his immediate predecessors and most of his distinguished contemporaries, was clearly a 'nose-man' and an experimentalist in the field.

Indeed, one of the great rewards of studying the environmental literature of the late nineteenth century is that while heating had been reduced to rule and formulae, ventilating had not been, but was still open to discussion, much of it sensitive, more of it speculative. As industrialized societies fought their way out of the soot, smog and grosser pollutants of their atmosphere, they came up against a situation which clearly baffled men of common sense accustomed to the practical mechanical solution. Whereas 'heat' or 'cold' could be satisfactorily measured with relatively simple instruments and their causes identified, the 'freshness' or 'stiffness' of air could not be identified. Even when the two worst offenders in the vitiation of air had been finally exposed—carbon dioxide and excess humidity—neither was as susceptible to easy measurement and constant monitoring as heat, and neither was as susceptible of direct personal observations without instruments because both, in the forms normally encountered, are invisible and

odourless.

Thus, the two first impacts on the human senses were normally 'the smell' and 'the draught'. The smell was observed in all inhabited interiors, especially when they were crowded and heated, the draught seemed to arise whenever those interiors were aired sufficiently to remove the smell. Attempts to do away with the draught could be as complex as Dr Hayward's, or as self-frustrating as a case recorded by Baldwin:

'In well-built modern residences the construction is often so good that it will hold water . . . a grand New York residence was so air-tight that the air to supply the grate fires had to come down the register flues (and) the air had to come down the ventilating flue of the hood of the range in order to supply the range fire, until a window was opened.'¹⁴

However, if the draught could be stopped at source, then the smell had to be stopped at source too, and this proved difficult while the ultimate causes of vitiation and stuffiness remained odourless and therefore undetected by a generation of engineers whose ultimate arbiter of ventilation was the human nose. Precise knowledge remained fragmentary and ill-diffused, surrounded by private suppositions verging on the superstitious.

For instance, the growth of scientific knowledge and speculation about the key vitians was, in fact, as described by Dwight Kimball in 1929, who, after setting down the primacy of the great French chemist, Lavoisier

'who in 1777 began the study of oxygen and carbon dioxide'

goes on to list the succession of true pioneers after him:

'Following this for about a hundred years the carbon dioxide theory prevailed in ventilation. Then came the theory of Max von Pettenkofer (1862-3) who first established the conclusion that bad ventilation should be charged to other factors than carbon dioxide. The harmful effects of bad air and the beneficial effects of good air later led to the erroneous theory of hypothetical organic substances in the air. Then came the recognition of the work of Hermans (1883), Flüge (1905) and Hill (1913), proving that the thermal, rather than the chemical properties of air are of vital importance in connection with ventilation, insofar as normally occupied spaces are concerned.'¹⁵

Not only had those 'thermal properties' (as measured by the wet and dry bulb thermometer) proven extremely elusive, but the pioneers had been misunderstood. Max von Pettenkofer, because he had proposed the measure of carbon dioxide as a workable guide to the level of all pollutants, was mistaken for a proponent of the carbon dioxide theory, which he manifestly was not. If a man of Pettenkofer's eminence and fame (he was the father of modern hygiene as we know it) could be misunderstood, the general confusion of knowledge should cause no surprise. Solid and

responsible practical men stood upon their private experience (having nothing else to rely upon) even to combat their mistaken image of Pettenkofer, and in the process revealed the enormity and nausea of the olfactory problem. Thus Konrad Meier, a New York heating consultant, in his *Reflections on Heating and Ventilating Engineering* (1904) wrote:

'Carbonic acid is not a poison in the ordinary sense of the word, and much larger quantities than generally assumed may be present without causing ill-effect . . . On the other hand, substances and impurities that cannot be estimated from the presence of carbonic acid, as for instance an excessive amount of vapour of water, sickly odours from respiratory organs, unclean teeth, perspiration, untidy clothing, the presence of microbes due to various conditions, stuffy air from dusty carpets and draperies, and many other factors that may combine, will in most cases cause greater discomfort and greater ill-health.'¹⁶

What is striking about Meier's demonology of bad air is that it not only includes the real culprits, carbon dioxide (carbonic acid gas) and water vapour, but still retains nearly all the common Victorian villains, such as 'sickly odours' and makes provision for any demons he may have overlooked ('many other factors'). This was how he had observed the situation according to the evidence of his own nose. The pre-occupation with body odours may strike modern readers as a trifle obsessive and neurotic, but so general and emphatic was the apparent nasal evidence on this subject that the belief in an organic poison, mentioned by Kimball (above), is understandable—what else could have caused the unmistakable and ever-present 'stuffy smell' in occupied interiors, especially at a time when the knowledge of air-borne bacteria was beginning to diffuse among the general public? But the point about 'the smell' in this sense is that it was not a gross industrial pollutant that caused it, but the mere presence of breathing human beings in a closed space. The better those spaces were closed by improved construction, the better lit by gas and the better heated, the worse the situation became, and it was not something that could be bettered by social legislation or moving out into the country. In other words it was not—like working in a mine or factory, or living in a tenement—a hazard that the educated and well-to-do could avoid by their usual methods. To the factors bearing upon environmental reform, the considerations of hygiene and efficiency, economy and profit, already cited, must be added the aesthetic distaste of wellbred persons for the stuffiness of their interiors and the consequent headaches with which they woke so often in the morning (Professor Jacob also notes that clergymen had Monday head-aches after a full

Sunday stint in crowded churches). These people, in households that bred, or were presided over by 'New Women' or their emancipated equivalents in non-Anglo-Saxon countries, were the main support and proving ground for any environmental innovations that could be produced in domestic sized packages. The rise of electric lighting is inseparable from this milieu its cleanliness and slightly mysterious quality seemed to chime well with the interests of an intelligentsia that was turning away from the gross materialism and determinism that had characterized so many mid-century attitudes, in favour of a more mystical and aesthetic approach. The tenuous curves, pale walls and luminous decorations of Art Nouveau and Tiffany would be unthinkable without electric lighting, not only in the purely physical sense that effluent of gas lighting would have rotted delicate fabrics and darkened the decor, but also in the purely aesthetic sense that the quality and distribution of light that could be achieved is entirely apt to the style. Insofar as Art Nouveau is the first of the new styles and not the last of the old, it is in its determination to repudiate the norms of nineteenth-century interior design, including its environmental standard. Art and technology combined to reject the dark, the coarse, the overstuffed and the stuffy. There had been previous attempts, before the 1890s, but they had been relatively inconsequential in the absence of a fundamental revolution in environmental technique. But if the sudden availability of electric lighting marks the turning point in that revolution, the ferment of improvement and innovation had been going on for most of the century.

¹⁰ *Mechanical Heating and Ventilating*, Chicago 2nd ed., 1895, p. 76.

¹¹ *Notes on the Ventilation and Warming . . .* (SPCK Manuals of Health), London, 1899, p. 197. Professor Jacob, who taught at Yorkshire College, Leeds, died shortly before his little book was published.

¹² *op. cit.*, p. 28.

¹³ *ibid.*, p. 94.

¹⁴ *ibid.*, p. 57.

¹⁵ *ibid.*, p. 26.

¹⁶ *loc. cit.*

¹⁷ *op. cit.*, p. 68. All the available information the Octagon, including survey drawings (which do not detail the duct-work, however) were brought together in a joint thesis report by J. I. Chambers, A. B. Shaw, R. J. Winter and N. N. Dent, which is now in the library of School of Architecture, Liverpool University.

¹⁸ *ibid.*, pp. 92-94.

¹⁹ *Outline of Heating, Ventilating and Warming*, New York, 1899, p. 22.

²⁰ *ibid.*, p. 34.

²¹ *ibid.*, p. 32.

²² *ibid.*, p. 13.

²³ *ibid.*, p. 53.

²⁴ In *Heating, Piping and Air Conditioning*, June 1929, 'Air-conditioning, its future in the field of human comfort', p. 93.

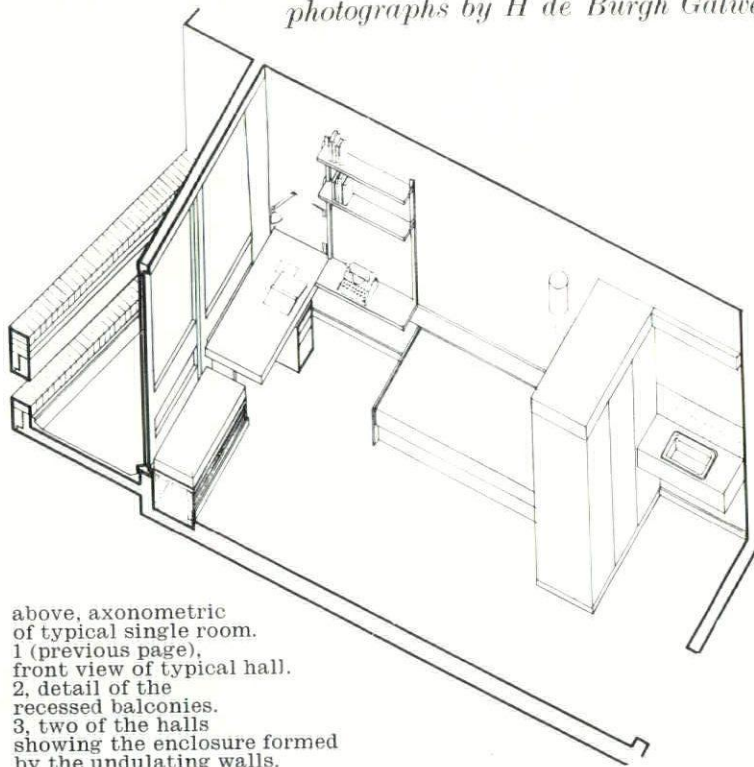
²⁵ *Reflections . . . etc.*, p. 20. This document found among the vast deposit of technical pamphlets that have come to rest in the New York Public Library (Bound Pamphlets, V. 12, No. 1) appears in its format and content to have been some sort of annual addendum to the New York Branch of the American Society of Mechanical Engineers.

chitects: Gillespie, Kidd and Coia

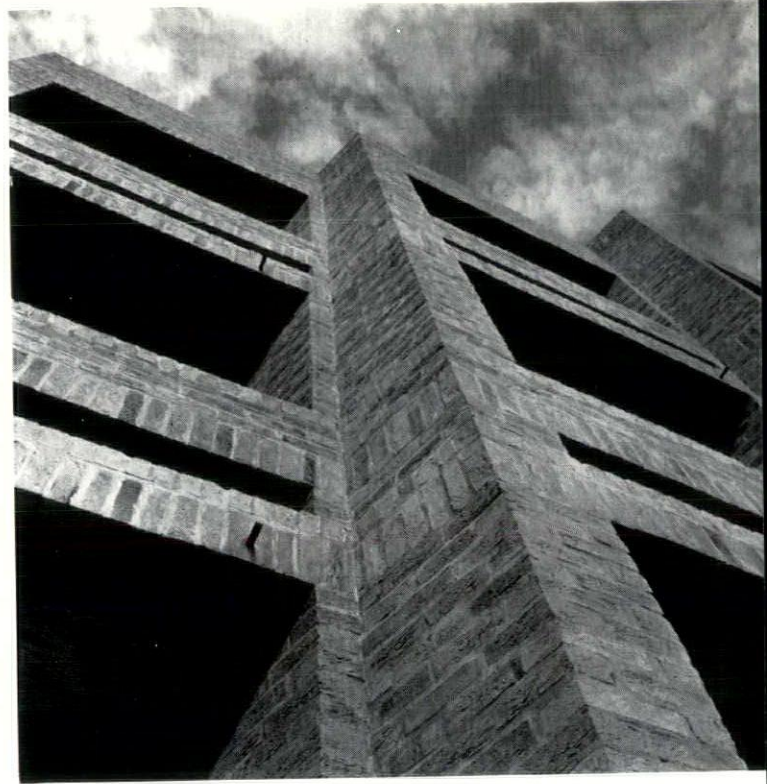
HULL UNIVERSITY HALLS OF RESIDENCE



photographs by H de Burgh Galwey



above, axonometric
of typical single room.
1 (previous page),
front view of typical hall.
2, detail of the
recessed balconies.
3, two of the halls
showing the enclosure formed
by the undulating walls.



HULL UNIVERSITY HALLS OF RESIDENCE

This group of buildings on the outskirts of Cottingham, a village about three miles west of the university, is known as The Lawns and will eventually consist of twelve halls of residence (each housing 135 students, a student centre containing dining rooms, common rooms etc., fourteen staff houses and a service centre. So far six of the halls, the student and service centres and three staff houses have been built and, with the exception of the student centre which will appear in a later issue of the Review, are illustrated here.

The site is part of an old estate, bounded on two sides by belts of trees, on a third by the playing fields of an adjoining school and on the fourth by new housing and a university hall of residence built about 1954. The halls are arranged in the shape of a horse-shoe with a service road on the outside, thus enclosing a traffic-free precinct in the centre.

The student centre is placed where the traffic roads and the pedestrian ways converge at the end of the arms of the horse-shoe. The staff houses are near the earliest hall, where they allow their occupants a reasonably private family life. The service centre, which houses the boiler plant for the entire site and an engineer's office, is behind the earlier hall. The lake shown on the site plan is to be a balancing pond which will be needed when the seventh new hall of residence is begun. It will also serve to control the amount of student traffic across the central area. Each hall accommodates, besides the 135 students and 8 hall-lodgers, a warden (with his family) and 4 hall-tutors, the planning being based on the number of students one warden can properly get to know and administer. A daily domestic burser assists the warden and supervises cleaning, maintenance etc. To provide a reasonable sized social unit within each hall, the students are grouped in 3-storey staircases, with 27 students to a stair—9 on each floor. These 9 students share a bathroom, two showers, two W.C.s and a pantry, with a communal laundry in the basement and a small parlour on the stair. The stairhall and the parlour, which is visible at all levels, provide for social contact between all 27 students, the main recreational facilities being in the central student building.

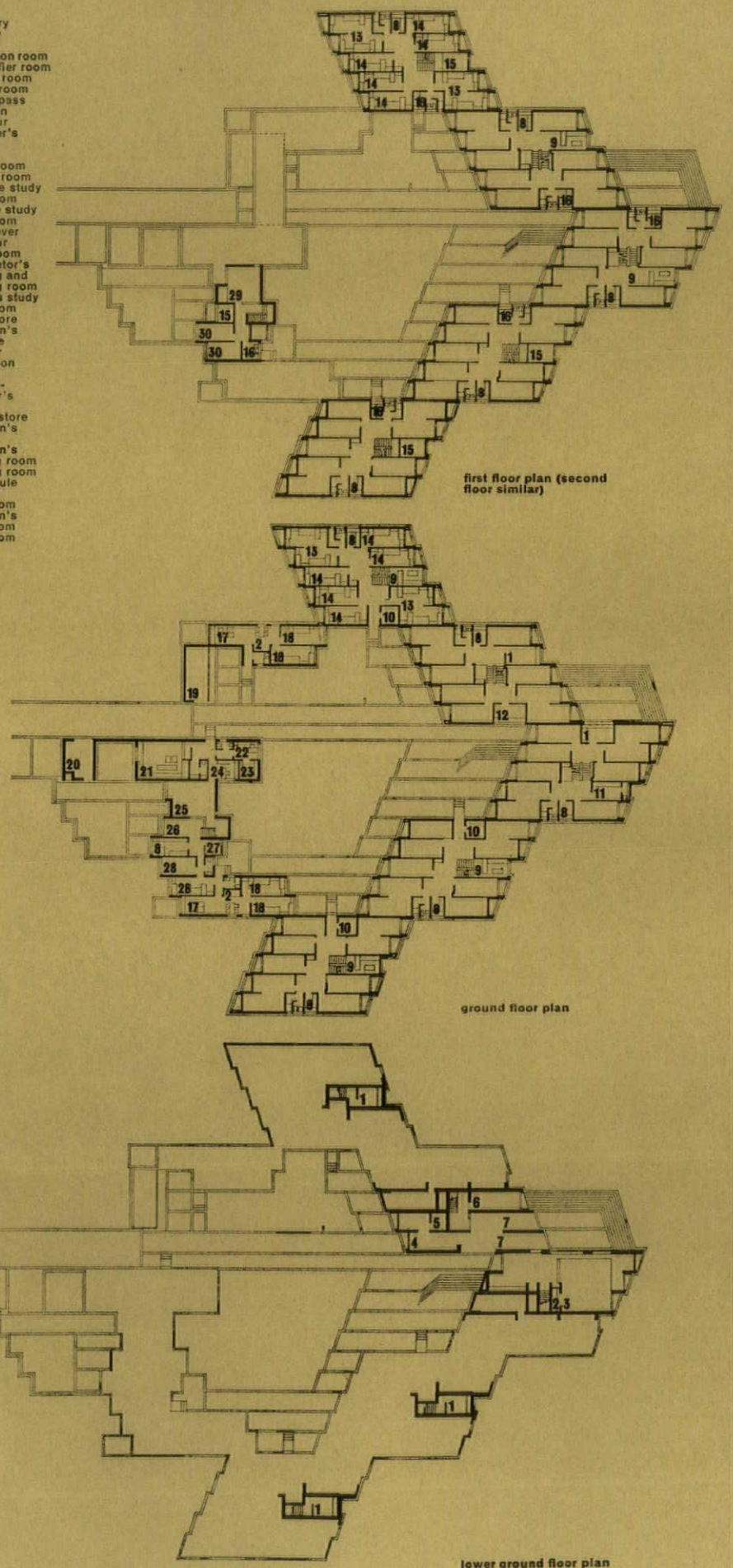
There are 21 single rooms and six double to each stair, furnished as study-bedrooms. A full-size prototype was built in the university before the final planning was decided on. Each room has a shallow balcony, designed to cut off outside noise and allow the window to be opened fully in warm weather. There is a 4 ft setback between adjacent rooms, again to reduce noise but also to minimise the corridor effect inside. The service rooms are placed between the study bedrooms at the gables of each staircase and are given natural light and ventilation by adjacent blocks being staggered.

All five staircases in each hall are entered from a courtyard formed by the stepped staircases and the tutors' and wardens' accommodation. The aim has been to use variations in the site to give each courtyard a different and identifiable character. A senior common-room, with pantry, lavatories and the domestic bursar's office is linked to the warden's house by his study.

The structure consists of loadbearing brick walls (buff and grey handmade sandstock) with ground floors and roofs of timber and the intermediate floors of concrete. Windows are of painted timber with some copper fascias. In circulation areas the brick has been left exposed internally and has been combined with plywood panelling. Study-bedrooms are plastered and bathrooms and kitchens tiled. Heating is by hot water, using gilled tubes with fan-assisted boosters. The horizontal ducts occupy the crawl space beneath each floor; the vertical ducts are easily accessible in the staircase halls.

Partners in charge, A. Macmillan, & I. Metzstein. Job architect for halls of residence, H. S. Morris; for service centre, D. Etherton. Services engineers, Edward Pearce & Partners. Quantity surveyors, Robert Mackintosh & Partners. For contractors, see page 314.

- key
- 1, laundry
 - 2, pantry
 - 3, junior common room
 - 4, calorifier room
 - 5, meter room
 - 6, trunk room
 - 7, underpass
 - 8, kitchen
 - 9, parlour
 - 10, cleaner's room
 - 11, guest cloakroom
 - 12, spare room
 - 13, double study bedroom
 - 14, single study bedroom
 - 15, void over parlour
 - 16, bathroom
 - 17, hall tutor's sitting and dining room
 - 18, tutor's study bedroom
 - 19, bin store
 - 20, warden's garage
 - 21, senior common room
 - 22, house-keeper's office
 - 23, linen store
 - 24, warden's office
 - 25, warden's sitting room
 - 26, dining room
 - 27, vestibule
 - 28, guest bedroom
 - 29, warden's bedroom
 - 30, bedroom

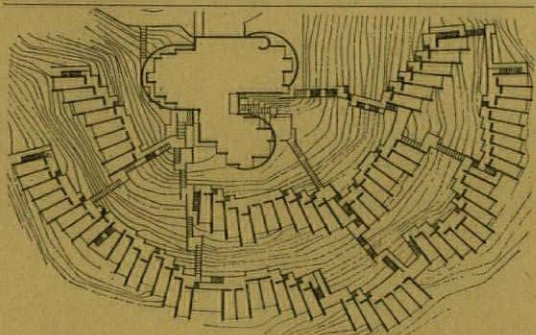


criticism

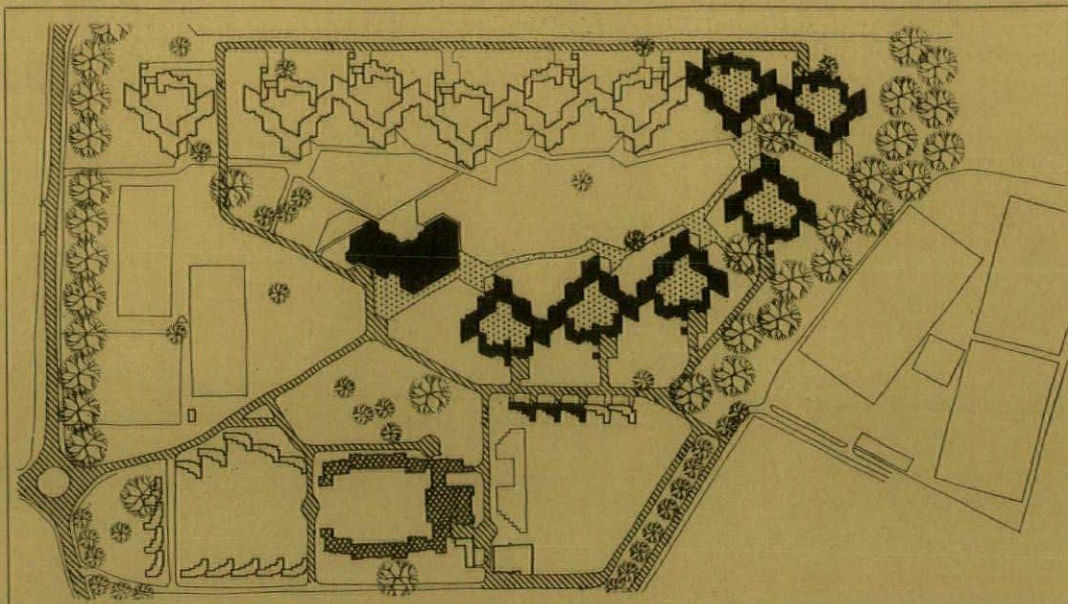
'The Lawns' is one of those suburban addresses that conjures up a picture of pretentiousness as one drives from the university through the submerged village of Cottingham with its erstwhile lanes and cart tracks tricked out with neat half-timbered and pebbledashed villas. To be in character 'The Lawns' are bound to be bottled and nail-scissor-cut, bedded out with begonias and floribunda. Not so. The site turns out to be a park with its grand house missing—an Osterley robbed of Adam. So, gentle undulating acres of lawn backed by trees in their prime provide the romantic setting for this uncompromising, uncontroversial and unusual out-of-town cluster of halls of residence. The contrast with the University campus itself is all the greater because of the unity and clarity of 'The Lawns'. In spite of Sir Leslie Martin's strenuous attempt to create order on the campus, partly through his own long low monolith (illustrated AR, October 1967) which brought to it a refreshing new scale, and partly by a masterplan providing the framework for a galaxy of talent to extend the university, the effect is one of a hybrid multiplicity of buildings and functions. Cottingham by comparison has a marvellous wholeness of vision and breadth of scale. The university by its very nature, could never be a match for this one-use, one architect conception.

Conceptually the scheme is introvert. The halls look in on each other and each hall looks in on itself around a courtyard. The belt of trees round the edge of the site forms the outer moat, the wardens' houses the inner, and the Halls the keep. And the heart of the keep—the central courtyard—is to be a lake.

Each hall is planned as a pair of hollow-centred ziggurats, coupled base to base and laid face down on the ground. By staggering the rooms and providing each with a balcony the students are given total privacy. By the same token the crosswall form of construction ensures maximum sound insulation. The standard of furnishing under UGC constraints has little chance to vary. At 127 sq ft the rooms are comparable with the Essex University towers, but less generous than, say, those provided at the University of Lancaster (145 sq ft). Their nearest equivalent in actual plan form in this country is James Stirling's St Andrews University halls of residence. Abroad, Giancarlo de Carlo's University College (below)



designed almost coincidentally, are closer. The introspective character of the exterior permeates the design of the interior. The dark staggered internal halls giving on to staircases, individual rooms and rooms shared in common, such as laundries, bathrooms and small kitchens, are all part of it, as are the darkened lobbies to the wardens' studies and the senior common rooms. The effect of staggering the internal halls is successfully to break



Site plan: solid shows student centre and halls so far built; dotted, pedestrian areas; cross hatching, earlier hall; diagonal hatching, vehicular roads

the gloomy tunnel corridor syndrome.

The low outer walls of the courtyards formed by the wardens' houses, counterpointing with the higher walls of the students blocks and the angularity and irregularity of both, interact to produce complex internal spaces and volumes. Built predominantly in one material, brick, they provide endless variety without ever becoming restless. How quickly this quality can be diluted is apparent in the later halls which for reasons of economy have had seemingly minor changes made—the odd stained timber fascia here, the white painted panel there—which cumulatively have nibbled

away the total unity.

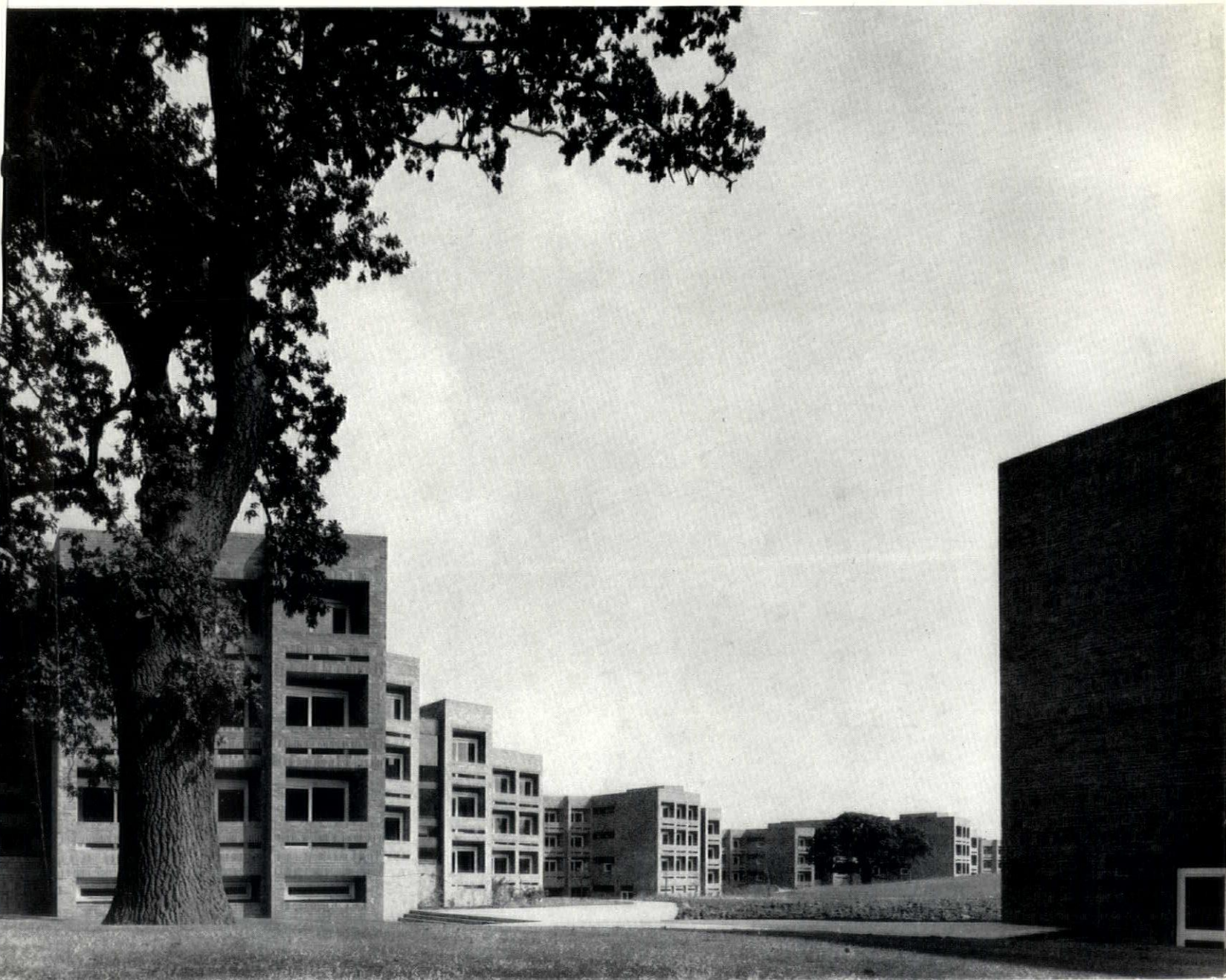
The most disturbing fact about the scheme is that it is unfinished and may never be finished. The lake is a dream. The centre which was planned to form the climax functionally and architecturally—every bit as exciting as Carlo's community building at Urbino, 4—has been pared down. The economic freeze threatens to blight this bold conception and leave it unfulfilled. Whatever the disadvantages of a plan that gives no thought to the luckless rain-sodden student trekking to the top-most hall, the idea is too thorough-going to be half done. All or nothing.

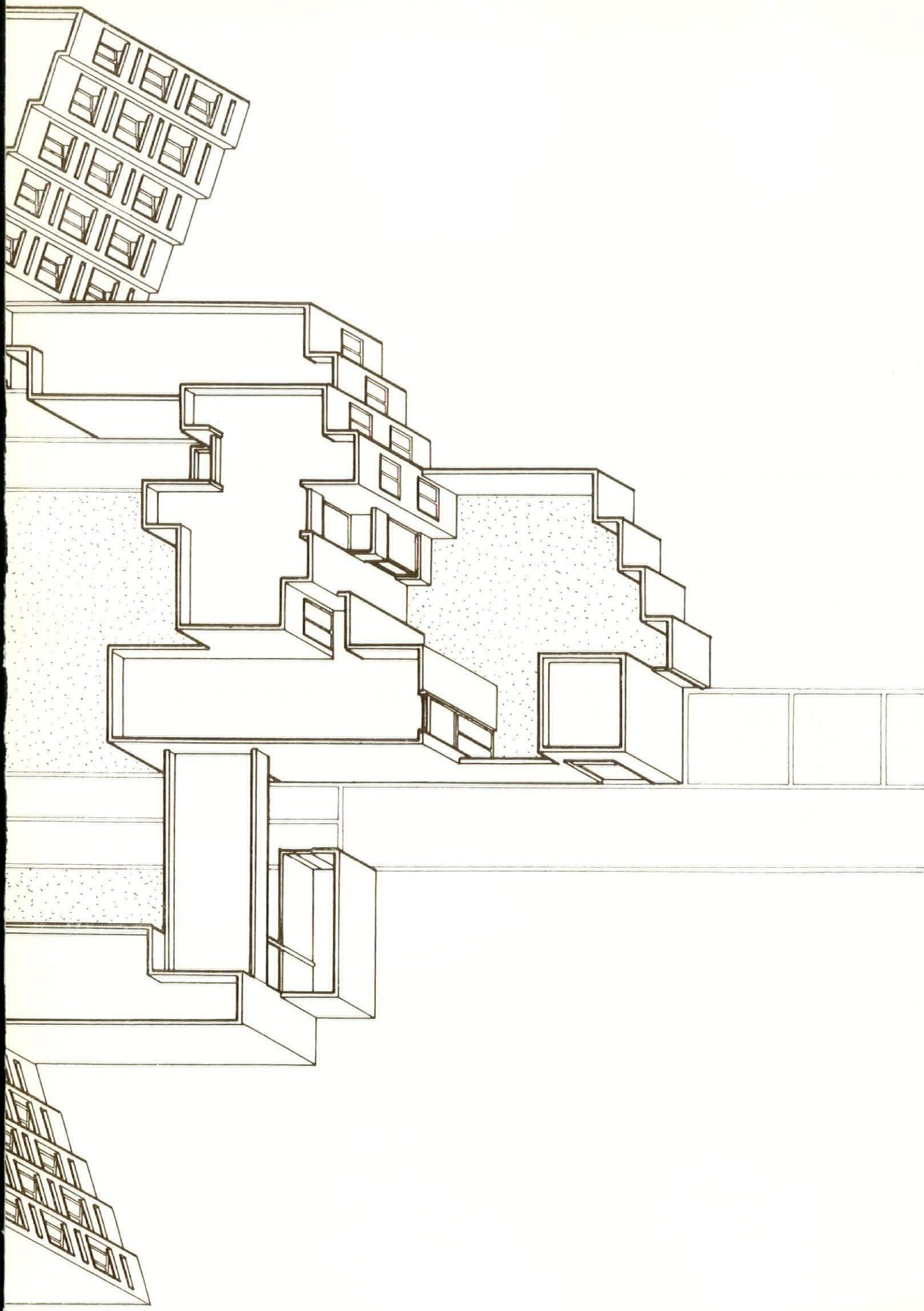
T.R.



HULL UNIVERSITY HALLS OF RESIDENCE

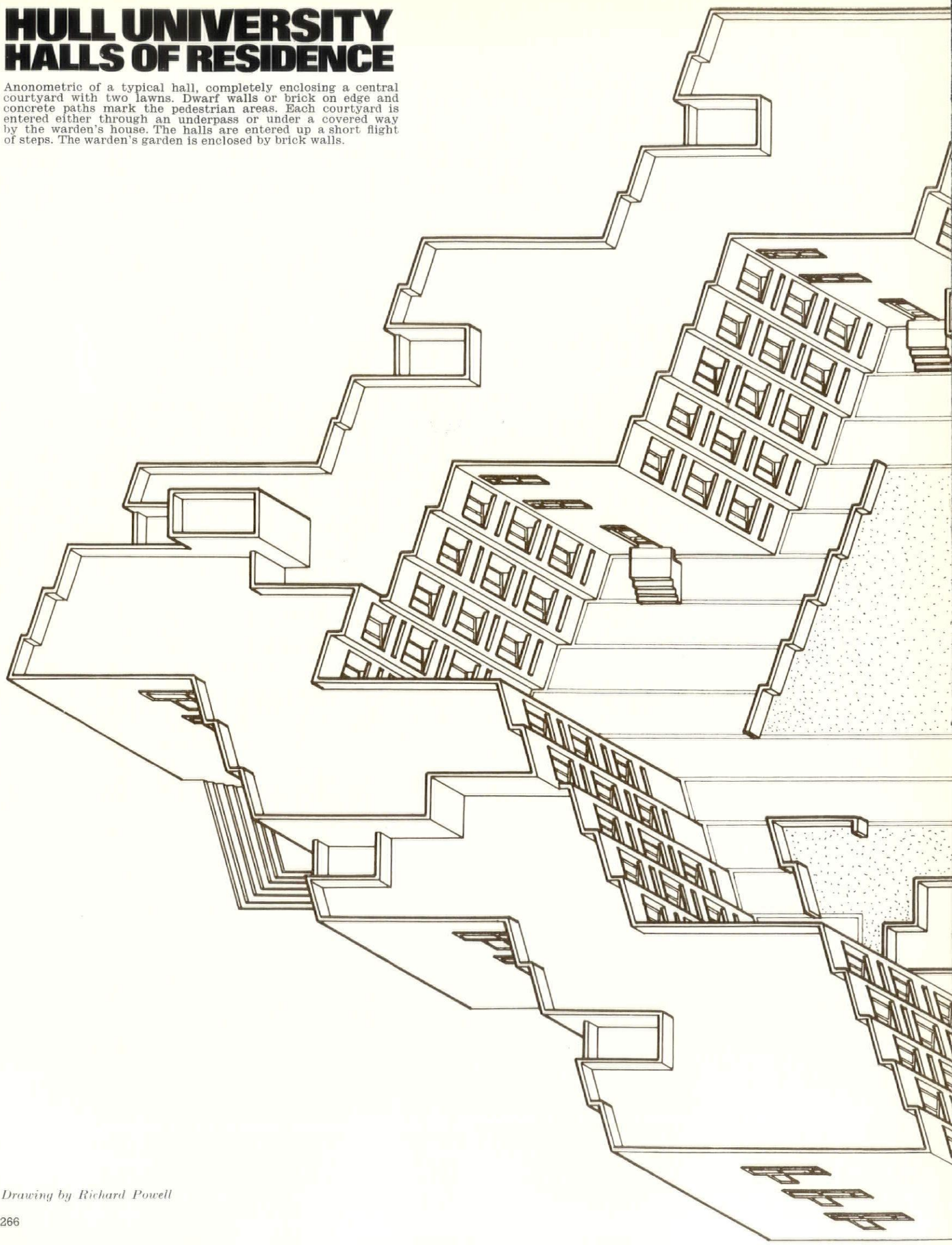
5, long distance view of the halls with their blank flanks pierced only by windows for the kitchens and bathrooms. 6, view from the topmost hall looking towards the student centre (just out of sight).





HULL UNIVERSITY HALLS OF RESIDENCE

Anonometric of a typical hall, completely enclosing a central courtyard with two lawns. Dwarf walls or brick on edge and concrete paths mark the pedestrian areas. Each courtyard is entered either through an underpass or under a covered way by the warden's house. The halls are entered up a short flight of steps. The warden's garden is enclosed by brick walls.



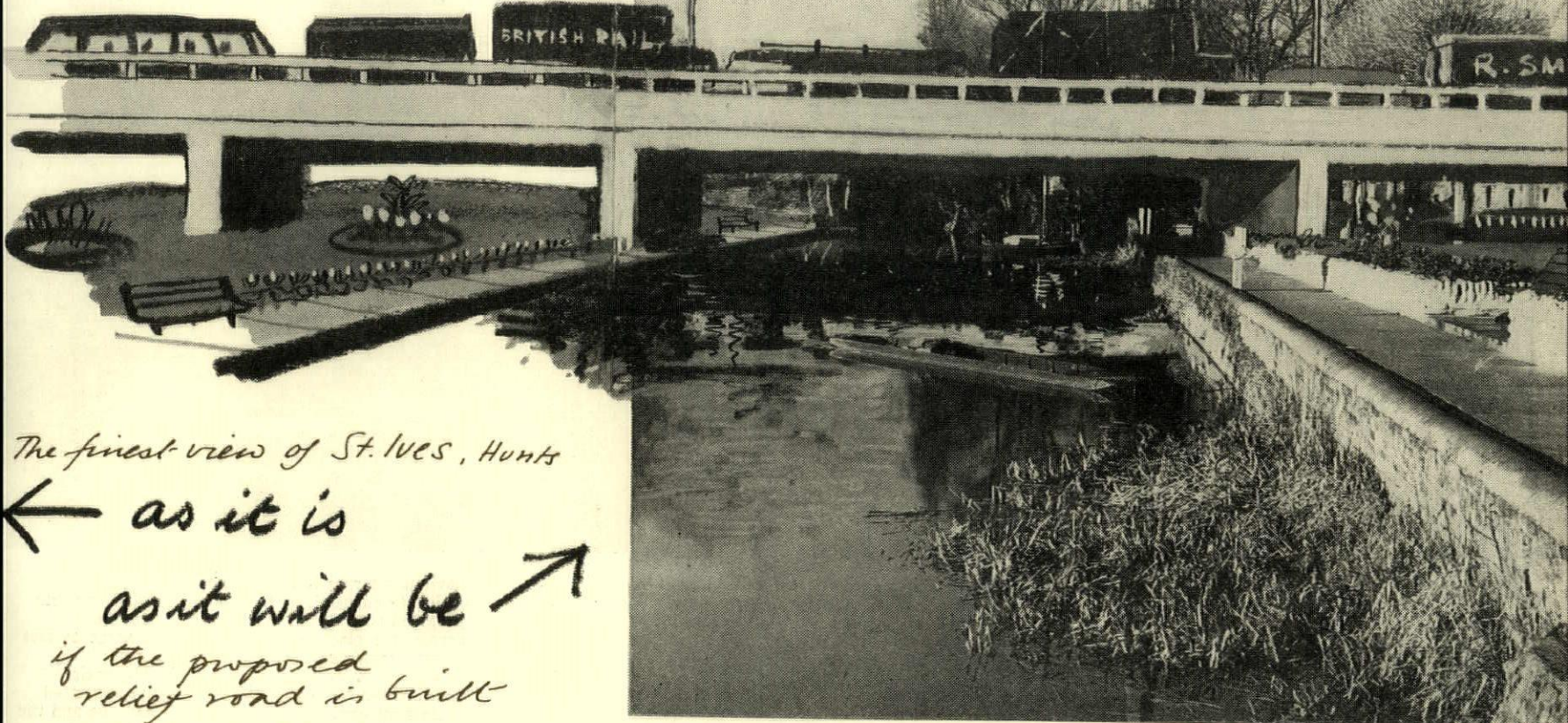


ASPECTS OF CONSERVATION

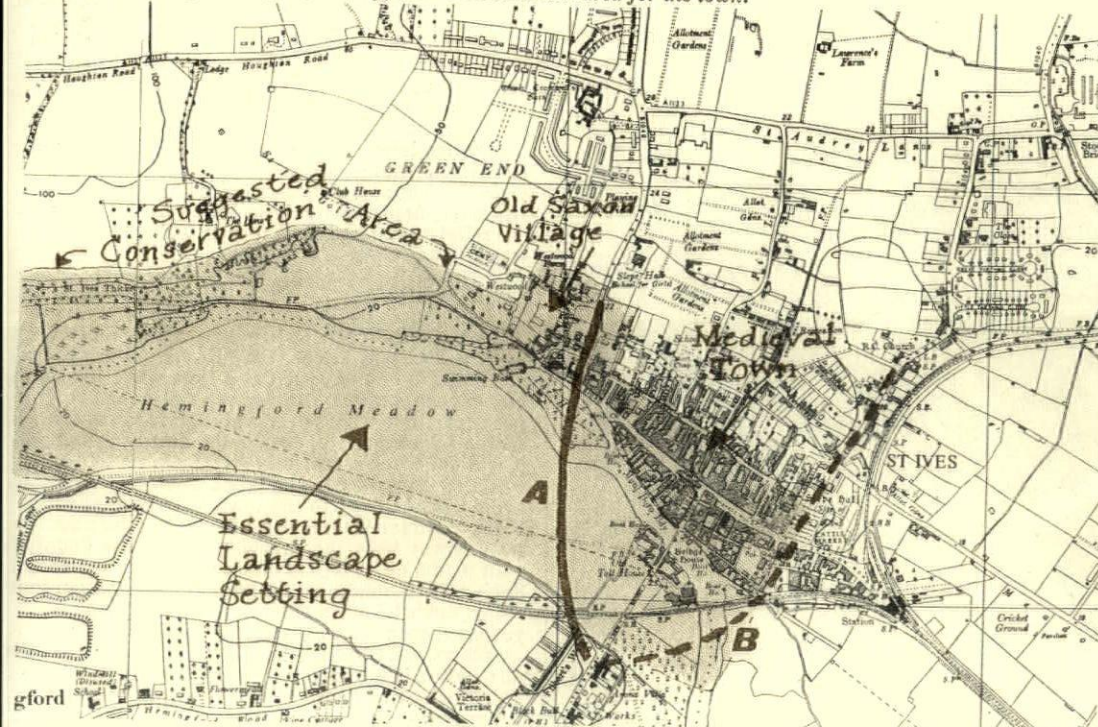
1: Defining the Conservation Area

TOWNSCAPE

Kenneth Browne



1 (opposite) The riverside at St. Ives, showing All Saints' Church from The Waits. This fine view will be ruined, 1a, if the County Council's relief road proposals are carried out. Map A (below) shows the route this road would take A and also the alternative and better route B. It also shows the essential landscape setting and a suggested Conservation Area for the town.



Relief road proposed by county council

Alternative route

Suggested Conservation Area

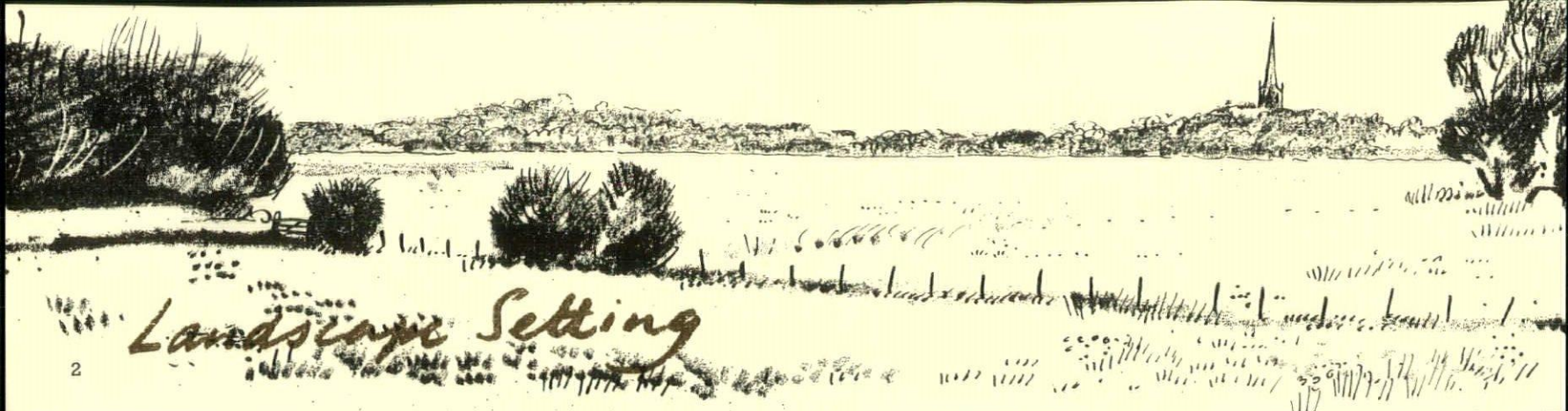
Map A

The Civic Amenities Act of 1966 requires all local authorities to designate Conservation Areas, which it is in the public interest to safeguard. This marks an important step forward in planning technique. Yet since every town and village varies, it becomes of primary importance to underline features of special value and fight like mad to keep them. It is inadequate to safeguard a group of ancient buildings while at the same time allowing some ill-judged action close by to smash the most important aspect of the town. It is essential also to recognize that the landscape setting of a place may often be quite as important as the buildings. These warnings have particular relevance to St. Ives, Hunts, here taken as our conservation guinea pig, for, of the three special things about St. Ives, two are imminently threatened at this moment by one of the most flagrantly ill-judged road schemes the AR has come across. The Huntingdon and Peterborough County Council intend starting in 1969 to build a relief road to the west side of the town (see Map A) which will visually sever the parish church from the town (compare 1 and 1a) and also ruin its landscape setting, 2. The proposal it seems has been in existence for at least thirty years and was shown on the St. Ives Town Map which received formal confirmation by the Minister of Housing in December 1962. Yet there has been no public outcry. This can only mean that most people have failed to realize the brutal significance of the proposal, including apparently the Ministry of Housing, who gave their approval to such an act of vandalism and are now refusing to have the matter reopened. Also until recently there has been no local civic society to act as watchdog, an unhealthy situation.

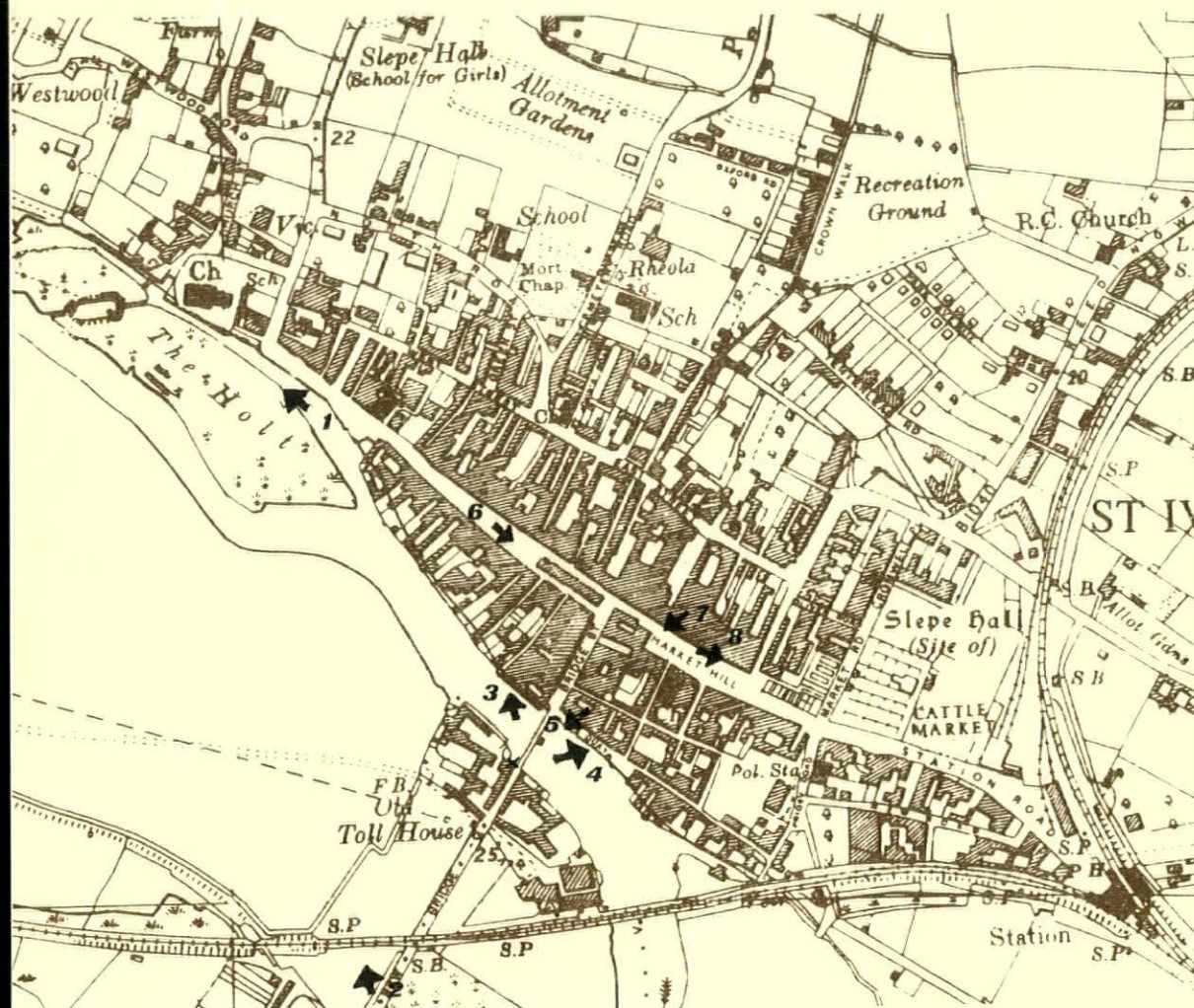
SPECIAL QUALITIES

The three special things about St. Ives are:

Unspoilt foreground: From the south you approach the town over a causeway with, to the left, the distant spire of the parish church stabbing up from a thick belt of trees, 2—the only built object in an unbroken expanse of water meadows,



2 (top), Hemingsford Meadow which provides the unspoilt foreground south of St. Ives and must be protected. The relief road would cut right across it. 3, 4, the clear-cut edge to the town. St. Ives from the medieval bridge over the Ouse, showing The Quay on right. Map B (below) shows the viewpoints of illustrations.



Map B
270

obviously a rare landscape setting to be jealously guarded, or so you would think, yet the proposed road (A on map A) would cut right across it, replacing the present idyllic scene by fast moving traffic on a viaduct.

Special riverside view to the church: The main street of the town is today splendidly terminated at its west end, 1. This view, justly famous and the subject of a *Country Life* cover, would, as we have seen, be horridly transformed, 1a, if the new road were built as proposed slap across the face of the church.

The present continuity of medieval town and Saxon village (around the church) would be broken and, in addition, the proposal would involve demolition of the old school (seen right in 1) a fine listed building, while the road itself would have to be raised in order to cross the meadows above flood level. At the same time no doubt the romantically overgrown island, The Holt (seen left in 1) would be suitably municipalized.

Strongly defined town edge: This is dealt with later. However, first priority at St. Ives must be to stop the relief road—at any rate from going in the wrong place.

RELIEF ROAD

St. Ives suffers badly from traffic congestion, with giant articulated lorries trundling across its fine but narrow medieval bridge. Traffic over the bridge is restricted to one direction at a time while the street corners are jammed. No doubt a relief road is necessary, but what is unforgivable is to persist with a selected route, despite the amenity damage it will do, when a perfectly sound alternative exists (B on map A). The latter would not only avoid visual injury to the town but also make better commercial sense, for instead of drawing traffic away from the shopping area as the County plan would do, it would direct it close by the shops. Such a route might cost a little more, but even that seems doubtful since the price of raising the proposed road on a causeway right across the meadows must be very high. The argument that the alternative is a longer way round for Huntingdon-bound traffic from the south, also does not hold water since such traffic would surely take the A604 further south via Godmanchester. The County Council must know this, yet they are apparently digging their heels in. Why? Can it be that they will not admit their mistake, even at the cost of spoiling the best views of the town?

CONSERVATION AREA

No St. Ives Conservation Area has yet been designated and this is not surprising since it would inevitably draw attention to the disastrous effect of the proposed road. A reasonable Conservation Area for St. Ives is shown on Map A, consisting of the medieval town, the Saxon village around the church and, very important, the whole of Hemingford Meadow up to and including the strong belt of trees in 2; the foreground to the town.

APPROACH

From this south approach, having crossed the causeway, first impressions of the town itself are also good. A cluster of ancient buildings forms a bridgehead with the town proper on the other side

of the River Ouse, which is crossed by the narrow medieval bridge. (A rare example with a chapel in the middle).

EDGE

Seen from the bridge, the town presents a strong, unbroken wall along the riverside, 3, 4. To the right is The Quay, 4, backed by a charming easy-going terrace of small-scale houses, somehow just right in scale and variety. Many are listed buildings and the whole should not be touched, apart possibly from a careful 'facelift'. The fretted roofline and varying materials are immensely important here, the ogee gable in particular supplying just the right fanciful touch to the run of fore-and-aft pitched roofs.

From behind, the Congregational church spire adds a vertical note which holds the whole composition together. Left of the bridge, the riverside continues with a large gabled, Tudor building, 3, once an inn. This is a key building, yet it has been allowed to fall into disrepair and needs urgent attention. Beyond it the well treed gardens of buildings in the main street run down to the river and finally there is the fine Constable vista to the church, which ends the town.

INSIDE

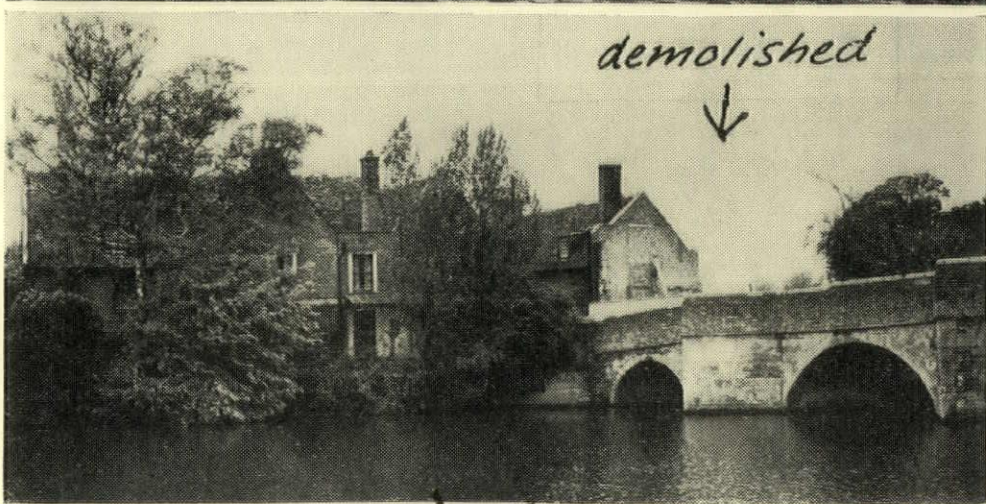
Bridge Street, which continues the line of the bridge into the town, ends in a T junction, the main streets branching to either side, Broadway left, Market Hill right (see plan B). These streets



Town Edge



6
5 (left) Bridge House. 5a: the same scene after the wanton destruction of this key building essential to river views looking south from St. Ives. 6 (above) The Co-operative Stores, a bad building in a key position at the east end of Broadway. It needs rebuilding or refacing observing the surrounding scale.



5a

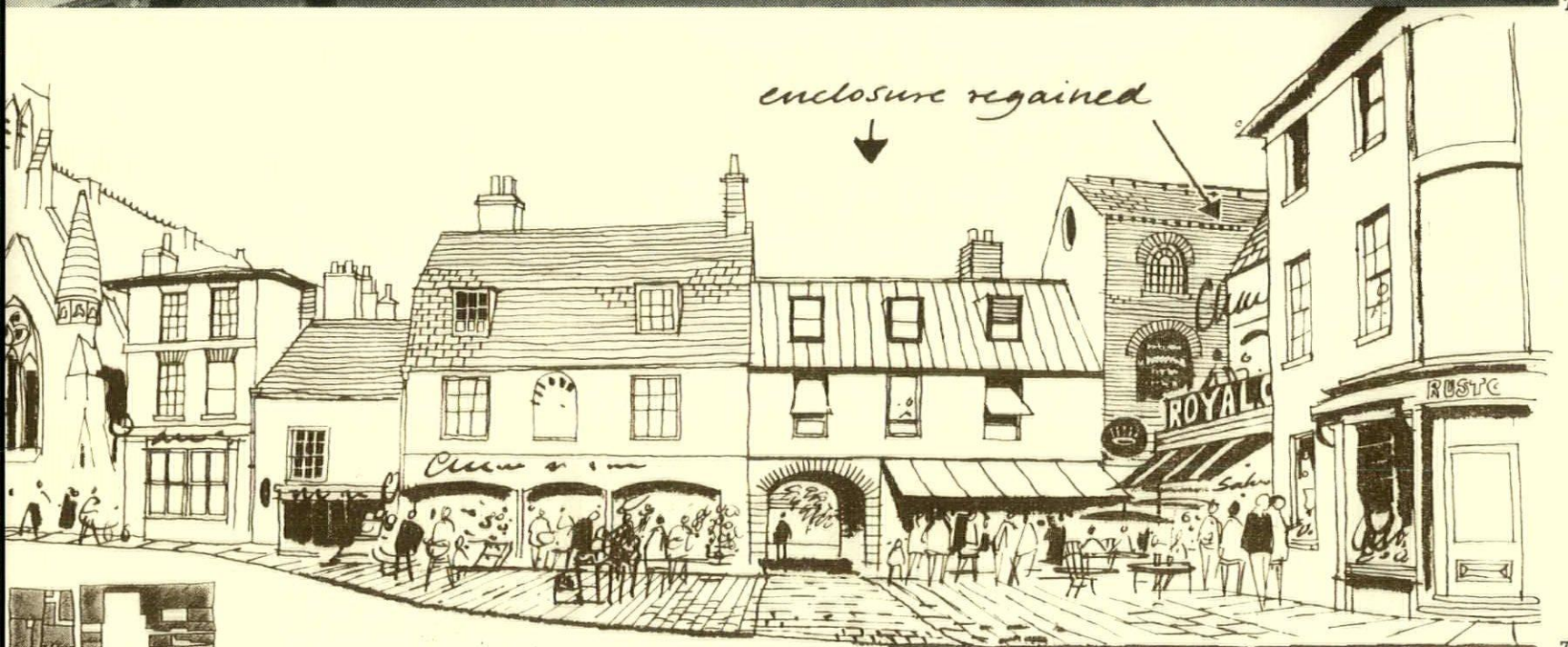
Key Buildings

of the medieval town, site of the great fairs, are exceptionally rich in listed buildings. But it is important to note that many unlisted buildings are essential to the character of the town and worthy of inclusion on the MOH LG list while the spaces they form are also important to safeguard. For instance, an elongated enclosure is created to the left, The Broadway, by a group of buildings which blocks the east end (though the terminal key building looking down the street, 6, is poor and should be replaced), while the street bottlenecks to the west to contain the other end of the space. The street continues to an effective termination in the splendid view of the church, 1, while at the same time opening out to the river on the south side. If, however, we turn right at the end of Bridge Street we enter Market Hill. Here projecting buildings contain a 'square' at the west end (though erosion has taken place, 7, which needs to be remedied 7a). Also the east end of this central space is draughtily wide open, 8, and needs to be contained in some way, either by trees or buildings or both 8a (and in fact old maps show a building across at this place). If the alternative route B for the relief road were adopted, a closing building at this point between shopping square and road would make even more sense.

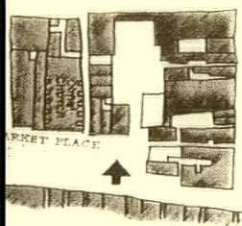
The town has recently appointed a planning consultant. Proposals for radically altering the



7



7a



Enclosure

7 (above) Market Hill as it is today, with unsightly gaps destroying the enclosure of the market place. This sense of enclosure should be recaptured by infilling, 7a, with the floor resurfaced for pedestrian use.
8 (below) The east end of Market Hill is wide open and draughty. It should be closed by trees or buildings or both, 8a, to contain the space which at present evaporates.

centre of the town are under consideration. But whatever changes take place they must take into consideration the particular qualities of St. Ives, and notably of The Quay. A most careful townscape survey must be carried out to find out what must be kept, and where building can take place (for instance the north side is compromised already). The new civic society must make a firm stand to change the route of the relief road, by exerting pressure on the local authority—too many bad things are happening for anyone to trust that 'they know best'. For instance Bridge house, a key listed building at the bridgehead, 5, 5a, and a vital feature in many views looking out from the town was recently demolished. Owned by the brewers Steward and Pateson Ltd., it made way for a riverside garden for The Dolphin next door. Since then planning permission has been given for the brewers to demolish all the remaining (listed) buildings on this side of the road to make a large car park for a rebuilt pub. This needless piece of vandalism would of course complete the destruction of the present ancient bridgehead which is such an attractive feature. Further erosion includes bad shop fronts, insensitive infilling and corners chopped to improve sight lines. It is vitally important that the people of St. Ives should realize that they have much that is worth conserving. It should not be just scrapped for the mirage of St. Ives 2000 looking just like everywhere else.



8



8a

ID

INTERIOR DESIGN

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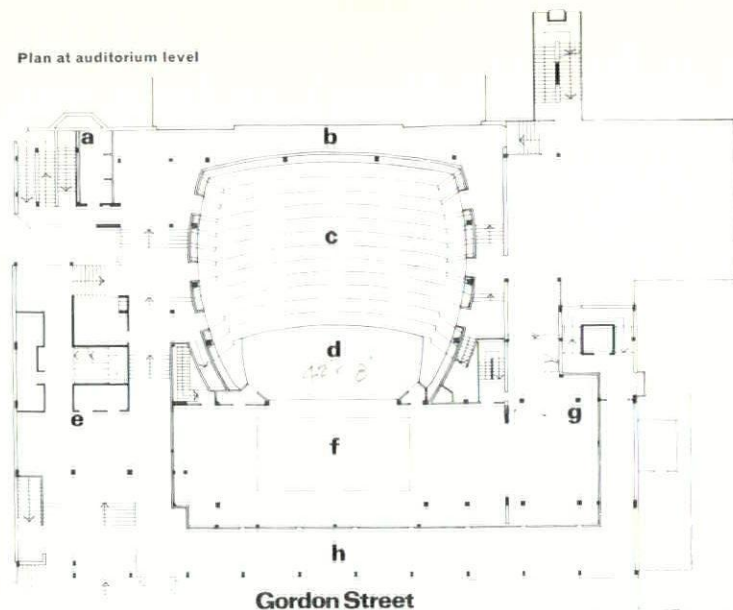
Theatre, Central Collegiate Buildings, University College, London

Architects: James Cubitt and Partners—Partner in charge: Fello Atkinson

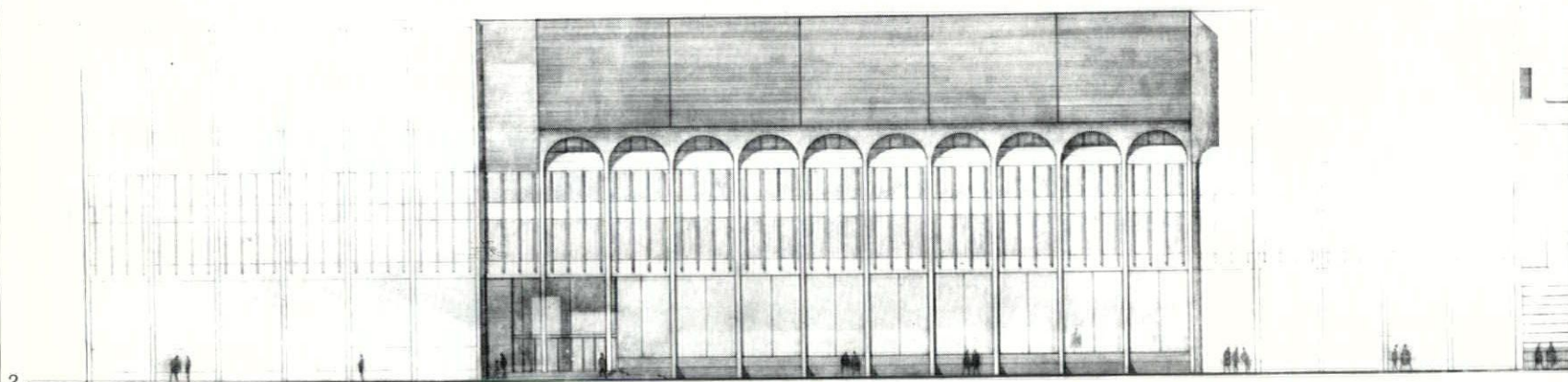
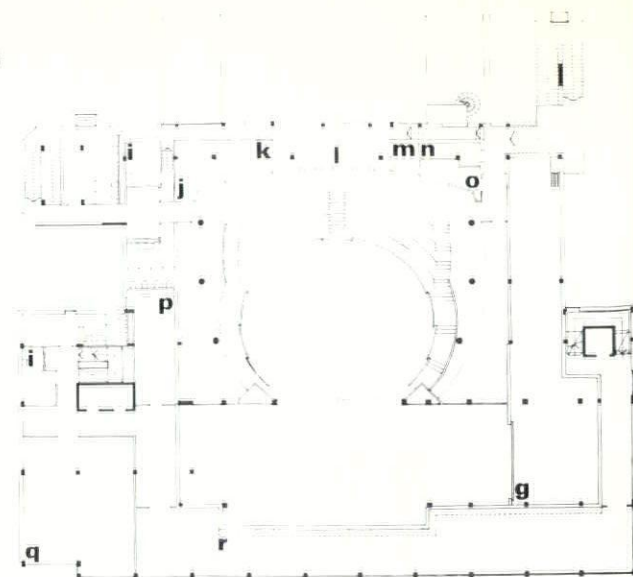
1. a view of the auditorium from the balcony with the forestage in position. (Compare to view on p. 276). The open grid of the ceiling can be clearly seen.



Plan at auditorium level

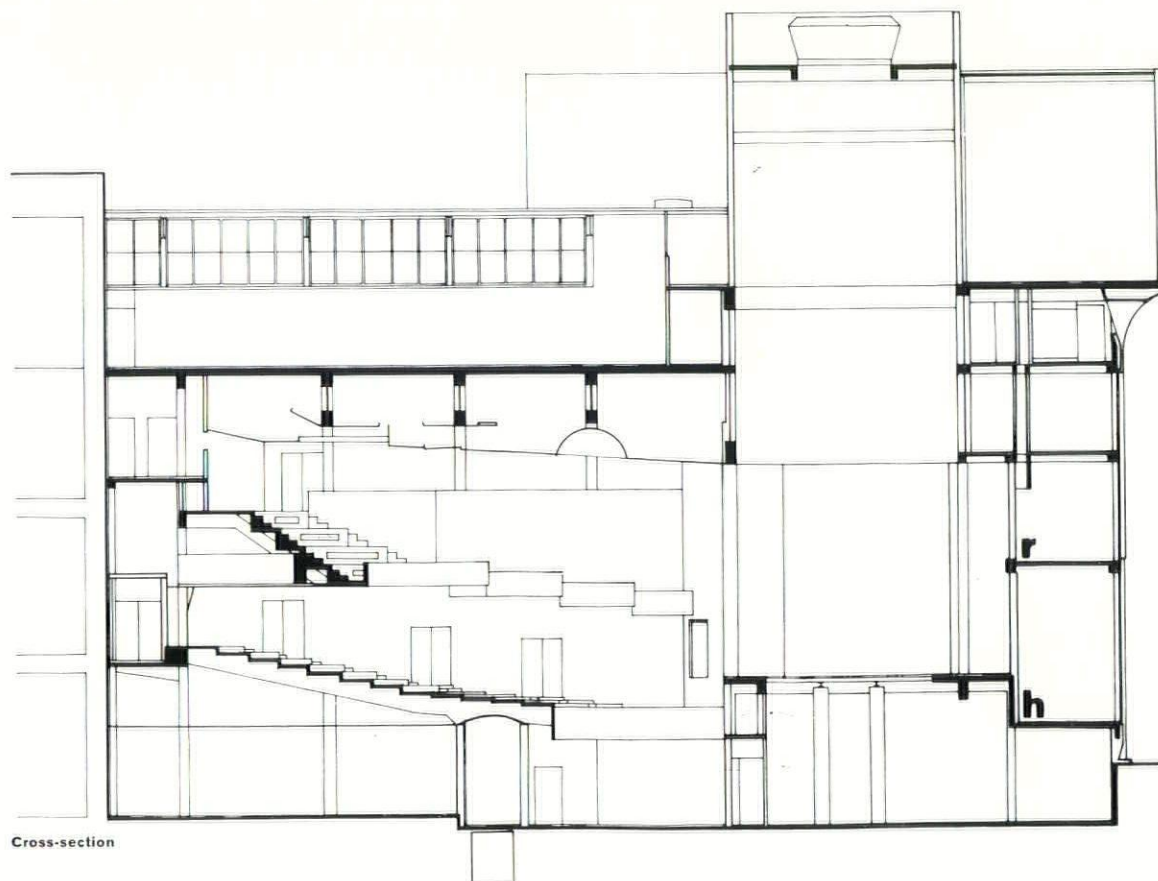


Plan at balcony level



2, the Gordon Street elevation. The shaded part only is completed. Stages two and three are on the left and right.

3, the auditorium with continuous seating, made possible by spacing the rows wider apart. There is a close relationship between the embracing curve of the balcony and the forestage. The walls are dark-stained hardwood slats, the seating and the curtain are a hot orange colour. The concrete at the sides of the balcony is not intended as a finished surface.



- key**
- a, bar
 - b, inner foyer
 - c, auditorium
 - d, forestage
 - e, foyer
 - f, stage
 - g, workshop
 - h, gallery
 - i, cleaner
 - j, dimmer room
 - k, lighting control room
 - l, projection room
 - m, rewind room
 - n, battery room
 - o, sound control room
 - p, quiet reading room
 - q, meeting room
 - r, reading room

In the design of theatres, there are basically two situations, one in which the design embodies uncompromisingly the requirements of a particular company or producer, the other in which the design serves many different activities. In the latter case, a theatre must embody a good many conventional features, and if this is unlikely to produce a revolution in the performing arts, there is no reason why a theatre of this kind should not successfully carry on a tradition which remains very much alive. The Central Collegiate Theatre is multi-purpose, with a proscenium, a fly tower and a forestage in two sections, which drops to form an orchestra pit for 60 musicians. When the forestage is dropped to floor level, an additional 84 seats can be added to the 515 which are already there. The theatre is primarily for the use of University College, either for

teaching purposes (the College has a department of theatre design and of film) or for the use of student amateur groups. The two principal requirements of seeing and hearing well have been met, with a reverberation of 1.5 seconds at 100 cycles frequency. This was achieved partly by omitting the suspended ceiling and so increasing the volume. Proof of functional success is in the demand for the theatre, which can be rented whenever college activities do not have first claim. Since February 20th, when it opened, operas, ballets and plays have been performed regularly, and the London Philharmonic Orchestra is using it for rehearsals. Going into the auditorium is rather like witnessing the entry of certain actors who immediately hold your attention by their presence. It has a distinctive character and a strong theatrical atmosphere. Why does this theatre

succeed where many have so conspicuously failed? First, there is an important contribution towards audience participation in the close relationship between the embracing curve of the balcony and the forestage, a relationship unfortunately less apparent in the stalls, which are more suitable to opera and conventional proscenium drama. Second, there is the absence of a centre aisle, usually inevitable in a small theatre, but made possible by spacing the rows wider apart—a form of seating used on the continent but allowed here by the GLC for the first time in a new theatre. This and the very use of a balcony, dress up the auditorium and avoid the barrenness of large expanses of acoustically treated vertical surfaces. In this context the brut concrete at the sides of the balcony, not intended as a finished surface by the architect, seems inappropriate. Third, there

is the colour—dark-stained hardwood slats to the walls around the stalls, an open ceiling of trusses, catwalks and trunking, all painted black and masked by strong overall lighting, and, in contrast, the rich hot orange of the seating and curtain. The building was to be the first part of a three-phase development, and the only part of the site immediately available was also the most restricted, backing, as it did, on to an existing refectory which had to be enlarged. The architects' solution was to turn the theatre back to front, so that the extended refectory could be tucked under the rake of the auditorium. The plan makes it clear that it is the foyer space at the back of the auditorium and the attenuated exhibition gallery at the front, at present empty but intended to be furnished, which have suffered. Nevertheless, the inner foyer space, which is





4 5



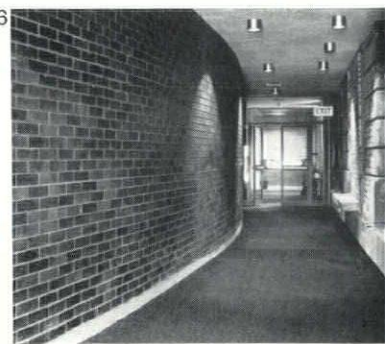
nowhere generous, is crowded and lively during intervals, and this is infinitely preferable to large spaces which look empty even with a full house.

By Continental standards the stage behind the proscenium is on the small side. But together with the forestage, which is in itself considerable (42ft. by 18ft.) an acting area of impressive size can be provided, hampered only by the sides of the proscenium arch which seem to make the proscenium opening unnecessarily narrow. The lighting and sound boxes, and especially the projection room, all of which are at the back of the balcony, are equipped to the highest professional standards; and the workshop, though restricted, is well situated and contains, somewhat exceptionally for a London theatre, a paint loft.

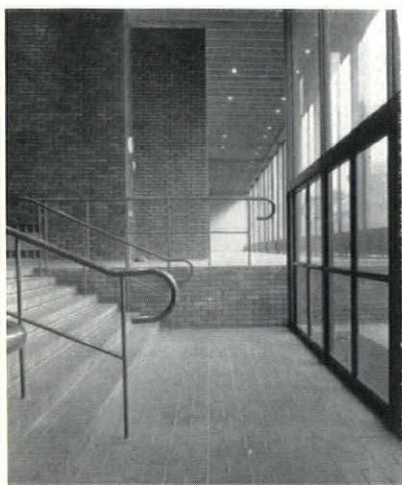
But the back-stage accommodation is disappointing, with windowless dressing rooms in the basement and mezzanine, and inevitably in central London inadequate storage space.

The theatre is part of a building complex which includes, on the upper floors, fencing halls, squash courts and a full-size rowing tank, besides common rooms and offices. Phases 2 and 3, on either side of the present building, will add another general hall, two gymnasias and more common rooms.

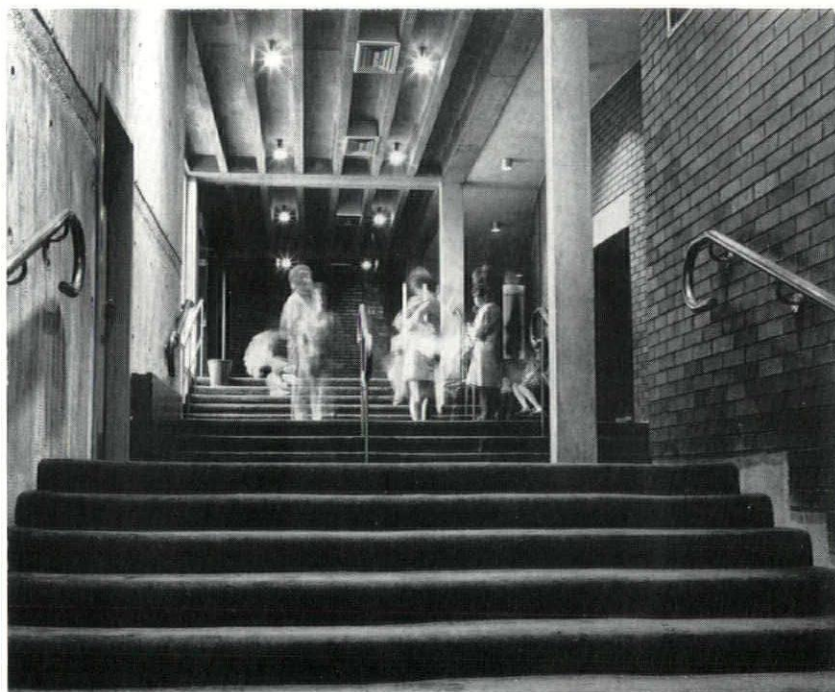
6



7



8



4, a view of the auditorium from the balcony with the forestage down to form an orchestra pit. It can also be fixed at auditorium floor level and so provide space for another 84 seats.
5, the auditorium seen from the stage, the back of the inner foyer looking towards the bar.
7, the entrance hall and foyer looking towards the gallery.
8, the inner foyer.

Merchant Bank, Cheapside, London

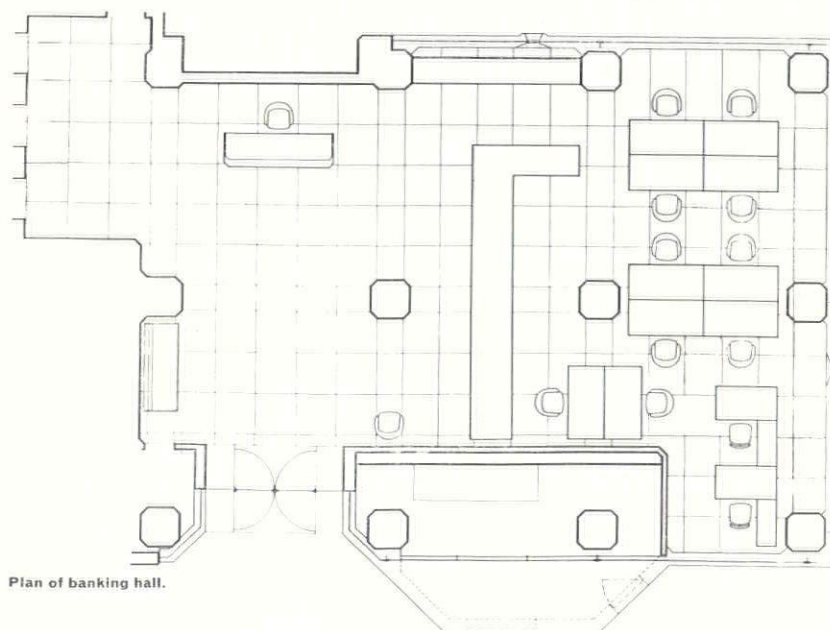
Architects:
Buzas and Irvine

THE BANKING HALL

When J. Henry Schroder Wagg & Co. took over a speculative office block in Cheapside, what is now a double-height banking hall, was ordinary office space on two floors, with a corridor entrance on the ground floor leading straight to lifts and staircases. The decision to open up the whole space into one created two major structural problems. The first two floors of the façade had to be re-clad, and the internal columns and beams, which did not line up, had to be brought into some kind of order. An additional problem was the provision of a shop (see ID in AR, April 1968) a token gesture to a City of London planning condition which was later relaxed. The exterior, with its elegant bronze window cladding, its lower walls faced in marble, and above all its excellent proportions produced by the horizontal division between solid and void, is one of the most distinguished in London. Inside the hall the columns have been dubbed out to line up (with ducting incorporated in some), and the beams are false, though they express real beams concealed above the suspended ceiling. To make the columns less bulky, the corners are splayed and the broad faces are lined with Granada marble, providing a contrast with the adjoining plaster faces and a strong vertical rhythm. The sinuous lines of the light brackets, designed by the architects, and made by Venini, add soft relief to a setting of massive angular forms. The external wall is solid up to the clerestory and plastered on the inside. Two vertical window slits, with splayed reveals, provide a glimpse of street life. It was the architects' deliberate policy to enclose the banking hall in this way, not only because this was a merchant and not a clearing bank, but also because it was in the City and not in Oxford Street. Other walls, the receptionist's desk and the counter are faced in timber with black bean or wenge veneer— a warm texture, absorbent of light, which counteracts the cool reflective surface of the marble columns and floor.



1



Plan of banking hall.

1, part of the banking hall. The marble on the floor and columns is dark-brown polished Granada, and provides a reflective surface for the light brackets. The wall is faced with wenge-veneered panelling.



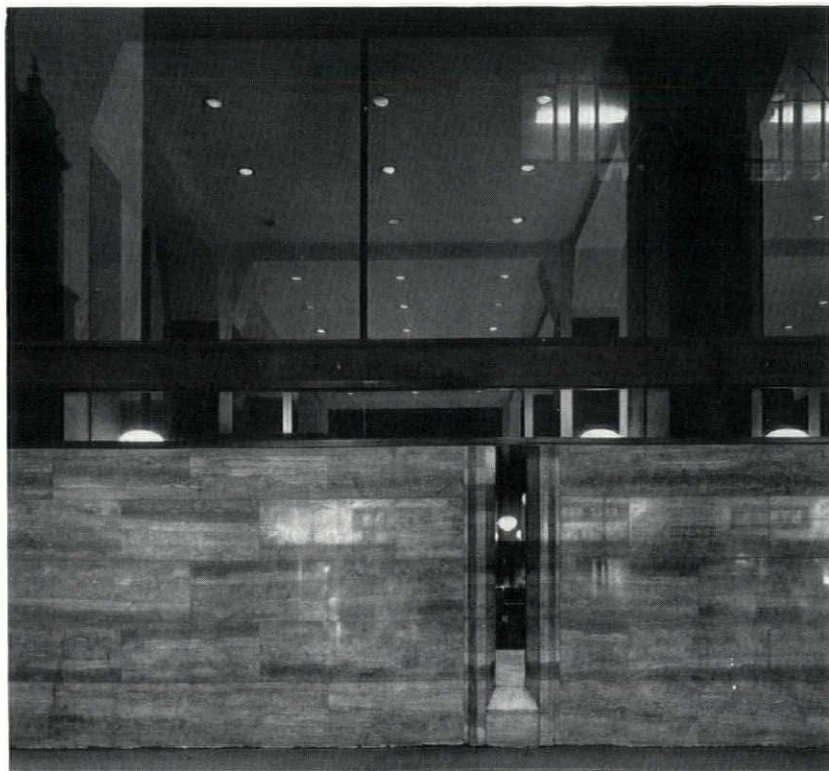
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2, general view of the banking hall. A feeling of enclosure at ground level was deliberately sought by the architects.

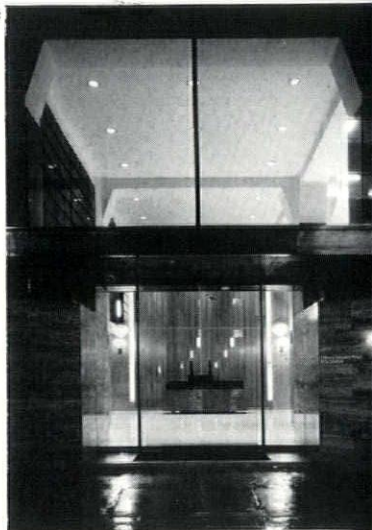
3, one of the vertical window slits, which provide the banking staff with a glimpse of street life, seen from outside. The walls are faced with marble, and the windows above are bronze frames and grey glass.

4, the main entrance to the bank and banking hall.

3

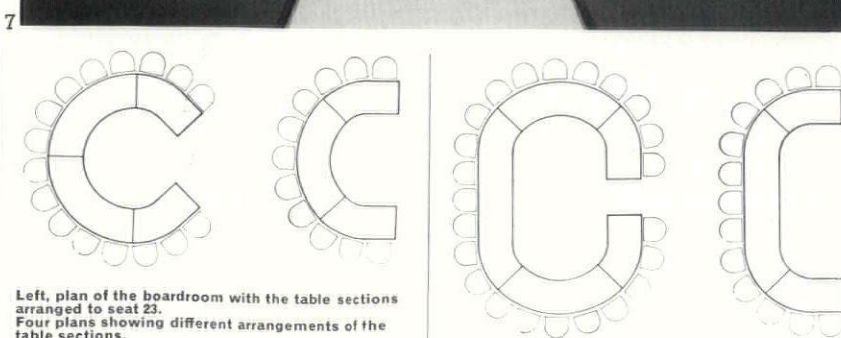
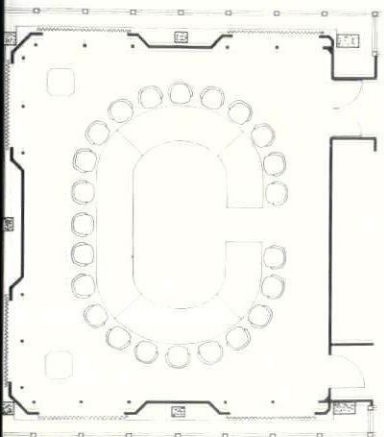


4



THE BOARDROOM

The first thing the architects had to do in designing the boardroom on the 8th floor, was to persuade the structural engineers of the building to remove a central column. The main problem, however, was to create the right setting in a space contained by the window cladding of a typical speculative office block. The architects proceeded to reduce the window area by concealing the column structure with a false screen finished in Indian laurel veneer. This screen takes up the played motif of the banking hall and, where the windows are allowed to appear, is carried across by a high-level fascia, supported on ebony columns, which are made to look even thinner than they are by the inset strip of tinted glass illuminated from behind. The large table has been designed by the architects in segments, and can seat 11, 13, 16 or 23 people. The beautiful finishes—ebony and green billiard cloth—as well as the blotters in black hide which come from Vienna, greatly enhance the feeling of luxury. The little octagonal tables are really side-boards for telephones and for storing the blotters, but they are also there because the architects felt that something was needed to fill the corner spaces. There are many felicitous touches. The light switches are concealed behind a flush panel cut into the Indian laurel veneer. The glass strips on the ebony columns glitter when they are not lit from behind. More important is the fact that the overall quality of light is agreeable, and that the acoustics are so good that the quietest remarks made across the table during a board meeting can be clearly heard by everyone present.

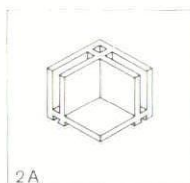


Left, plan of the boardroom with the table sections arranged to seat 23. Four plans showing different arrangements of the table sections.

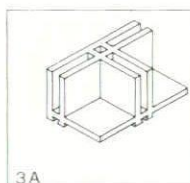
- 5, a section of the false screen showing the air-conditioning grille at the bottom—neat slots cut straight into the veneer.
- 6, a corner of the boardroom showing the false screen which conceals the window cladding of the speculative office block. The finish is Indian laurel and the columns are of ebony, with strips of tinted glass inset and lit from behind. The octagonal sideboard is for telephones and for storing blotters.
- 7, a general view of the boardroom. The table, which was specially designed in sections by the architects, is in ebony and green billiard cloth.

R.T. Display System

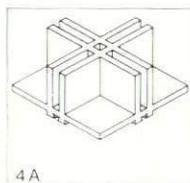
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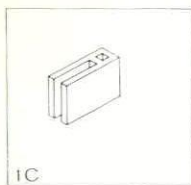
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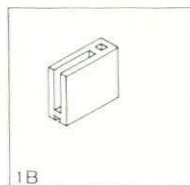
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4A



1C



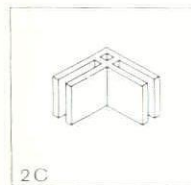
1B



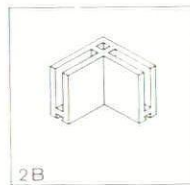
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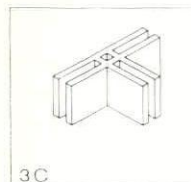
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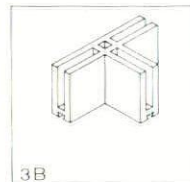
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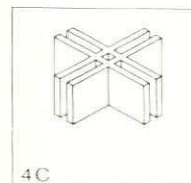
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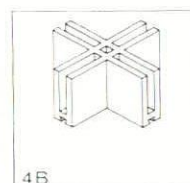
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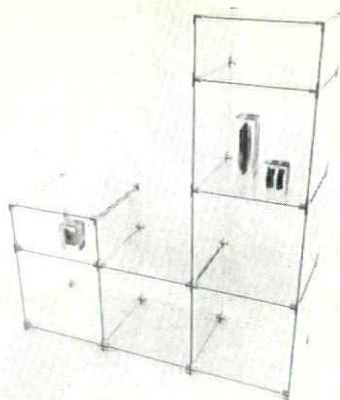


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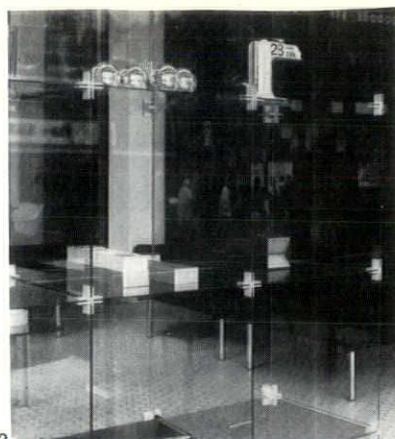


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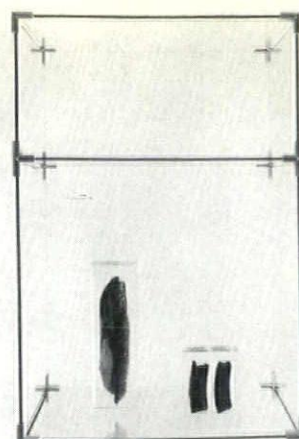
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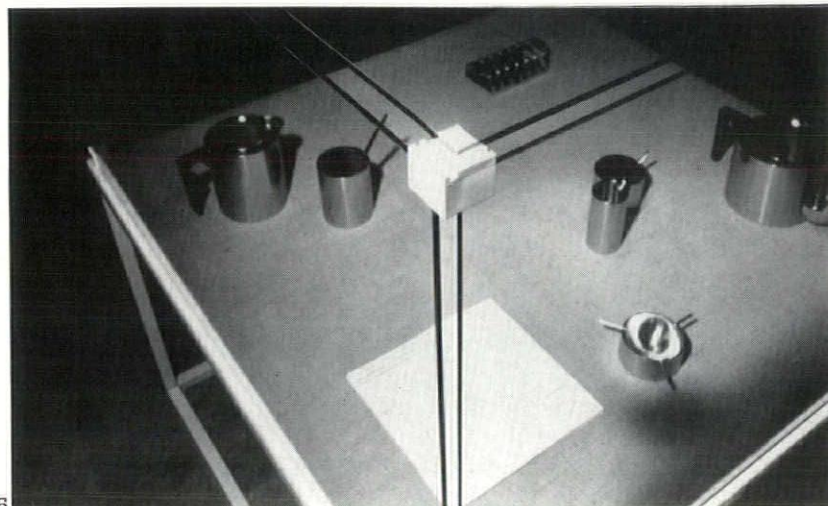
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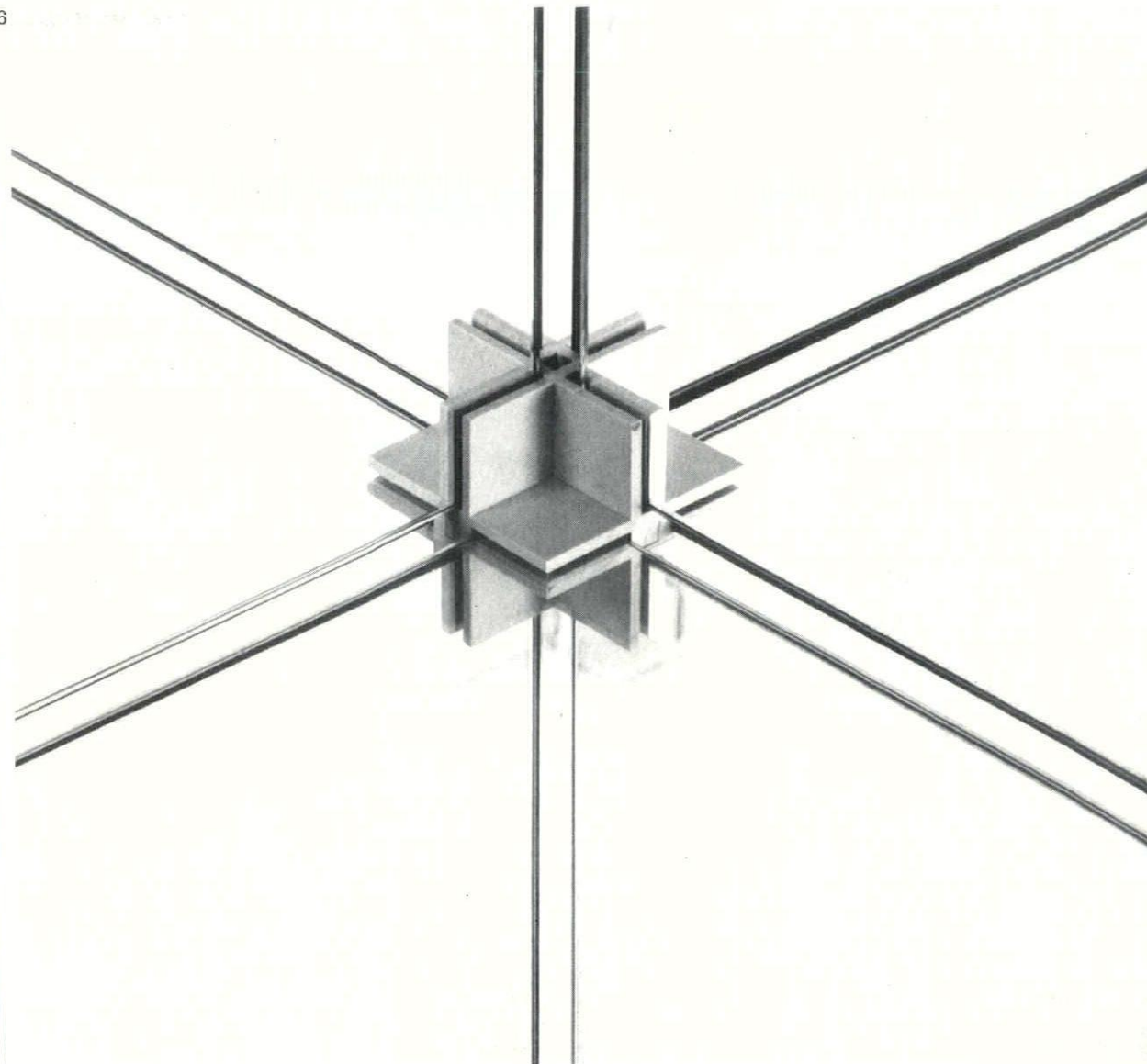
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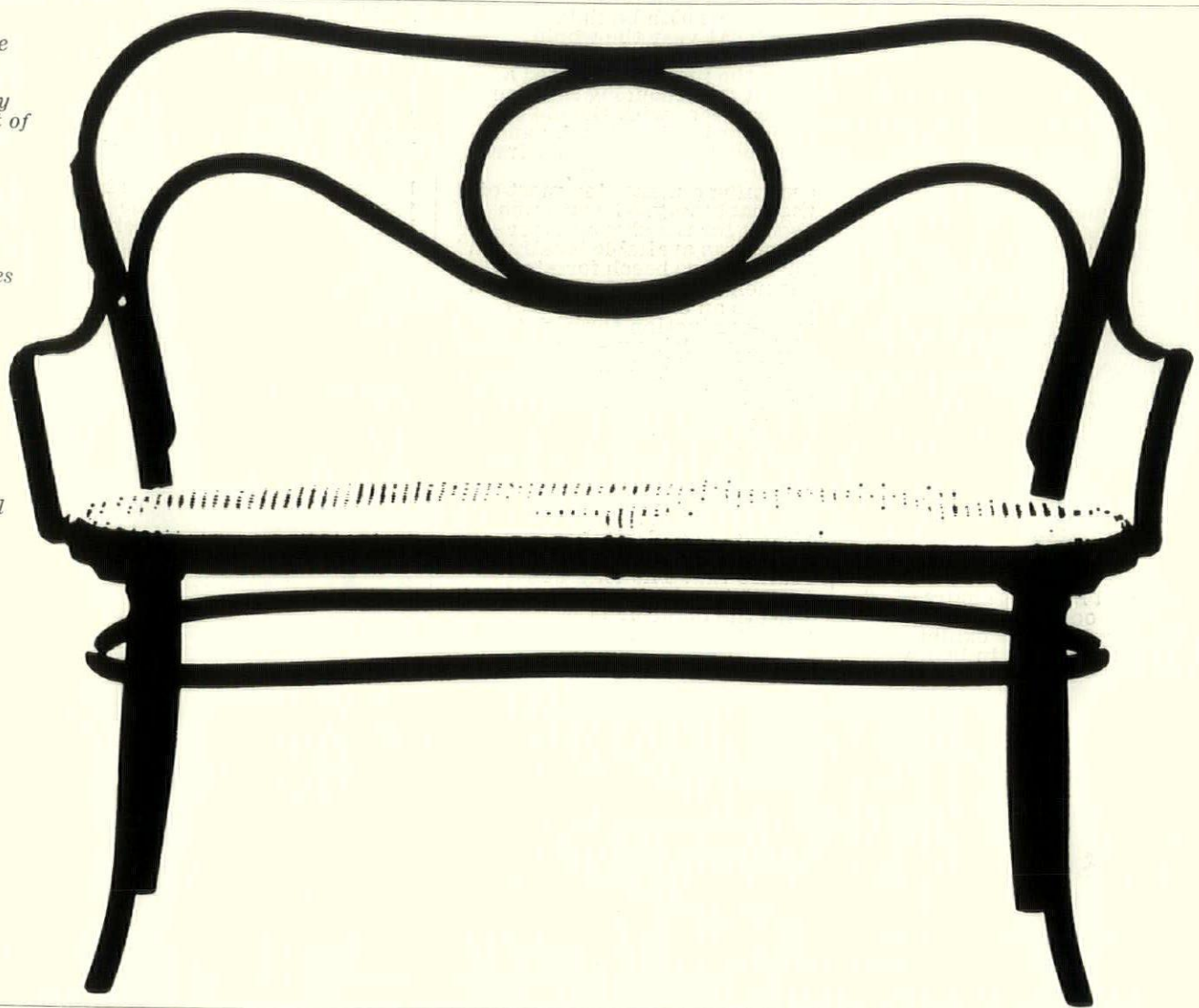
6



This flexible German system is based on thirteen basic plastic joints. Series A and B can be connected to each other by means of a dovetail joint, 6, and series C enables joints to be made at any point along the panel edge. Altogether 4,095 different combinations are possible. Panels are 32-oz. glass with polished edges, 2 and 4, 4mm. chipboard dyed in six standard colours, plywood, veneered hardboard and coloured fibreglass. Other possibilities are perspex, double faced mirrors and card. The standard finish for the joints is grey, but gold and silver-plated finishes are available to order, and Unit Five Design, who are marketing the system in this country, are experimenting with a transparent joint. 3 is a detail of a display case in Conran Contracts. 5 is a show case designed by Arne Jacobsen.

Thonet Furniture

The exhibition of bentwood furniture first organized by the Austrian Building Centre and shown at the Bethnal Green Museum last June, was a tardy but welcome acknowledgement of an achievement which proves once again that a thing of beauty may originate at any level, technical or social, and that its intrinsic validity will not change with time. Despite the considerable success of Thonet-Mundus in the 'twenties and 'thirties, when armchair No. 6009 appeared in many of Le Corbusier's buildings, the true nature of this achievement, especially the early part under the leadership of Michael Thonet, has only recently begun to be appreciated. In the following article Sherban Cantacuzino provides an historical background and a critical appraisal of the furniture as a whole.



Those who have tried to piece together the success story of Michael Thonet, have understandably dwelt on the second half of his life in Vienna (1842-1871). But Thonet was 46 when he left his home town of Boppard-am-Rhein, admittedly bankrupt, but encouraged by his earlier success as a cabinet maker, and by the patronage of so eminent a person as Prince Metternich. Thonet's childhood and apprenticeship in his father's workshop were overshadowed by Napoleon's wars against Germany. Under these conditions a simpler style of furniture known as Biedermeier was developed, and it was following this period of economy that Thonet started experimenting with new techniques. One of his early chairs was made out of several layers of thick veneer, saturated with glue and bent in wood moulds, by the action of heat, 1. In this way the inner laminations could be of ordinary wood with the expensive veneer on the outer faces only. The result was also lighter and more durable, besides the fact that bending was along the grain of the

wood, and that a curved piece, especially a broad piece like the back, was less liable to crack than a similar curved piece cut out of the solid. A similar technique was being used at about the same time (c.1835) by the Danish sculptor H. E. Freund, whose most famous piece was the 'Greek' chair recently exhibited at the Danish exhibition in the Victoria and Albert Museum, 2. In this context it is also worth mentioning J. H. Belter, another German cabinet maker who was born in Württemberg in 1804. He emigrated to America and is known to have been working in New York by 1844, making bent furniture out of laminated sections steamed in moulds. But Belter failed to see the possibilities of this new technique, and used it instead for creating shapes and ornament imitating French seventeenth- and eighteenth-century styles, 3. Stylistically Freund's chair is a beautiful anachronism. Thomas Hope had designed a 'Greek' chair thirty years earlier, though admittedly without the benefit of the new technique. The upper half of

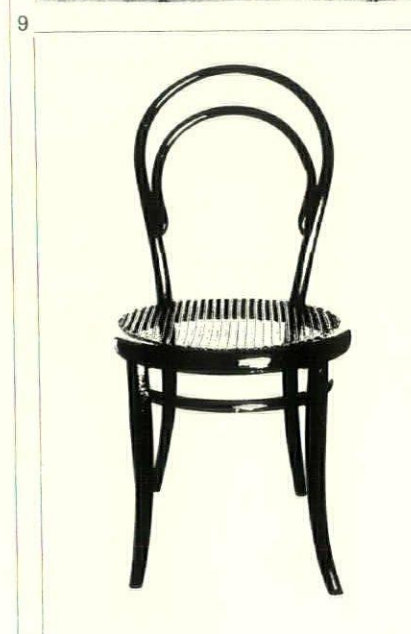
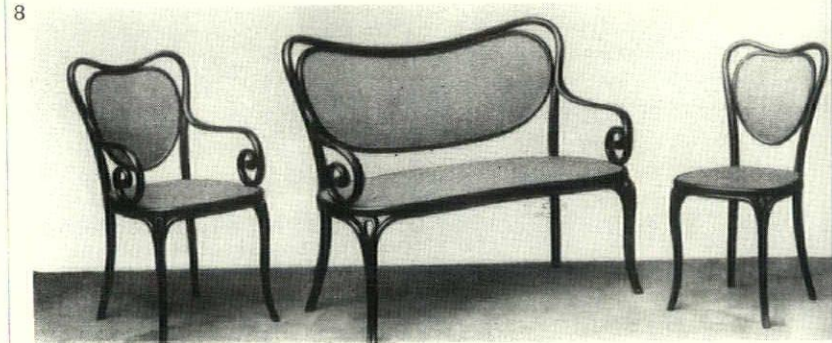
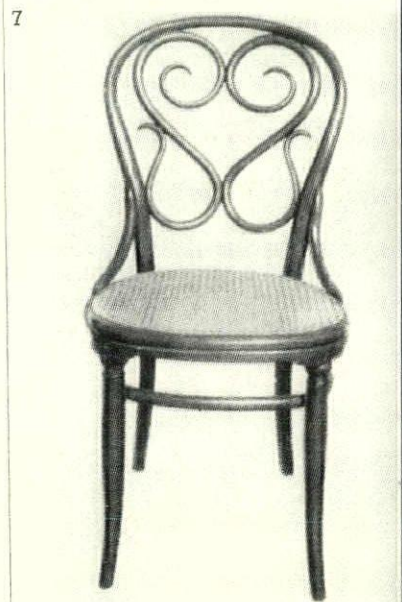
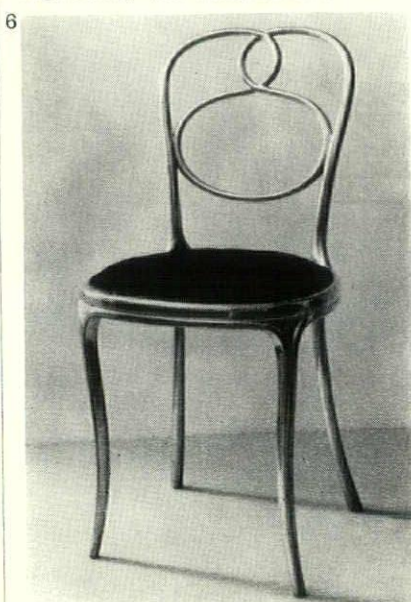
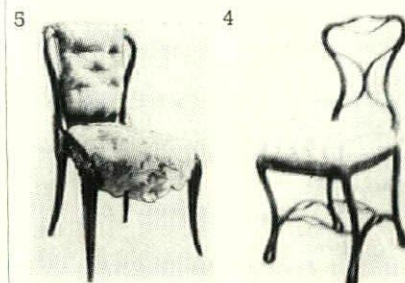
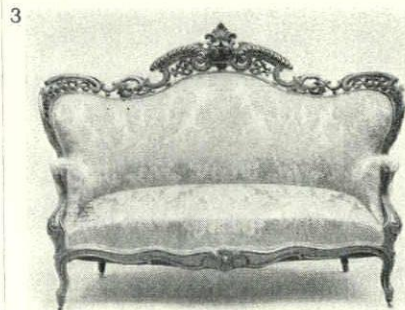
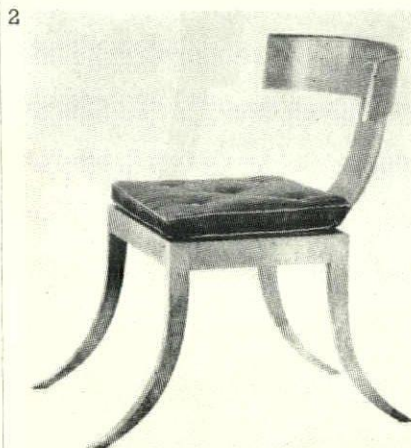
Thonet's Boppard chair, 1, owes a good deal to the Regency elbow chair. The scrolls are fuller because veneer is more pliable than solid wood, but the upward sweep of the arms as they meet the back is a feature that goes back to Sheraton. The interest lies rather in the base of the chair. Whereas the top is still made out of several parts joined together, the legs and side stretchers are in one continuous piece, the section being bent over sharply at the point of support. The delicate calligraphic quality, which anticipates Thonet's later bentwood furniture, is emphasized by the curved stretchers opening up in the middle. This chair was immediately followed by another with similar legs, but with a back of bent wood made out of one continuous curved piece, 4. Here we have already the beginning of that process of simplification which culminated in Marcel Breuer's tubular steel cantilever chair of 1928. After the early promise of Boppard, Thonet's work under Carl Leistikow for the Liechtenstein Palace in Vienna (1943-6) is something of an

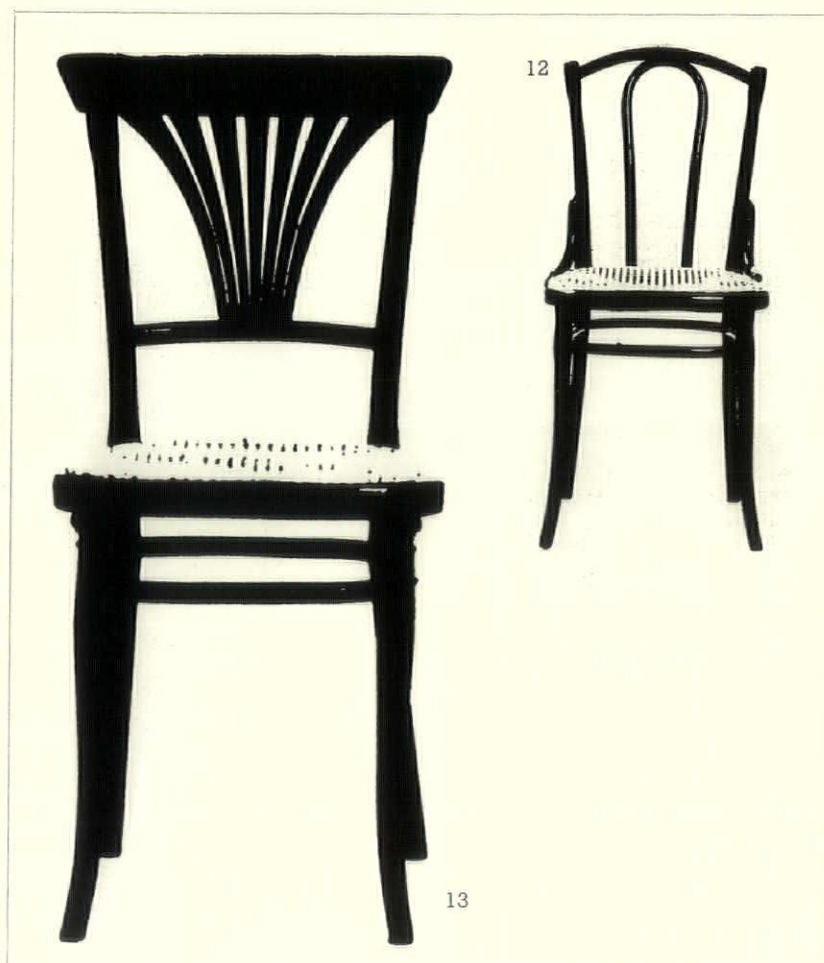
interlude, albeit a delightful one. His chairs have a simple line and an absence of excess ornament which should be compared to Leistler's own, 5. Leistler's, moreover, were carved out of solid wood, whereas Thonet continued to use built-up sections of veneer and, in the case of the more delicate of the two chairs, 6, anticipated the simplicity of his later bent wood chairs. This technique did not immediately die out with the introduction of bent wood, but continued to be used until the 1860s when the first exports to South America were affected by damp. Chair No. 4 (Thonet numbering) designed in 1849 for the Café Daum in Paris, when Thonet was already self-employed, is made from four or five thicknesses of veneer with a mahogany finish. 7. In the Liechtenstein chairs the joint of the front legs and seat is triangular, and an elaborate craftsman's solution. Although the simple screwed joint appears to have been introduced very early on (c.1845), the triangular joint remained in use until after Michael Thonet's death in 1871. Even while he was working for Leistler, Thonet was experimenting with bent wood mostly of rectangular section. The new material was cheaper and lighter than laminated veneer and his first chairs of oval rosewood sections, the so-called luxury range exhibited at the Crystal Palace in 1851, were a commercial success, 8. Both the scroll of the arms and the joint of the front legs and seat recall earlier designs, but the scroll exploits the inherent quality of the material, whereas the joint merely imitates an older form, derived

from different materials and techniques. Thonet saw the possibilities of the machine and of industrial processes, and the success of his early chairs must have encouraged him to launch into large scale production. In 1853 he formed a partnership with his five sons, Gebrüder Thonet, but his most decisive year, the year of his 60th birthday, was 1856. That year the whole family took Austrian citizenship; the firm was granted a patent for producing furniture of wood bent with the aid of steam or boiling liquids; and Michael Thonet built his first factory at Koritschan, designing and making most of the machinery. The site was chosen for the cheap labour which was available locally, and for the large beech forests in the neighbourhood. Koritschan became an early example of mass-production through the division of labour—an assembly line manned by unskilled workmen. But some craftsmen had to be retained, and it is interesting to observe that even today much of the bending is still done by hand at Bistritz-am-Holstein¹ (Thonet's second factory built in 1861), for no machine is yet capable of feeling the degree of flexibility in a piece of wood. It is important to realize that Thonet's was a complete process which began with the planting of beech forests (those at Brünn—the modern Brno—were cut down by Hitler), went through the preparation of the timber and the manufacture of the article, and ended with packaging, despatch and distribution. By 1869, when the patent lapsed and other companies started up, there were

four factories,² and sales organizations in eight countries,³ which included Russia and the USA, but, significantly, neither Britain nor France. By 1901 there were 52 companies and 60 factories employing more than 35,000 workmen. Chair No. 14 (1859), 9, had been sold 50 million times over by 1919, and the first rocking chair of 1860, 10, had been so successful that over 20,000 were being produced every year. Even today the factory at Bistritz-am-Holstein makes 1,000 chairs per day, and has recently completed a new building to allow for expansion. At Koritschan the Thonet brothers largely went over to the use of beech and to the bent wood technique. Beech, especially the Carpathian

variety, has a close parallel grain and is better for bending than most hard woods, which are inclined to splinter on the outer edge. Beech had, of course, been bent before, notably in the Windsor chair. Indeed the Windsor chair industry around High Wycombe anticipates the standardization mass production and even packaging principle (of sending chair parts to be assembled at their destination) of Thonet. Of the machines designed by Michael Thonet for his first factory, two of the most important were the mechanical spoke shavers for tapering the rods, and the templates which made it possible to bend them into a double curve. To avoid splintering, he developed a method whereby the entire





timber section remained in compression throughout the bending process. This was done by fixing an iron strap to the timber rod before bending (on the ultimate convex side) at several points, and by holding the ends tight with screw clamps.⁴ Also revolutionary were the new ways of connecting the different parts. Instead of the craftsman's triangular joint, there were now front legs with threaded spigots, screwing into a steel socket housed in the seat frame. This joint is at first elaborated with a moulding like the capital of a column, 11, but is later left absolutely plain as in chair No. 14. Other joints are equally simple: either an ordinary galvanized wood screw, or a small nut and bolt. A catalogue of 1915 explains how the furniture can easily be assembled and dismantled without glue, wedges, etc., and how damaged legs can always be replaced. The same catalogue shows series No. 18 with twenty different pieces based on one design. Seats and backs are interchangeable, and can be of cane, perforated wood or relief wood.

Michael Thonet died on March 3, 1871, five weeks after the fall of Paris, and it must have been gratifying for him to know that the hub-caps of the German cannon had been made in his factories.⁶ It is hard to say whether the decline in the quality of design which followed is due to this loss of a guiding hand, or to the pressure of rival organizations which had been building up since the patent lapsed. Until 1871 Thonet furniture, like the Windsor chair, respects the inherent qualities of the material and hardly ever tries to imitate traditional hand-made furniture. The justification for chair No. 56 (1885) is, no doubt, that it uses shorter pieces of wood and that shorter pieces are easier to get knot-free, 12. But there are many more joints (excepting the front legs, No. 56 is in eight sections whereas No. 14 is in four), and the rear legs are not even integral any longer with the back. In short, everything that was gained seems to have been lost. No. 56 led to No. 221 (1898) with a fan-shaped back that introduces a decorative element alien to the material, 13. Both became popular café chairs in Vienna at the turn of the century. A truly eclectic example is the upholstered chair No. 604, which harks back to Leistler's chairs for the Liechtenstein Palace, 14. Some of these chairs, especially No. 221, have been defended on the grounds that they are more comfortable, and it is certainly true that neither No. 14 nor armchair No. 604 (Le Corbusier's favourite, known as the Wiener Stuhl, 15) provide any support to the small of the back.

Dr. Karl Mang, who has been responsible for much of the recent research on Thonet, has observed how bent wood furniture was totally ignored by architects and designers until Adolf Loos used some chairs in his first public building, the Museum Coffee House (1899)⁶. They clearly held a café image for Loos, as they

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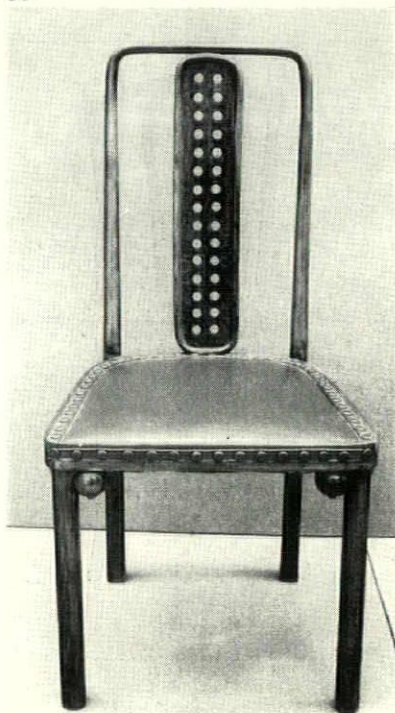


did for so many people, for he never used them in his private commissions which were furnished with Queen Anne and Chippendale imitations. Otto Wagner had bentwood furniture made by Thonet to his own designs for the main hall, office and board room of the Postal Savings Bank (1904-6), and it is thought that Josef Hoffmann went to the largest of the rival firms, Jakob and Josef Kohn, to have his designs made for the dining room of the Purkersdorf Sanatorium (1903), 16. This firm copied not only the designs, but the Thonet numbering as well. According to Dr. Mang they probably anticipated Thonet in commissioning architects to design chairs, and themselves installed an architect, Gustav Siegel (a pupil of Hoffmann who still lives in Vienna) as head of their design office. In 1910-11 several small companies formed Mundus AG which later merged with Kohn (1917). In the difficult post-war economic situation, this company merged with Thonet and became Thonet-Mundus (1923), taking over Kohn's old design office with Siegel still in charge. This merger heralds a new lease of life. Many designs were commissioned, from J. Hoffmann, A. Schneck, J. Franck and C. Holzmeister amongst others, though attributions are still difficult and require further research. The collaboration with Breuer, Stamm, Mies and Le Corbusier,

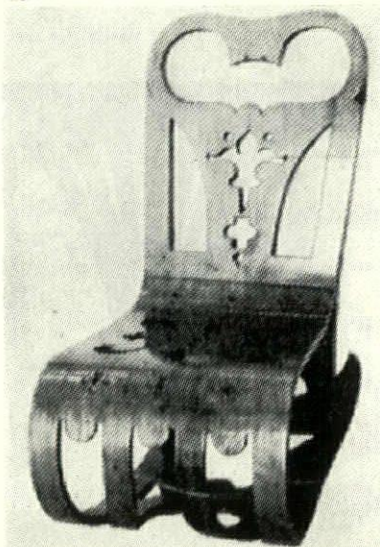
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17



on the other hand, is documented, and it is a true mark of Thonet's enlightened policy and business acumen that they should have obtained, in 1925, sixty-nine years after being granted their patent for bentwood, the rights for tubular steel furniture. If their successes with laminated sheet have been less spectacular,⁷ it should not be forgotten that even during Michael Thonet's lifetime the firm experimented with this material, 17, and anticipated a technique that had to wait sixty years to be developed commercially. Two other points should be mentioned: the international character of Thonet's products and the vast range of articles. The international exhibitions held regularly in the second half of the nineteenth century must have helped to spread the Thonet gospel. It is known that their furniture was shown in London in 1851 and 1862, and in Paris in 1855. It soon filled the attics and nurseries of central and eastern Europe, and it was well known from Chicago to Odessa. Although it did not stack, its combination of strength and lightness made it a favourite of cafés, theatres and circuses. The variety shown in the catalogue was staggering. Besides the familiar chairs, there were revolving chairs, music stands, theatrical tip-up chairs (for the Volkstheater, Vienna, 1888), a large selection of children's furniture (see p. 285) including the still obtainable folding high chair on wheels, sledges, swings, cartwheels and even chandeliers. The best—and there are many—remain fresh and undated. If some do not, it is because they are derivative. It must have been hard for Michael Thonet to give up his work as a craftsman, but he was wise enough to understand that the machine was not made for mimicry.

NOTES

¹ A recent eye-witness describes two middle-aged workmen in the bending shop: 'They took a long wooden pole out of the steamer, the steam rising from it fixed one end into the vise and slowly fitted the metal mould to it. One twisted another, a third, a fourth, one workman held the pole in his hands, the other quickly fixed every bend to the mould. Ota Trell: 'How some chairs took me by surprise'. For you from Czechoslovakia, March 1968.

² At Koritschan, Bistritz-am-Holstein, Grosz-Ugroc and Hallenkau.

³ In 1871 the towns with Thonet offices were Prague, Graz, Munich, Frankfurt am-Main, Rome, Naples, Barcelona, Madrid, Bucharest, St. Petersburg, Moscow, Odessa, New York and Chicago.

⁴ Wilhelm Franz Exner: *Das Biegen des Holzes*. Verlag Bernhard Friedrich Voigt, Leipzig, 1922.

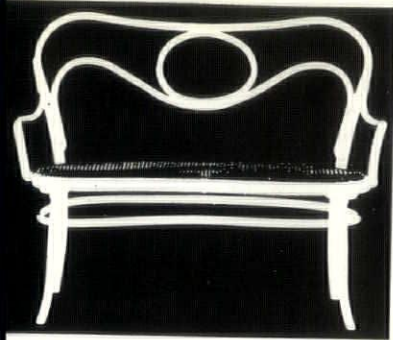
⁵ Francis de N. Schroeder: 'As the bough is bent, 110 years of the bentwood chair', *Interiors*, May 1947.

⁶ It is hard to believe that not one single person who visited the Crystal Palace in 1851, saw the parallel between the Thonet furniture exhibited and Paxton's building.

⁷ The firm made chairs of laminated sheet to the designs of Tapiolaara (1949) and Jo Adkinson (1952).

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18, the Gebrüder Thonet's first factory at Koritschan built in 1856, the same year that the firm was granted a patent for producing furniture of wood bent with the aid of steam or boiling liquids.

19, at the Koritschan factory the work was carried out on an assembly line, manned by unskilled workmen. But some craftsmen had to be retained, as they still have to be today, for bending the free curves of the backs and arms.

20, detail showing the threaded pigot of a front leg screwed into a steel socket housed in the seat of the frame. This joint replaced the craftsman's triangular joint of the early chairs.

21 and 22, two other simple joints: a galvanized wood screw, and a small nut and bolt.

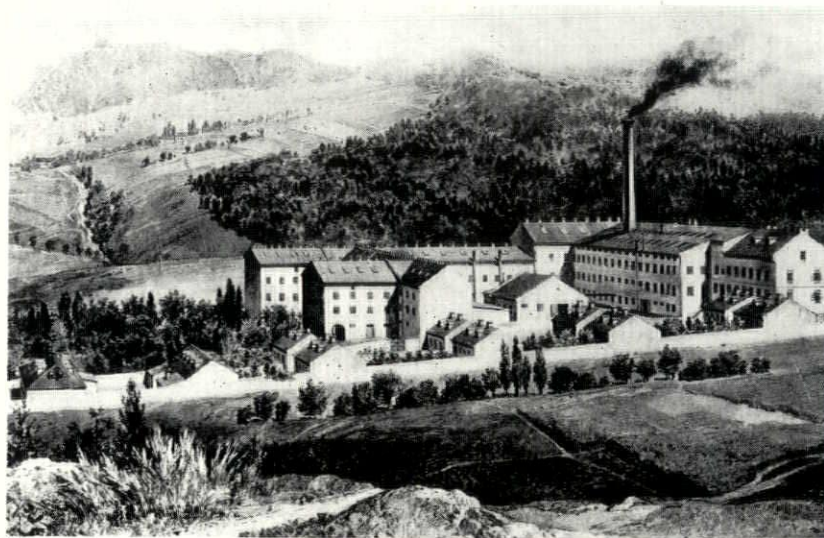
23, Brahms in his lodgings in Vienna, 1863. The chair on the right is the ubiquitous No. 14 (Thonet numbering). The chair on the left is a variant on No. 14, with the inner loop of the back continued down to form the legs.

24, the De Luca sisters, c. 1936. Bent wood chairs have always been popular with circuses, because they combine lightness with strength. This chair appears to be no. 28 with its cane back removed to make it even lighter.

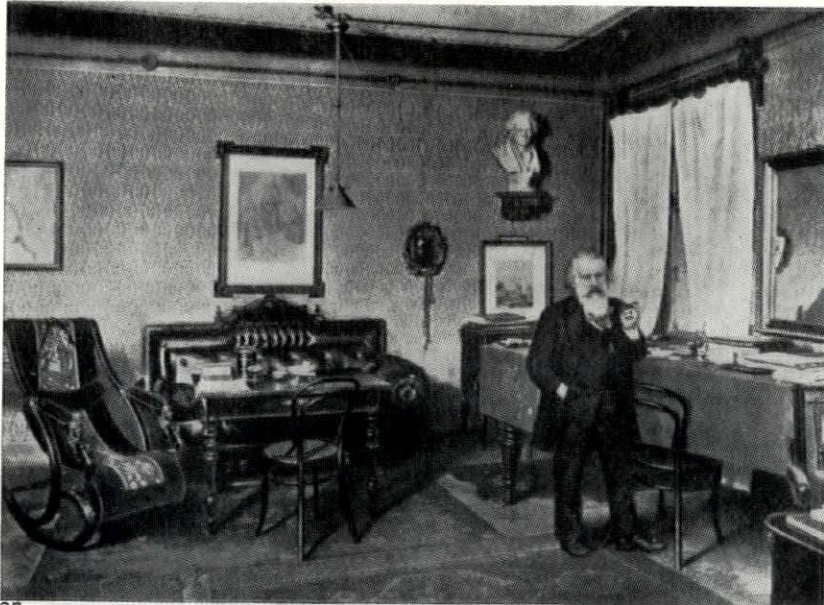
25, from the film 'Jules et Jim' with Oskar Werner in a variant of rocking chair no. 21. The illustration at the top of p. 286 shows another variant of the same chair.

26, children's and gymnasium furniture from 'Michael Thonet' by Hermann Heller, published shortly after his death in 1871. The folding high-chair on wheels in the middle of the left-hand side is still obtainable.

18



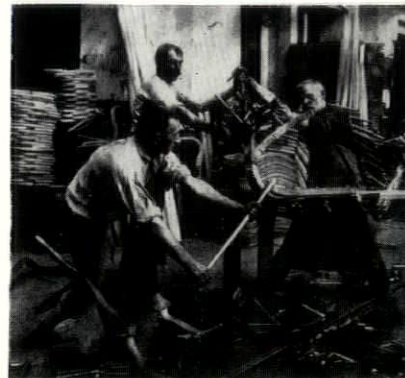
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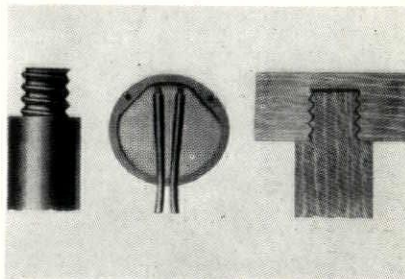
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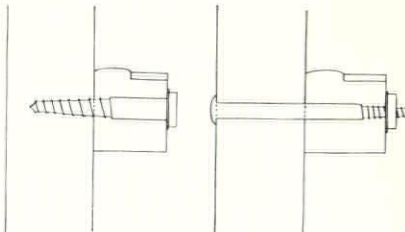


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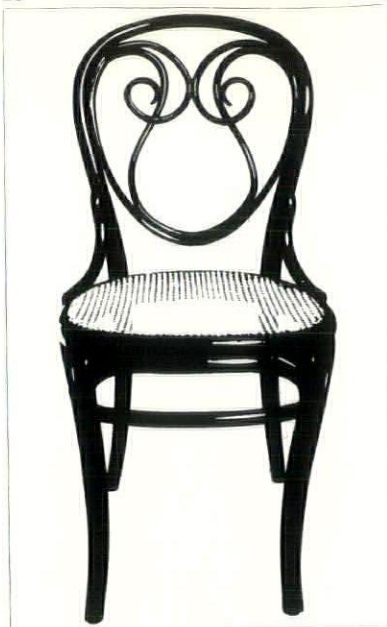
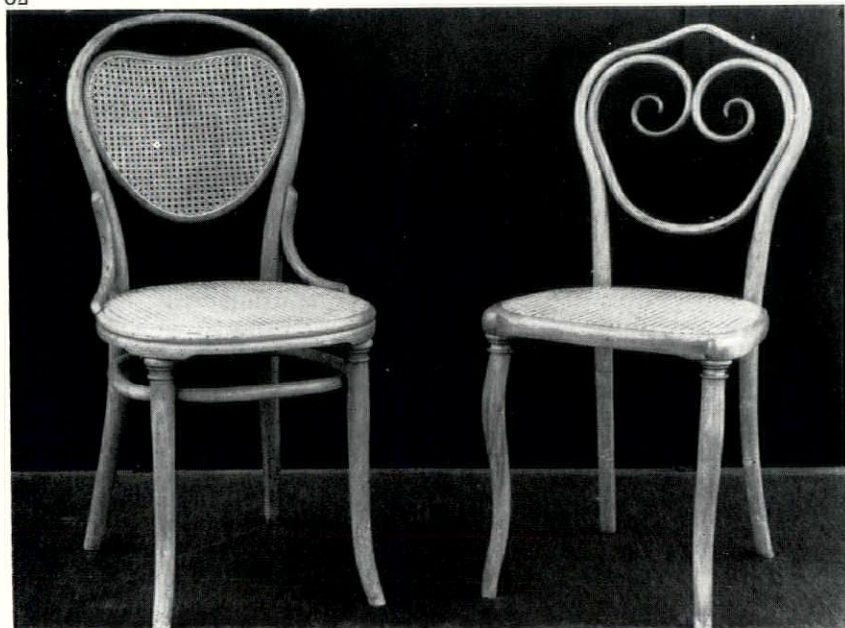




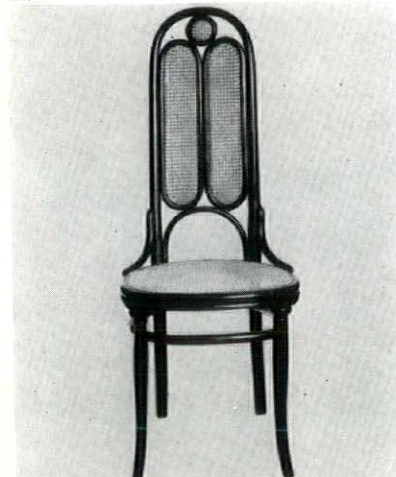
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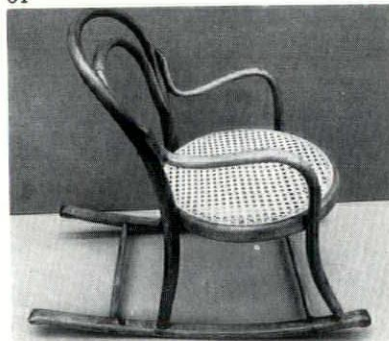
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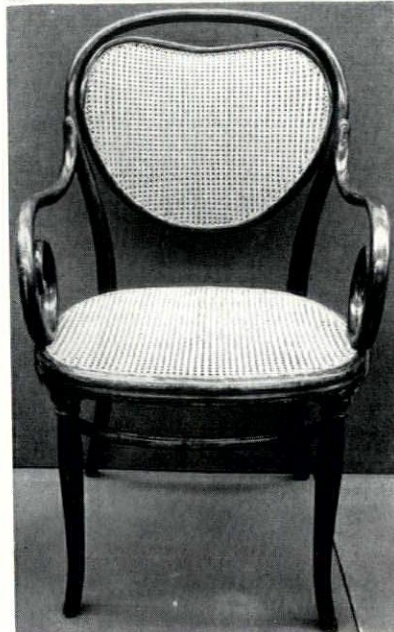
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31



33



27, rocking chair No. 21 with adjustable foot-rest. One of the most exuberant of Thonet's designs which also demonstrates well the use of the mechanical spoke shavers for tapering the ends of the rods, and of the special templates which made it possible to bend them into a double curve.

28, chair No. 13 still showing the triangular craftsman's joint between the front legs and the seat.

29, chaise-longue No. 4 without arms. Here the whole form of the cane seating is integral with the back. Its anthropometric character anticipates the chaise-longue of Le Corbusier.

30, chair No. 16, a mannered design which is uncharacteristic of this early period (1860s).

31, a delightfully simple child's rocking chair. Unusual is the fact that arms and front legs are continuous.

32, on the left is chair No. 3. It just precedes the Café Daum chair (see p. 282). Both chairs are early examples of the simple screwed joint between front legs and seat. They may have been exhibited at the Great Exhibition in London.

33, armchair No. 3. The shape of the arms derives from the Regency elbow chair.

Triple Morris

Nikolaus Pevsner

'He was the very soul of honour, truthfulness and justice.' This is what F. S. Ellis, the publisher of the first volume of the *Earthly Paradise*, exactly a hundred years ago, wrote of William Morris to Mackail his biographer. In the same year, 1868, Morris began to be attracted to the harsh, terrible world of the Icelandic sagas, not satisfied with the prettiness of his escape-world of the *Earthly Paradise*. In the course of six months last year three new books on Morris have been published—by Paul Thompson (hereinafter PT), Philip Henderson (PH) and Roy Watkinson (RW). One reason for these is the new documents which have recently come to light and have focused more or less sensational attention on these very years of Morris's life and, in consequence, on him as a human being. Another reason is that Morris's designs have, over the last decade or so, achieved historical recognition as the work of the 'greatest pattern designer of all time' (PT page 112), and, with historical recognition, have been found by the younger architects an ideal complement to their own bare and sheer architecture. Hence the re-issuing of the designs by Sanderson's; hence the use of Morris wallpapers in the halls of new schools; hence even the fact that the families of two of these younger architects live in, and believe in, Morris's Red House.

The new documents to which reference has been made are Rossetti's letters to Jane Morris. Concurrently other material referring to relations between Morris, Jane Morris and Rossetti has been reinterpreted. Mr. Henderson lists (PH 370) a great deal of manuscript material he used, and it is by virtue of this that a new book on Morris's life, such as Mr. Henderson's, was justified. In most other respects Mackail's *The Life of William Morris* of 1899 still remains top of the list. Mackail, son-in-law of Burne-Jones, was ideally placed, but he knew that the

relations with Rossetti, who after all was one of Morris's two closest friends—the other was Webb, the architect—imposed, so he wrote, the exercise 'of tact left and right . . . a quality unpleasantly near untruthfulness' (PH 33). What we know now lifts the veils as far as they need to be lifted, though unanswered questions remain.

This was the situation: Morris and/or Rossetti discovered Jane Burden, sixteen-year-old daughter of a stable-groom in the theatre at Oxford. Morris married her in 1859. Swinburne wrote: 'The idea of marrying her is insane' (PT 11). Rossetti married Elizabeth Siddal in 1860, but shortly before his death he said that 'after engaging himself to one woman in all honour and good faith, he had fallen in love with another, and then gone on to marry the first out of a mistaken sense of loyalty' (PH 218). Elizabeth Siddal died in 1862.

Morris as an undergraduate did fencing and boxing (PH 18). His friends called him Topsy. Cormell Price in his diary comments on his capacity 'for producing and annexing dirt' (PH 47). William Allingham in 1866 called him 'emphatic, often boisterously' (PH 86). When he and the family left Red House for good he cried (PH 77). When he was in Iceland in 1871 he reported proudly to Jane the stews he could make (PT 28). He enjoyed 'the simplest pleasure with childish gusto', said Sir W. B. Richmond (PH 226). He loved Dickens, especially the funny bits (PT 149), and had a weakness for practical jokes. His restlessness even at meals is familiar. So is his 'fearful temper', already noted at Marlborough (PH 7), so is (in Yeats's words, PH 301) the 'unheard of ease and simplicity' with which 'he did . . . whatever he pleased'—telling never-ending stories in his school days (PH 8), writing poetry at a rate of 750 lines of *Jason* in one day, 310 lines of something else in an evening (PT 177), making

tapestry, 516 hours in four and a half months, speaking on socialism indoors and outdoors 120 times in 1885–6 (PT 206). That was Morris.

Now Jane Morris: Henry James calls her 'an apparition of fearful and wonderful intensity' with 'a thin pale face' and 'sad, deep, dark eyes' (PH 98), Holman Hunt 'gaunt, ashen-coloured, yet perfectly beautiful' (PH 223). This was said much later, but Morris meant Jane in his *Praise of My Lady*, describing his lady's 'great eyes, standing far apart . . . looking out afar' and gazing 'out very mournfully' (PH 49). Her health began to decline in 1865. No-one quite knows what it was—rheumatism, asthma—anyway no doubt something we would now call psychosomatic. Later she was away all winters.

Rossetti was to Morris 'a very great man' and remained it till Rossetti died in 1882. His death, Morris wrote to Bell Scott, 'makes a hole in the world' (PH 218), and he wrote this in spite of what had passed between, Rossetti and Jane, in spite of what made him also say that Rossetti 'was an angel, and sometimes . . . a damned scoundrel' (PH 219).

What had passed between them? We know that Rossetti wrote fervent love letters to Jane (e.g. PH 111), and that some poems sound like fulfilment (PH 101, 103). How in the light of this should we understand the passage in a letter of 1869: 'No absence can ever make me so far from you again, as your presence did for years' (PH 100)? This is the most puzzling passage, but there are others quite similar. What is certain is that Jane responded—but how far we don't yet know; nor does it really matter so overwhelmingly. Anyway Morris saw what was happening and decided, as a man utterly incapable of levity, to cede if need be. In 1871, at the height of the crisis and of his unhappiness, he took Kelmscott Manor on a joint tenancy with Rossetti. Then he went to Iceland to leave

Jane and Rossetti at Kelmscott together. Things, he must have felt, had to take their course. Perhaps they would sort themselves out. How did they? That is what we are in the dark about, and against many indications of an achieved union of Rossetti and Jane there stands the fact that Rossetti broke down in that same year 1871 and tried to commit suicide in 1872. It must have been misery all round, ever since 1868 or 1869. Morris in a poem not taken into the *Earthly Paradise*, but probably of 1869, speaks of a 'wall of lies', as 'face to face we sit' (PH 94), and *The Lovers of Gudrun* in the *Earthly Paradise*, datable to June 1869, is about the tragedy of a three-cornered situation (PT 179).

What we have of Rossetti's pronouncements about Morris is unpleasant. As late as 1878 he wrote for instance to Jane 'I suppose Top is buzzing and blaspheming in a boat . . . in sonorous British guffaws' (PH 186). One may guess that what held Rossetti and Jane together was Rossetti's belief, conveyed to Jane, that the two of them were too exquisite for Morris's noisy and busy world. A good deal nastier is that, when in 1875 Morris dissolved the partnership with his friends, contracted in 1861, because they still received equal shares without putting in work, Rossetti proposed his share to be set aside for the benefit of Jane (PH 149).

So much for Rossetti. Morris on the other hand reviewed Rossetti's volume of poems in 1870, and although he wrote privately 'I have done my review—ugh,' publicly he praised 'the value and importance' of the poems, the 'subtle beauty of execution . . . the deep mysticism of thought' and so on (PH 113-4). Morris never got over his failure to keep Jane's love and never ceased to love her, even in the very last years. Shaw wrote, 'He could not sit in the same room without his arm round her waist', and 'his voice changed as he spoke to her as it changed to no-one else' (PT 45); and this although in *The Pilgrims of Hope* (i.e. in 1885) he still refers to 'their easy-going hell' and says:

'We were gentle and kind together, and if any had seen us so
They had said: "These two are one in the face of trouble and woe".'

Thanks to this new material and the new explanations it calls for, we can now understand Morris saying to Sparling (who was for a short time May Morris's husband), *à propos* the title of his book *Love is Enough*, 'There is a lie for you . . . Love isn't enough in itself, love and work, yes! Work and love, that's the life of a man' (PT 26). This is really in the end all that matters to us. Not the TV curiosity about a *ménage à trois*, but the fact that Morris's formidable activity is at least partly due to his wish to achieve happiness

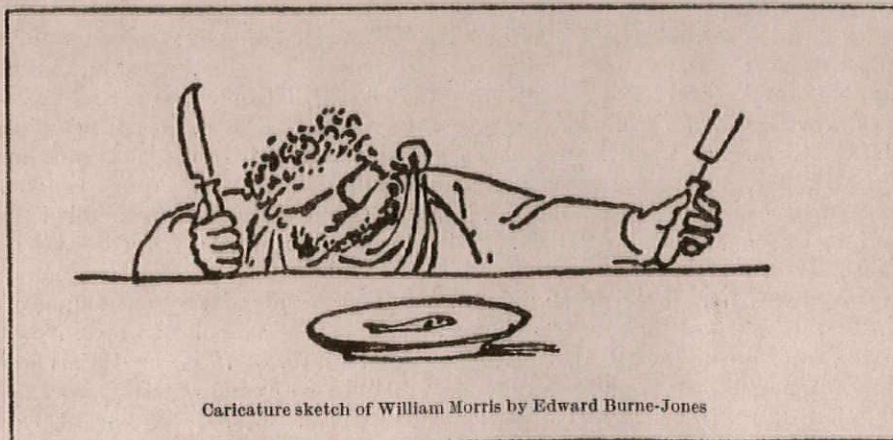
in spite of the failure of sustained fulfilment at home in Kelmscott Manor and Kelmscott House. The same explanation ought now to be put on those comments of friends who found him impersonal. There are three which deserve recording: Rosalind Howard of Naworth Castle, 1874: 'He lacks sympathy and humanity though . . . his character is so fine and massive that one must admire' (PH 147). And Wilfred Scawen Blunt: 'He was the only man I ever came in contact with who seemed absolutely independent of sex considerations. He would talk in precisely the same way to a pretty woman as to a journeyman carpenter—that is to say, he would be interested if she had anything interesting to tell him, but not a minute longer.'* 'And in a summing up of the whole of Morris's character Blunt wrote: 'He is . . . unique in this, that he had no thought for any thing or person, including himself, but only for the work he had in hand. He was not selfish in the sense of seeking his own advantage . . . but he was too absorbed in his own thoughts to be either openly affectionate or actively kind . . . I have seen him tender to his daughter Jenny and nice with her and his wife, but I doubt if he thought of them much when he did not see them, and his life was not arranged in reference to them'.†

That is it; and probably, however his private life would have shaped, in the end it would have been Work in the first place, in spite of his often expressed despondency. Was it worth it, could reforms be achieved? Work filled him out, gave him self-confidence and conveyed that self-confidence to others. Late in life, to those who met him he certainly gave the impression of all round, un-marred greatness. W. J. Stillman in 1901 speaks of the 'largeness and nobility of his nature' and of his 'magnanimity and generosity' (PH 114); Luke Ionides, in 1925, 'compared him with a sea-breeze, which seemed to blow away all one's black vapours' (PH 151); Sir W. B. Richmond called him 'the manliest fellow that ever tried to pull . . . society together' and found him, in spite of 'all his magnificent enthusiasm . . . one of the most sensible men I have known' (PH 226). And here is the final verdict of three men who knew him in his fifties and sixties: Robert Blatchford, the socialist, 'Morris was not only a genius, he was a man. Strike him where you would, he

rang true' (PT 48); Scawen Blunt, 'He is the most wonderful man I have ever known' (PH 364); and Shaw, 'You can lose a man like that by your own death, but not by his. And so until then, let us rejoice in him.' And perhaps rejoice more now that we know more of his tribulations.

These thoughts are one man's reactions to the three new books on Morris. So, which of them is Best Buy? It will have been noticed that I have not used Mr. Roy Watkinson's *William Morris as Designer* (Studio Vista) as the source for any quotation. That is characteristic. It has a short text, indifferent on the life, but it warms up with the designs and is at its best on stained glass and printing. The longest quotation from Morris's writings Mr. Watkinson gives his readers is about pattern-making. But on the whole quotations are few and not always precise. There are no bibliographical references, and the expansion of the text to the Arts and Crafts Movement, to imprint, Stanley Morrison, and the Bauhaus is not convincing, especially as there is no clear order (Dresser after Mackmurdo). Mr. Henderson's *William Morris, his Life, Work and Friends* (Thames & Hudson) is the biggest of the three books. Its title is correct; life comes first and friends loom large, especially Rossetti. The book makes ample use of unprinted and of recently printed material; it does not replace Mackail but is, thanks to the Rossetti papers and other papers, Mackail brought up to date. A few of the comments on Rossetti and Jane Morris are a little cheap, which is a pity.‡ The illustrations are strongest on Morris's life, and this is welcome. Paul Thompson's is in my opinion easily the Best Buy (Heinemann). It contains the life-story quite sufficiently, but is mostly a sound and sensitive appreciation of Morris's work in all fields: furniture and furnishings, tiles, wall-papers, textiles, stained glass, book design, prose, poetry and politics. It is, thanks to Dr. Thompson's background, the only one of the three books in which politics are evaluated with the same competence as patterns. The only snag is that it is under-illustrated. So finally—the figures to be set against these comments on the three books: PH 388 pages, 87 illustrations, of which five in colour, 63s.; PT 300 pages, 41 illustrations (nine in colour), 63s.; RW 84 pages, 90 illustrations (26 in colour), 70s. So if one wants to dispense

kindness all round, one could say PH for the life, PT for the work, RW for the illustrations. That'll be £12 16s. 0d.



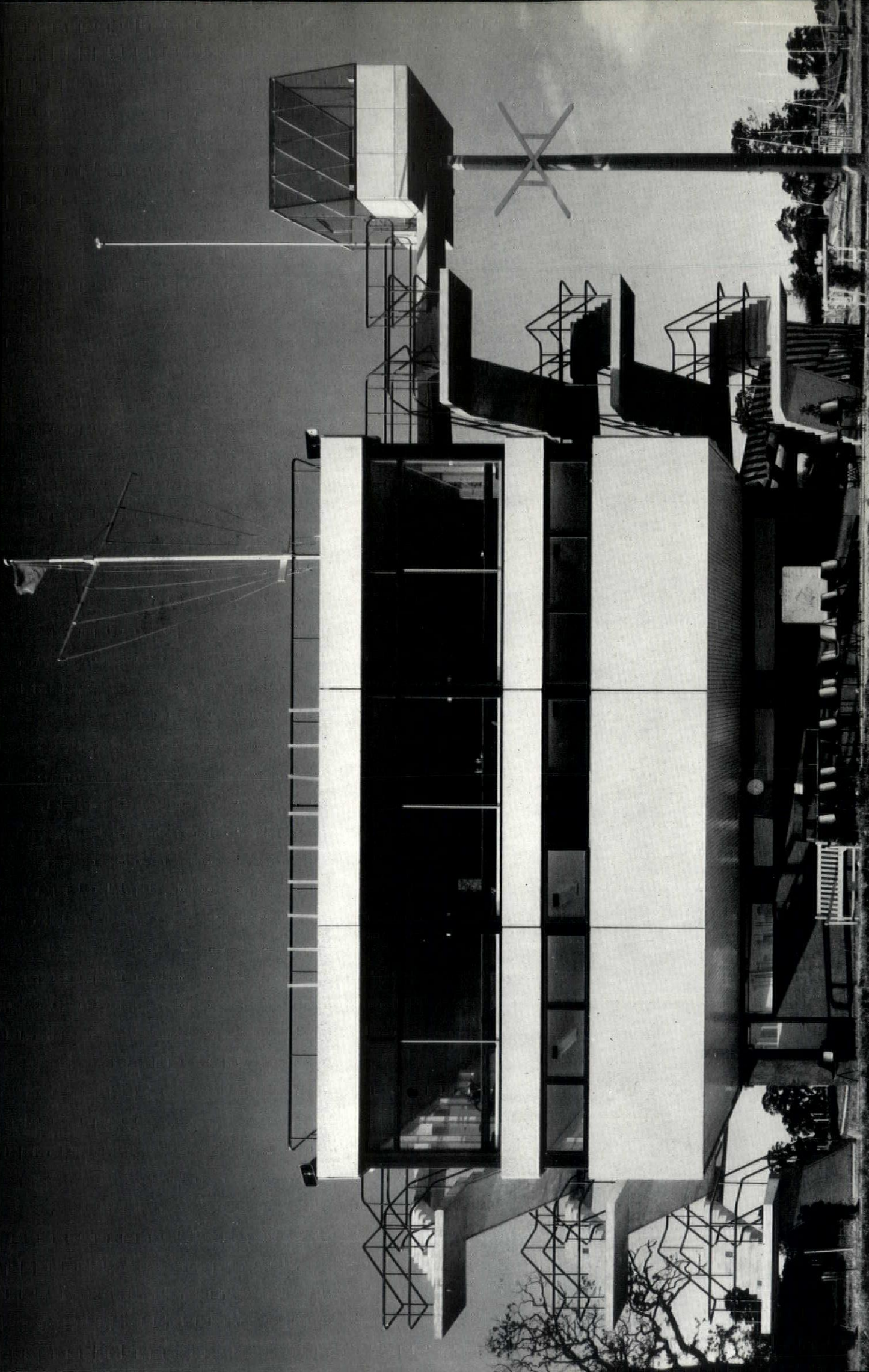
Caricature sketch of William Morris by Edward Burne-Jones

* I owe this reference to the generosity of Ronald Briggs.

† Quoted from P. Henderson: *The Letters of William Morris*, London 1950, p. xix.

‡ Also the index is inadequate, e.g. Percy Dearmer lectured at Kelmscott House for Morris's Socialist Society—no Dearmer in the index. Mrs. Stirling nursed Morris in his last illness—no Stirling in the index. Detmar Blow was present at Morris's death—no Blow in the index. Lethaby wrote a splendid passage on the funeral—no Lethaby in the index.

SAILING CLUB, GRAFHAM WATER, HUNTS.



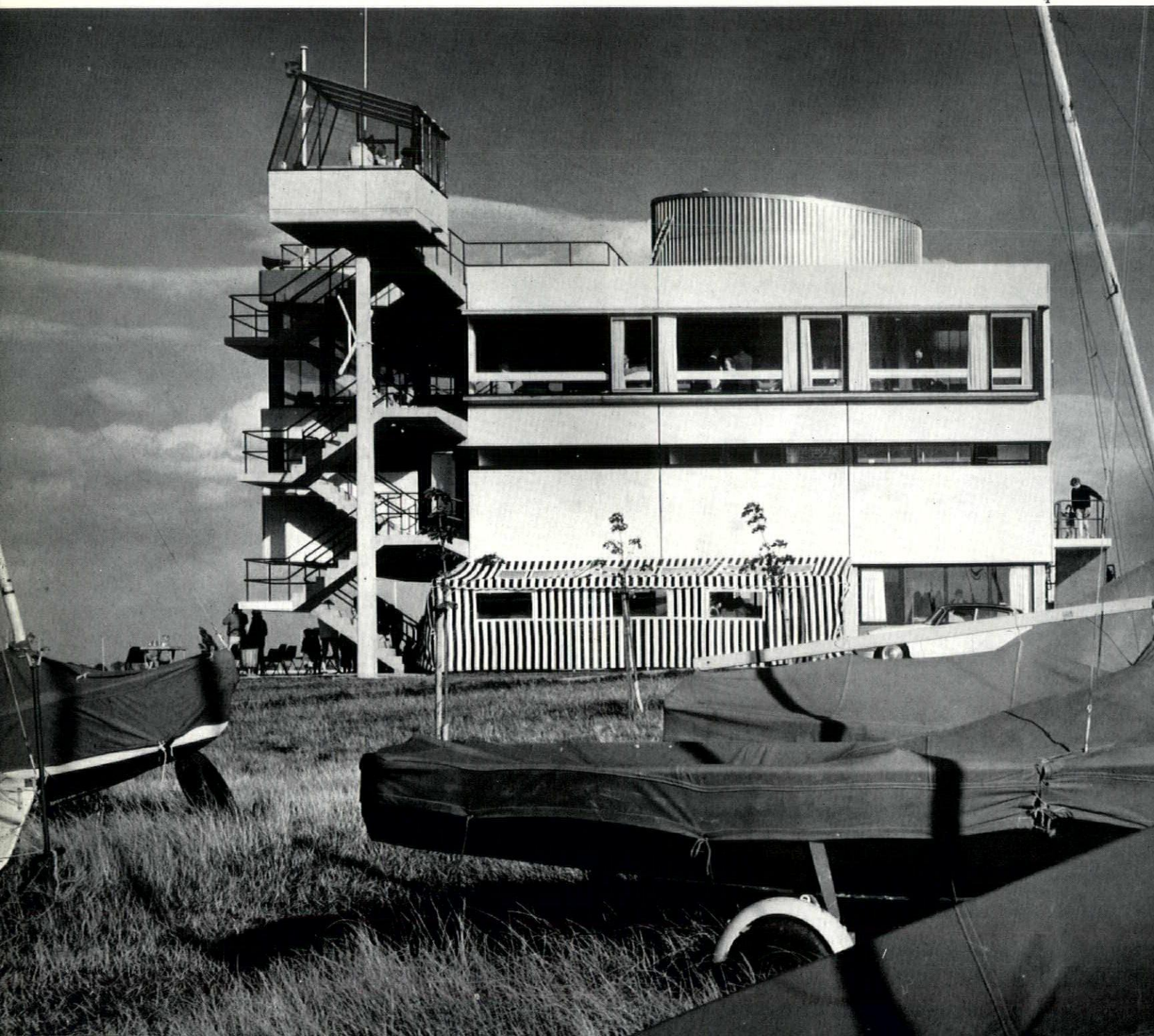


2



3

1 (previous page)
club house seen
the waterfront.
main entrance.
of stairs and vie
tower. 4, the we
which has a bar
second floor and
dining room alo



4

SAILING CLUB GRAFHAM WATER HUNTINGDONSHIRE ARCHITECTS: ROBERT MATTHEW JOHNSON-MARSHALL AND PARTNERS

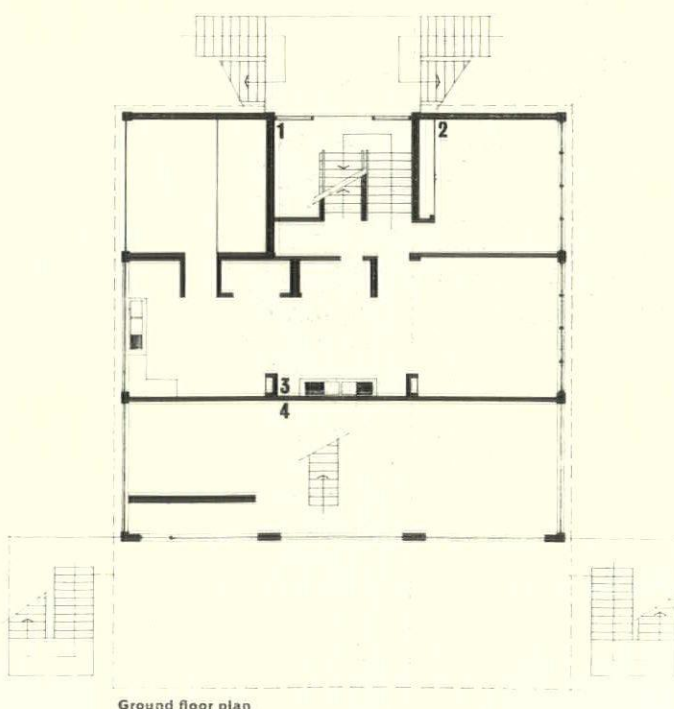
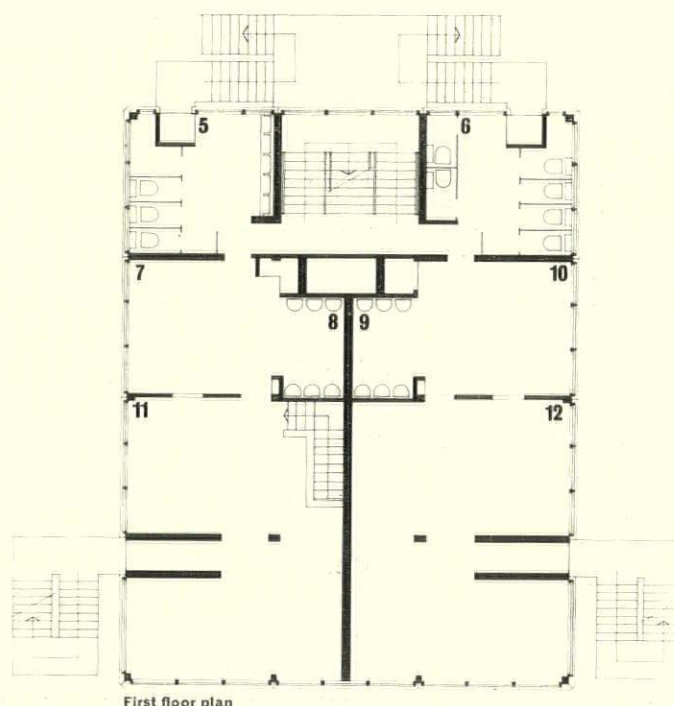
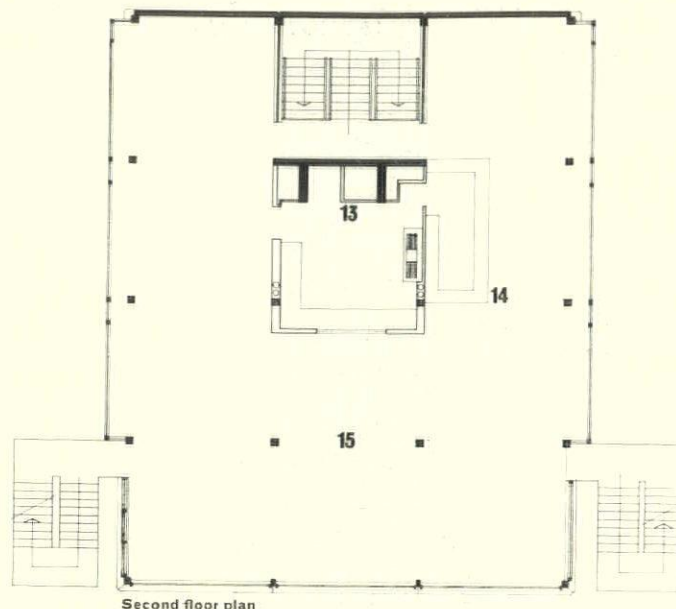
photographs by Keith Gibson

The Grafham Sailing Club is one of a number of recreational facilities planned by the Great Ouse Water Authority at Diddington Reservoir, a large stretch of water, 3½ miles long by 1½ miles wide, created by flooding a low-lying area of country in the heart of Huntingdonshire, some 2 miles to the east of the A1 where it passes the village of Buckden.

The area has proved popular with fishermen, ornithologists and botanists, as well as small-boat enthusiasts. The design for the sailing club and the adjoining slipways and dinghy park was evolved before the reservoir was completed, and the projected membership over future years, on which the accommodation schedule was based, proved to be grossly underestimated. However, the building was designed for expansion if necessary and this is now being considered. The three-storey building approximates to a cube, and provides for three distinct types of accommodation on each floor. The ground floor accommodates the main kitchen, water heating and storage area, stores and administrative offices, the first floor the male and female changing and the second floor, which is fully glazed on three sides, allowing a panoramic view of the whole of the reservoir, provides for the multifarious social activities undertaken by the club. It is laid out round a central servery and bar. The roof deck is reinforced to provide a viewing platform for a large number of spectators whilst the starter's and judges' box is located as a separate structure with access to the club at second floor level. The ground floor is set back beneath the north face of the clubhouse and provides a protective and paved sitting area which is frequently used as an overflow space for summer parties.

The building structure comprises a reinforced concrete frame containing a mixture of insitu and precast concrete floors. The external cladding is of large precast concrete 'sandwich' panels with the external finish, insulation and internal finish as an integral part of each unit. These units are dry joined and are set between painted softwood frame windows except on the north face where the main clubroom windows are horizontal sliding set within aluminium frames. Internal load bearing partitions are generally fair-faced brickwork painted. There is a softwood strip ceiling to the main club room. Heating is by low-temperature electric ceiling-mats set above the ceiling finish.

Partner in charge, K. G. Buffery. Project architect, A. J. Barrow. Senior structural engineer, M. A. Bayer. Project engineer, R. Owston. Quantity surveyors, Franklin & Andrews. For contractors, see page 314.



- key
- 1. entrance
 - 2. secretary
 - 3. kitchen
 - 4. men's changing
 - 5. men's w.c.
 - 6. women's w.c.
 - 7. showers
 - 8. men's washing
 - 9. women's washing
 - 10. showers
 - 11. men's changing
 - 12. women's changing
 - 13. servery
 - 14. bar
 - 15. dining room

MATISSE

Robert Melville

Matisse has always been something of a painter's painter. Even Picasso kept an eye on him and from time to time has said nice things about him. But to my mind the most interesting of his recorded comments appears in Françoise Gilot's book and wasn't intended as praise: 'It isn't any old object that is chosen to receive the honour of becoming an object in a painting by Matisse. They are all things that are most unusual in themselves. The objects that go into my paintings are not that at all. They're common objects from anywhere . . . the object at its most ordinary. I don't go out of my way to find a rare object that nobody ever heard of, like one of Matisse's Venetian chairs in the form of an oyster . . . it's a reserved object, an object for certain people but not for everybody. I make reference to objects that belong to everybody.' On the face of it, this seems a fairly superficial criticism—it ought to be possible to give a precious object as much shape value in a painting as a common one—but the criticism is made by the greatest shape-maker of our time, and it finds the weak spot in Matisse. He was too much the aesthete. He had the instinct of a posh interior decorator. Interiors were his favourite subjects and he was always doing them over in new colour schemes. He once referred to Titian and Veronese as 'those wrongly-termed Renaissance masters . . . I found in them superb fabrics created for the rich . . . of more physical than spiritual value', and if thinning one's paint with a great deal of turps is a sign of the spiritual in art, Matisse was in a strong position to find fault with them, yet it seems an odd remark to come from an artist who, as soon as he was getting on in the world, had one of his rooms marbleized by Italian craftsmen.

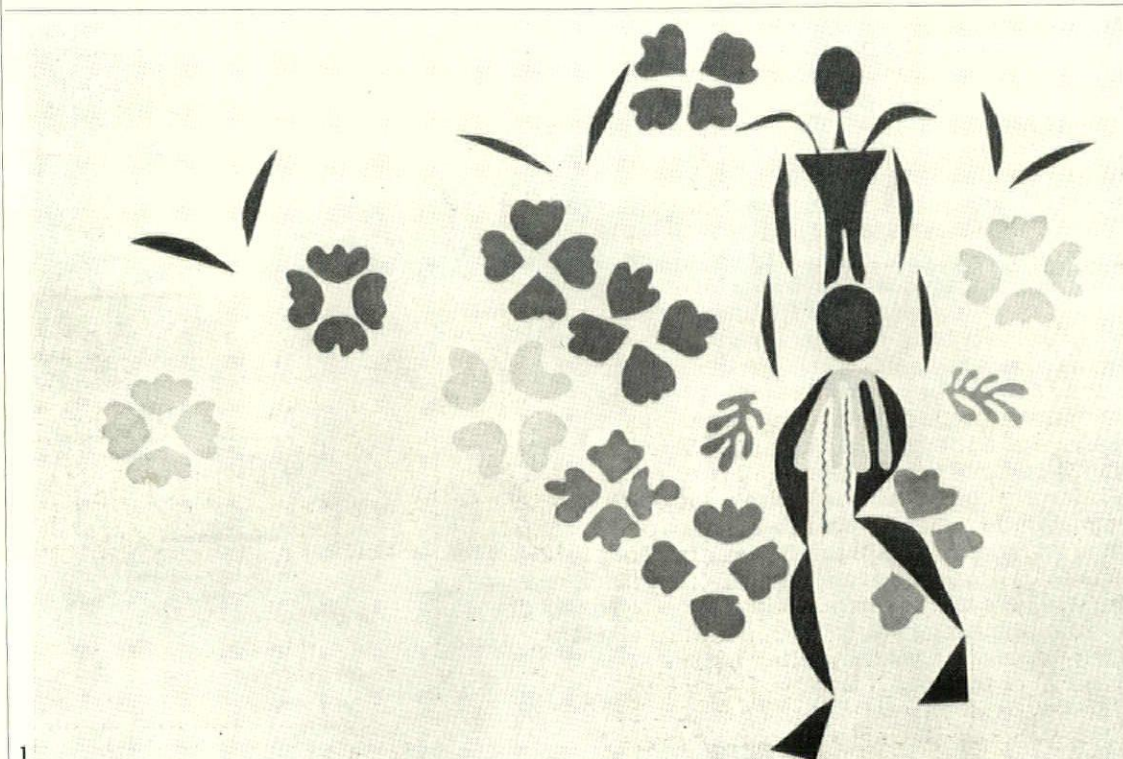
There have been times when Matisse was more the painter's painter than at others. There are tactical reasons for singling out certain veterans for praise at certain times. Finding precursors for new movements is a way of providing them with credentials. We don't hear much about the late works of Monet now that the Abstract Expressionist movement has come to an end, but Matisse has never been more the artist's artist than at present, not even in the Fauve period. It's all according to the way the wind is blowing, and even insights have a tendency to be passing enthusiasms. I notice that the painter Howard Hodgkin, in a discussion published in a recent issue of *Studio International*, makes a particularly large claim for the all-over spread of colour in the delightful Matisse interior called 'Red Studio' which hung in the Gargoyle Club many years ago and was

then at the Redfern Gallery for a few months before it was bought by the New York Museum of Modern Art. He claims that Matisse was using the all-over colour in a way that was two-dimensionally expressive of three dimensions and that the 'density of the physical impact of the red was expressive of pictorial space in a way that colour has never been before.' Without intending the slightest denigration of one of the few paintings by Matisse which I admire without reservation, I think I should point out that in fact Matisse made a witty use of old-fashioned linear perspective to define the space in 'Red Studio.' But the phrase 'never before' properly prepares it for its status as a precursor, and Hodgkin doesn't fail to mention that it 'probably does form a kind of peg for certain kinds of recent American environmental painting.' Actually precursor-type paintings are not necessarily influences on the work they so to speak precurse, and I doubt very much whether 'Red Studio' has had any direct bearing on those American paintings which are totally given over to colour sensation. But if it was Matisse who said that 'a metre of green is greener than a centimetre of green'—and Andrew Forge, who took part in the

discussion with Hodgkin, thinks it was—he was undoubtedly a prophet of New World painting. 'Red Studio' is one of several well-known pictures which were not lent to the Matisse retrospective arranged by the Arts Council as the inaugural exhibition at the Hayward Gallery on the South Bank. The exhibition was nevertheless one of the Art Council's most ambitious projects, and many paintings from every period of his working life were brought together. The works which are characterized by one-colour saturation are medium size oils, but because of their much larger format, pride of place was given to the *gouaches découpées* and treated as his greatest achievement. (I reproduce one of the most charming examples shown at the Hayward, called 'The Negress,' 1). 'Looking to the end of the story,' wrote Lawrence Gowing in the catalogue, 'we can see that at root he was demanding not less than the independent, abstract re-creation of ideal conditions of existence—states of visible perfection from which the least possibility of physical frustration was eliminated.'

I think the note of fervency struck by Gowing's prose must spring from a desire for total immersion in colour. The doors of perception

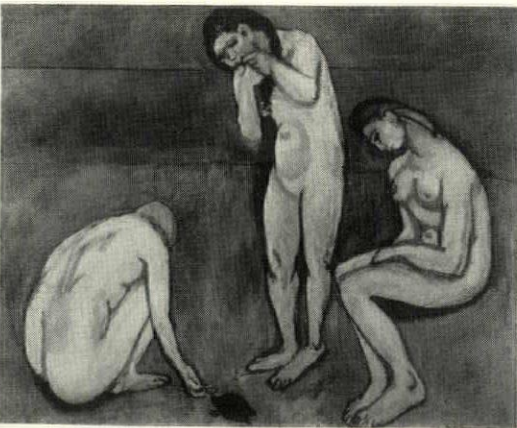
Matisse: 1, 'The Negress.'



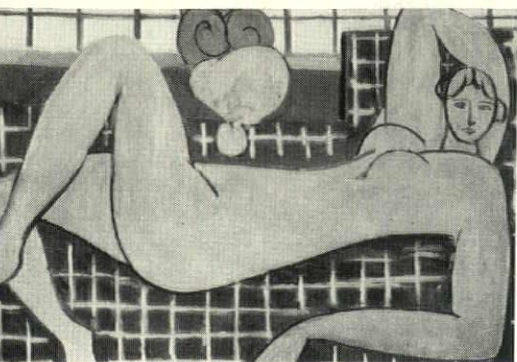
are on their hinges; we are now involved in a sort of psychedelic binge, an extended lost week-end of oceanic colour, and it's not without interest that, although Gowing refers to the *gouaches découpées* (which for the most part are small coloured cut-outs scattered over an expanse of white paper) as the complete realization of an ideal world, his highest pitch of fervency is reserved for the oils devoted to one-colour saturation. He says, for instance, of 'Large Interior in Red', 2, which is painted a brighter red than the much earlier 'Red Studio', that 'the redness overflows and people standing in front of the picture to look are seen to have it reflected on them. They are included in it, they share in a natural condition of things and painting.' He evidently wants to be 'sent' in a sea of colour, and I have the impression that he is willing the painting to be as large as the *gouaches découpées*, as large as American environmental painting.

It's probably no accident that the present wave of unstinted praise for Matisse coincides with an uncritical enthusiasm for *Art Nouveau*. In pursuit of colour sensations, Matisse persistently devalued the shape of things. He gave objects a slippery curvaceousness or turned them into vacuous arabesques, and when he stopped short of distortion, as in 'Large Interior in Red', the furnishings create an impression of shallow bourgeois luxury.

The strong figure in 'Bathers with a Turtle', painted in 1908, 3, in which the poses of the



Matisse: 2, 'Large Interior in Red' 3, 'Bathers with a Turtle'. 4, 'Pink Nude.'



girls are marvellously determined by their interest in the turtle, were painted in a period when the conception was not totally divorced from the idea of local colour. The strips of colour in the background, two blues and a green, remain evocative symbols of sky, sea and

grass and don't, so to speak, push past the girls in a bid for all the attention. Colour and form come to the eye in unison, and the picture has a calmness and poise which I find altogether more satisfying than those so-called 'states of visible perfection.' This kind of balance was

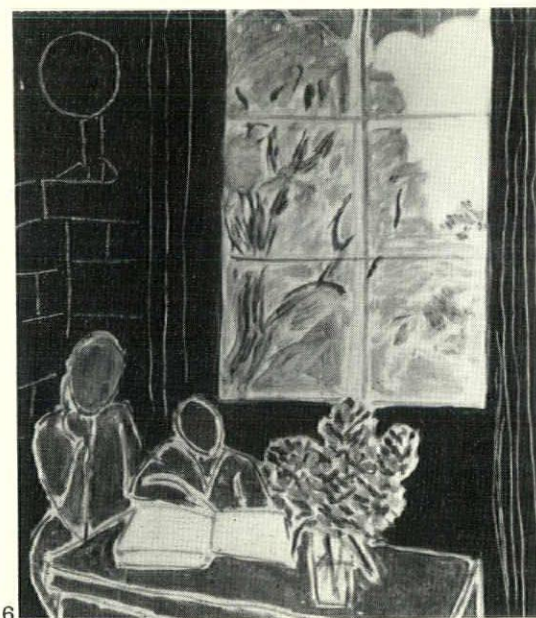
GALLERY

rarely to be found in the exhibition, but 'Pink Nude', 4, painted many years later, was another example. The bold distortions remove the figure from the voyeur-like atmosphere which surrounds the countless paintings of nudes sitting sloppily in fancy chairs in over-furnished interiors, and the raw pink of the flesh in a deep blue setting matches the intransigence of the form. But it's evident that I'm on a totally



5

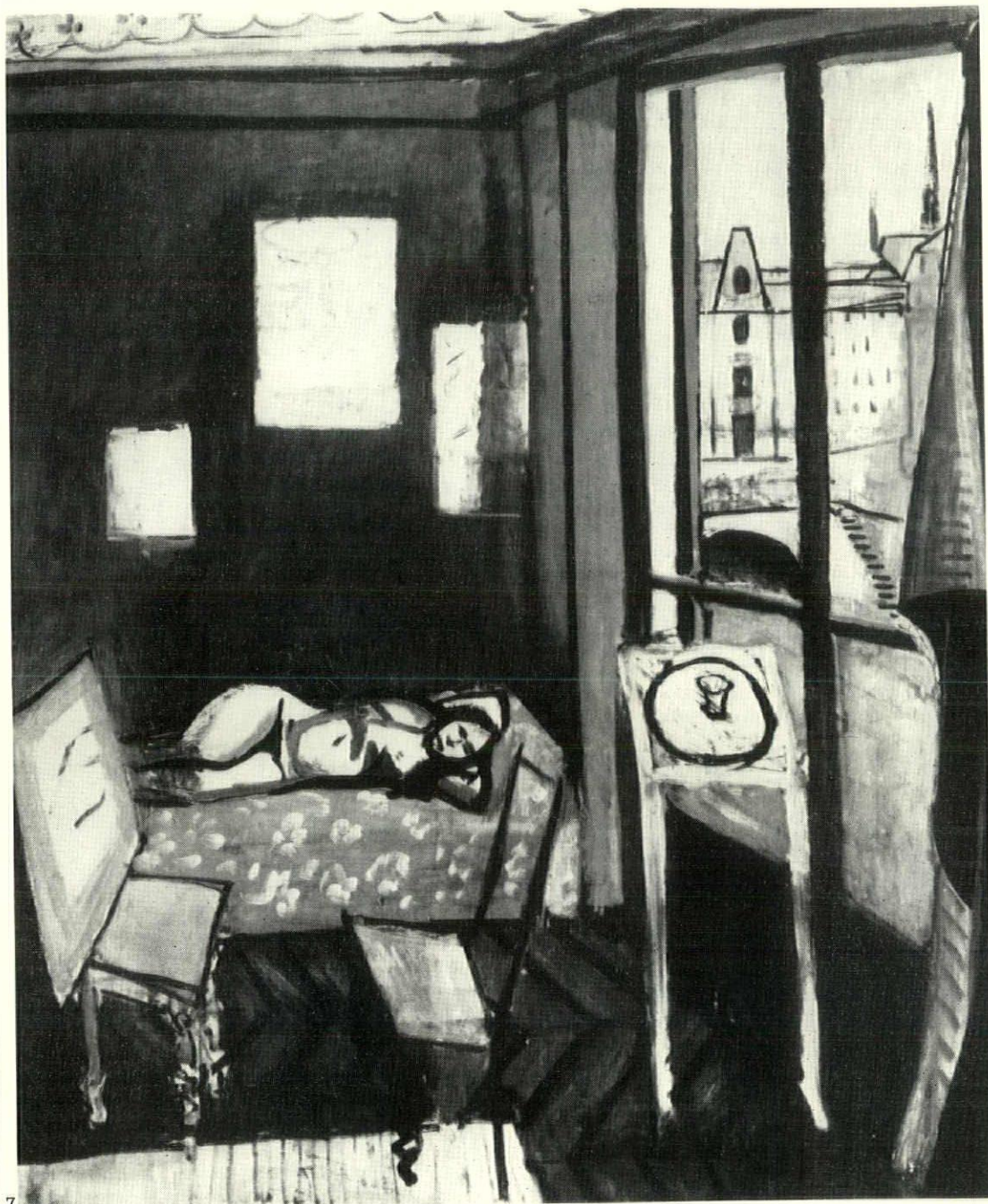
Matisse: 5, 'The Moroccans.' 6, 'The Silence Living in Houses.' 7, 'Studio, Quai St. Michel.'



6

different wave-length from Gowing, for after giving this painting a mention, he remarks that 'Matisse seems to have realized that the intensity which he still required from painting was lacking.' The peculiar fat shape behind the figure is not important enough to be worrying, but it's rather typical of the kind of shape-making in his work that I find dislikeable. A photograph of an early state of the picture shows it to be a pot of flowers against an ornate chair-back and it seems to me to be a nasty, blowsy, art-nouveauish, self-indulgent bit of simplification.

The famous picture called 'The Moroccans', 5, painted in 1916 and composed from memories of two winters spent in Tangier, is packed with such substitutions for objects, and although I



7

know well enough that one is supposed to read the picture as an abstract symphony of colour, I can't help seeing crass substitutes for flowers, leaves, melons and seated Arabs. I find the same kind of impoverished figuration in a late painting called 'The Silence Living in Houses', 6. The title is unusual, and the faceless figures lend it a somewhat macabre significance, as if the picture were a kind of demonstration of the de-humanizing process involved in the obsessive pursuit of colour. In this picture, as in 'The Moroccans', he has had to resort to a large area of black to get some resonance out of the other colours.

The 'Studio, Quai St. Michel', 7, painted in 1916, is a delightful work in which light has not out-manoeuvred representation, but lends the

objects a mysterious intensity. Gowing, perhaps rightly, stresses the relationship between the roundness of the nude model and 'a variety of elliptical images on square panels dispersed round the room, until it finds its counterpart in a round yellow tray on a square table.' But for me the fascination of the picture is in the means used by the painter to penetrate the darkness at the far end of the room. The pictures on the dark wall are primarily panels of light, and it is these panels rather than the window that shed light on the nude. The square table with a yellow tray appears to be an intruder from another kind of painting and is curiously phantasmal. In view of what was to happen later, I see the panels and the table as emissaries of a form-devouring monster of light and colour.

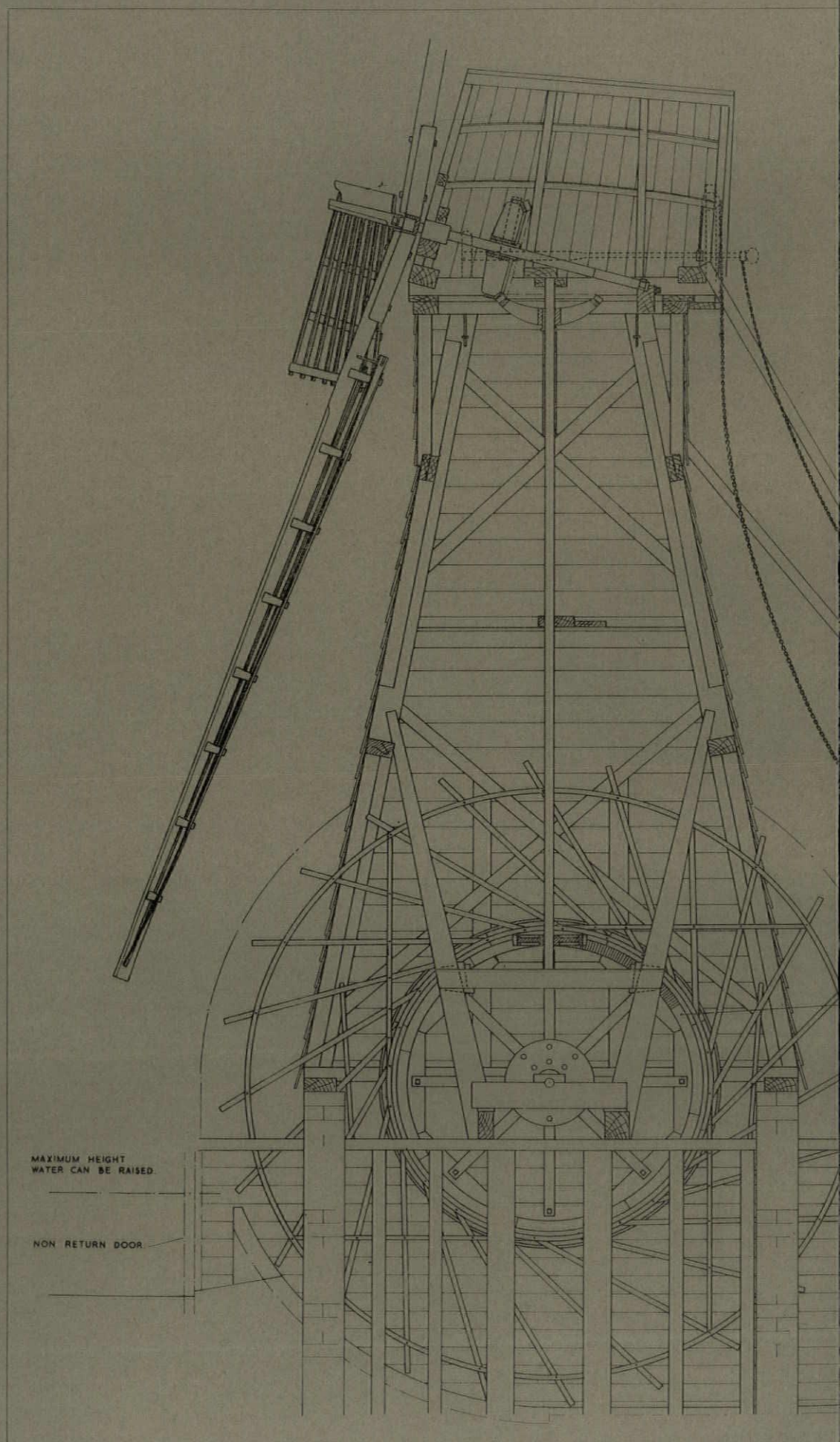
FEN DRAINAGE

by P. G. Norman

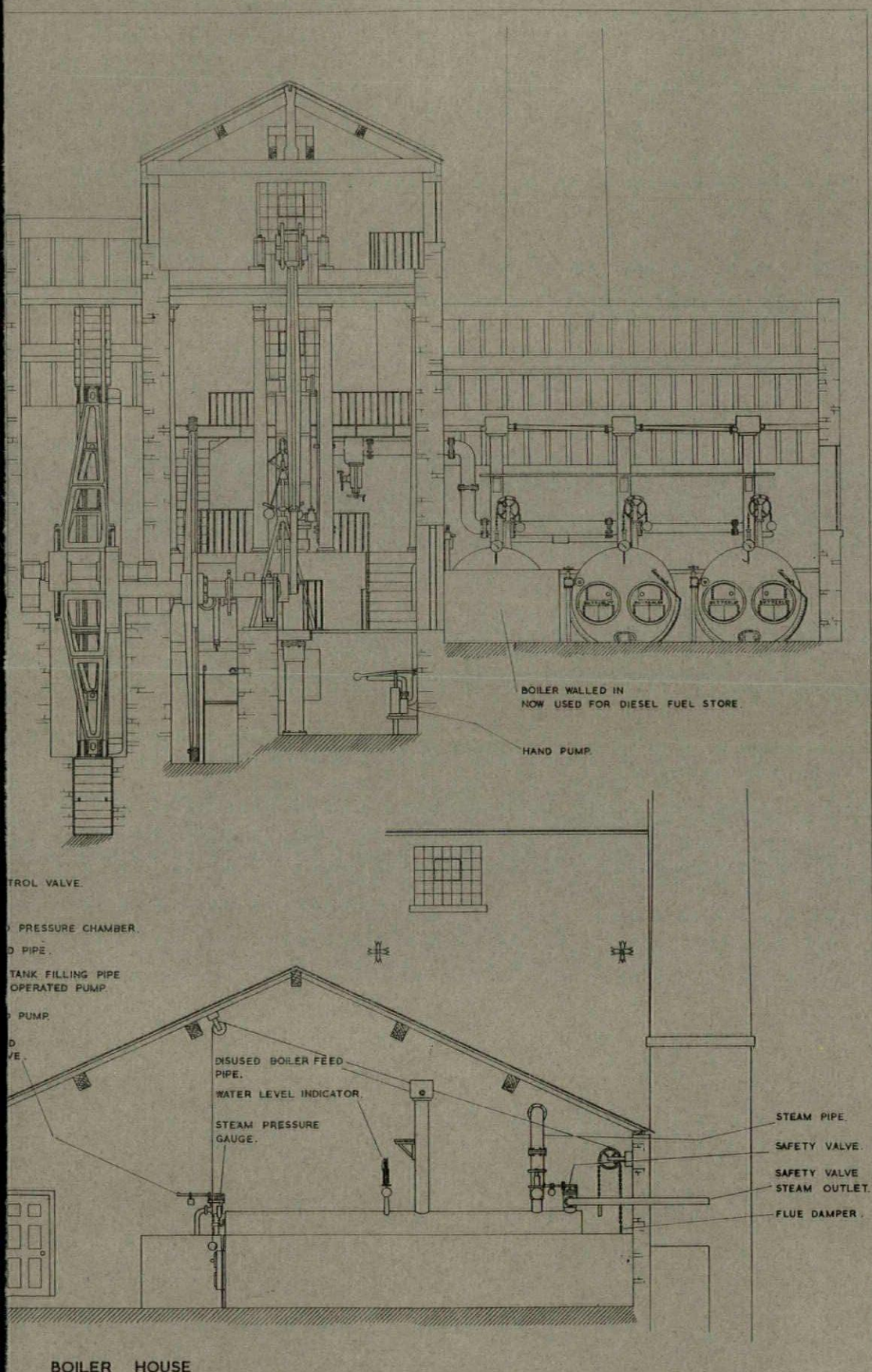
The long and interesting history of fen drainage in this country will be better understood after a visit to Wicken, Cambridgeshire, where a wild profusion of pre-drainage fenland is to be seen standing at a much higher level than the surrounding cultivated fen. It illustrates the crux of the problem which became apparent with the successful drainage of the peat soil. Mainly due to oxidization, but also to other forms of erosion, which have all been assisted by intense arable cultivations, the level of this land has continually subsided. Consequently, the land became more subject to drowning, and potential flood water had therefore to be raised into the main drainage channels.

The most effective way of doing this in the early days was by means of the powered scoop wheel. This wheel, which was basically a wooden paddle wheel with backward sloping paddles, or floats, was made to turn in a closely fitting water channel and thus force the water up a curving incline or breast, to be discharged at a higher level. A wooden door at the top of the breast, opening away from the wheel, would shut when the wheel stopped its discharge. This system was powered in the early days by wind, as we can see in the Wicken Fen drainage mill shown in the accompanying drawings. It has a very long pedigree as far back as the sixteenth century. With ever increasing demand for wheels to reach deeper and discharge relatively higher, due to the subsidence, the diameters had to be increased, requiring more continuous power. Fortunately, invention kept pace with trend, so that in the early nineteenth century the low pressure steam condensing beam engine could be used to serve this purpose. The sole surviving example is Stretham Old Engine, to be seen at Stretham, on the bank of the old West river, not more than five miles away from Wicken. This is shown in the drawings overleaf.

The drainage mill at Wicken has reversed its role as it now pumps water back into the Sedge Fen. This is done to help in maintaining correct water table level, which is so necessary for the correct balance of flora and fauna in the area. Nevertheless it is a true drainage mill which stood, nearly a mile away, in Adventurer's Fen, where it was worked for many years as a first-stage drainage mill. It was acquired by the National Trust when they took over the land. It was built by Hunts, who were then millwrights at Soham, and repaired by them in its working life. For a number of reasons it fell into disuse, and then in spite of all efforts, into dilapidation. After many requests and advice on restoration, it was finally suggested that the mill should be moved to a better site for supervision, and also be made to work in



Right: Wicken Fen Drainage Mill,
Wicken, Cambridgeshire.
Drawn by P. G. Norman.



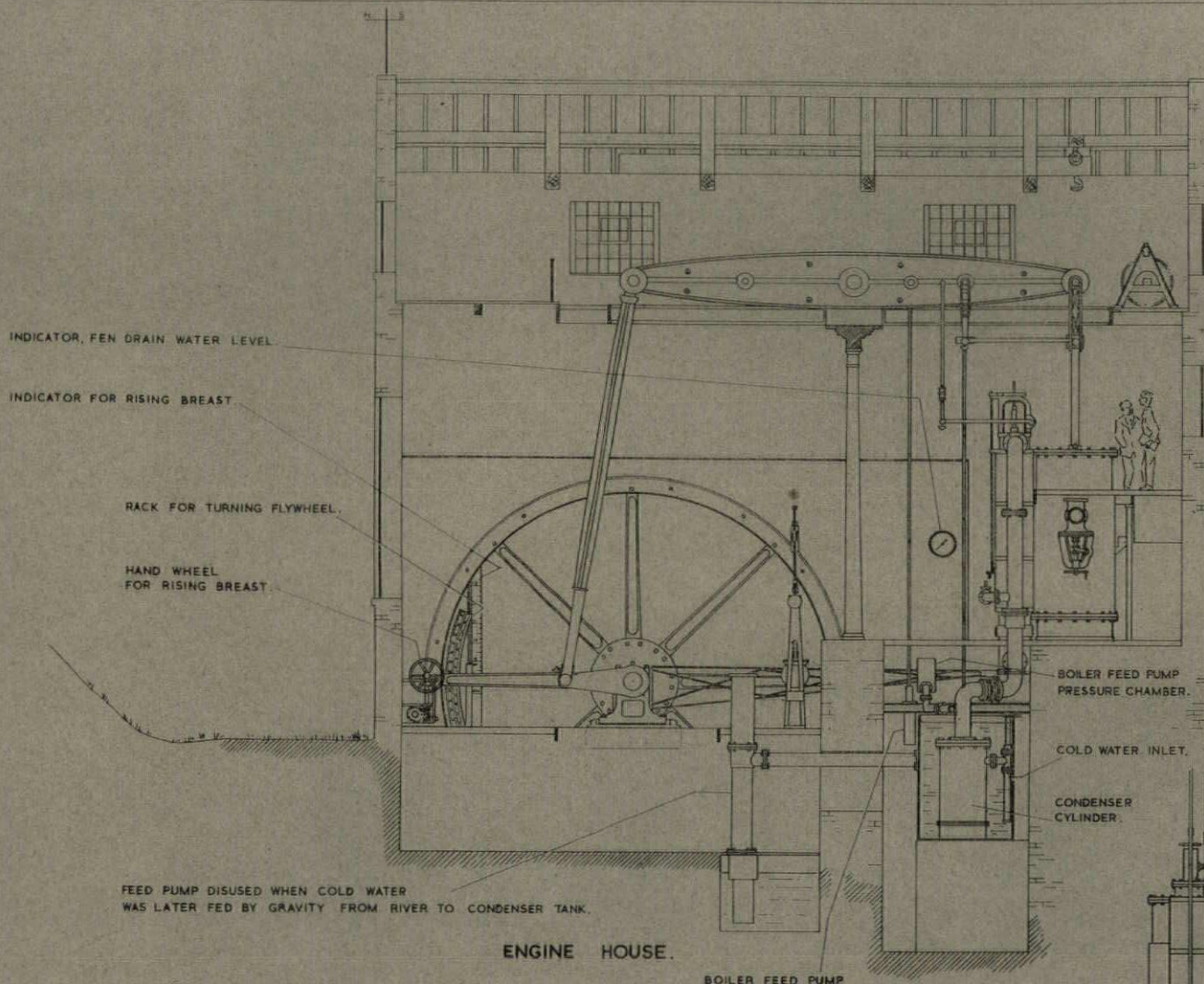
pumping water into the fen which was showing the trend to dry out.

The Cambridgeshire and Isle of Ely Branch of the Council for the Preservation of Rural England put this into effect, and the mill was moved in 1956, under the supervision of Mr. H. C. Hughes, of Hughes and Bicknell, architects, Cambridge. The late Lord Fairhaven, who was chairman of the branch, gave the money to meet the cost and the work was carried out by Mr. C. J. Ison of Histon, Cambs. Before the mill was dismantled measured details were taken and it was from these that the accompanying drawings were made. Concrete was used for the base instead of brick, but much of the timber and all the gearing are original. Part of the wheel was redesigned to a larger diameter and width, as the original was non-existent. The common sails with their cloths are new.

Between the last two European wars it was still possible to point out the many chimney stacks of the steam drainage installations which marked the course of the rivers across the vast expanse of the flat fenland countryside. Some of these engines were grandiose, with fluted columns; others were more modest according to their respective drainage boards' requirements. They were all different, but were typical in their general design and purpose. They all suffered the same fate and were scrapped for the sake of the new more efficient installations. Stretham Engine was not to suffer in this way. In 1924 it was supplemented by a diesel-driven installation, which in itself is unique, and this was built beside the older steam plant. It proved to be superior in all ways, and so the steam engine became a stand-by. The beam engine last ran under steam in 1941. Because of the proximity of the River Cam it was possible to divert the main drainage of Waterbeach Level to discharge into the Cam; in this way the old engine did not stand in the way of progress.

The resident Superintendent Mr. C. O. Clark kept a careful watch over the years and protected as much as possible against the encroachment of vandal, scrap-merchant, and deterioration. In 1958, largely due to the efforts of their then president, L. E. Harris, The Newcomen Society established, with the agreement of the drainage authorities, the Stretham Engine Preservation Trust. The property is leased to the Trust, who have put much work into restoring this engine to working order and to its original dignity, but they need financial help. The engine was built by the Butterley Engineering Company, under Joseph Glynn, 1831.

*Left: Stretham Old Engine, 1831,
Stretham, Ely, Cambridgeshire.
Drawn by P. G. Norman.*



WHEEL HOUSE.

INTERNAL GEAR FOR SCOOP WHEEL 200 TEETH.

ENGINE PINION 49 TEETH 5'-0" O. DIA.

RACK AND PINION FOR RISING BREAST OPERATED FROM INSIDE ENGINE HOUSE.

RISING BREAST.

HIGH FLOOD LEVEL.

TO RIVER.

NAVIGATION LEVEL.

ENGINE STARTING CONTROLS.

VALVE ROCKER SHAFT.

HOT WELL.

OVERFLOW PIPE TO WHEEL HOUSE.

STEAM PIPE.

STEAM CON.

BOILER FEED

BOILER FEED

CONDENSER FROM HAND

BOILER FEED

BOILER FEED RELIEF VAL

COLD WATER FEED FROM RIVER.

AIR PUMP CYLINDER.

CONDENSER CYLINDER.

AIR PUMP & CONDENSER HOUSING.

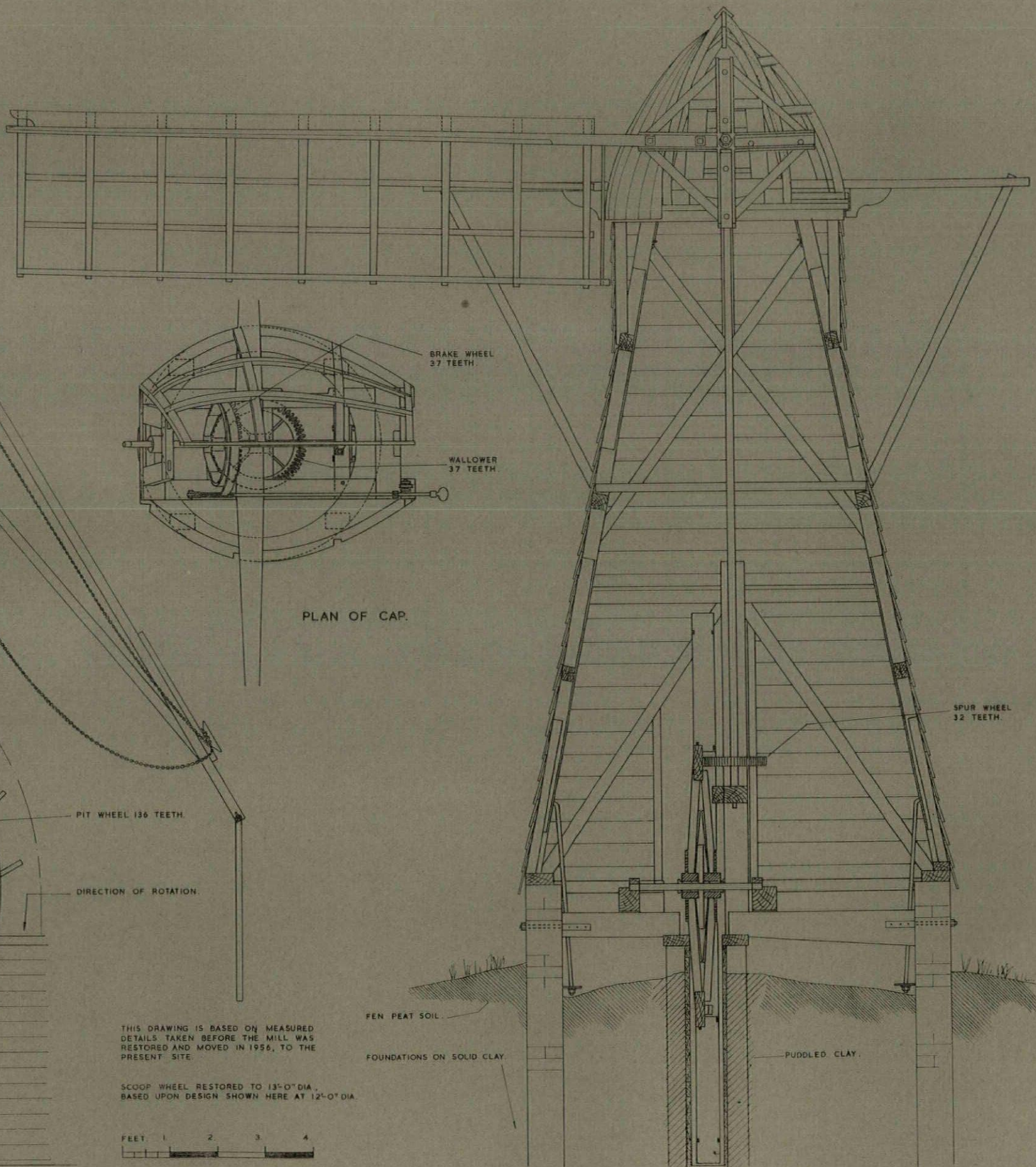
SCOOP WHEEL 37'-0" O. DIA.

TANGENTIAL CIRCLE 17'-0" DIA.

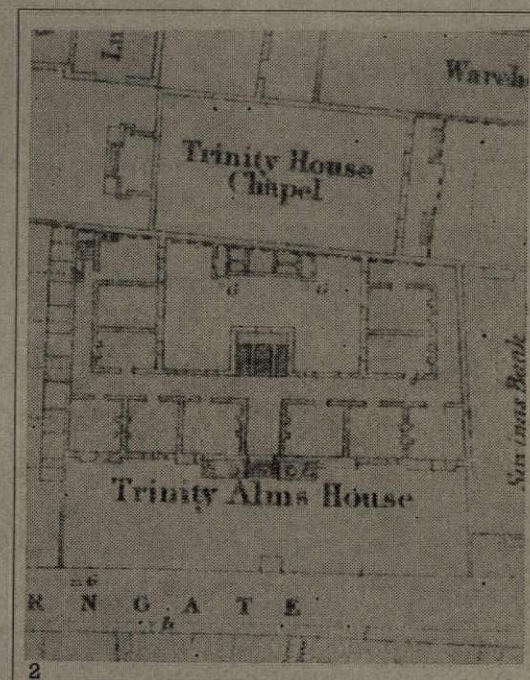
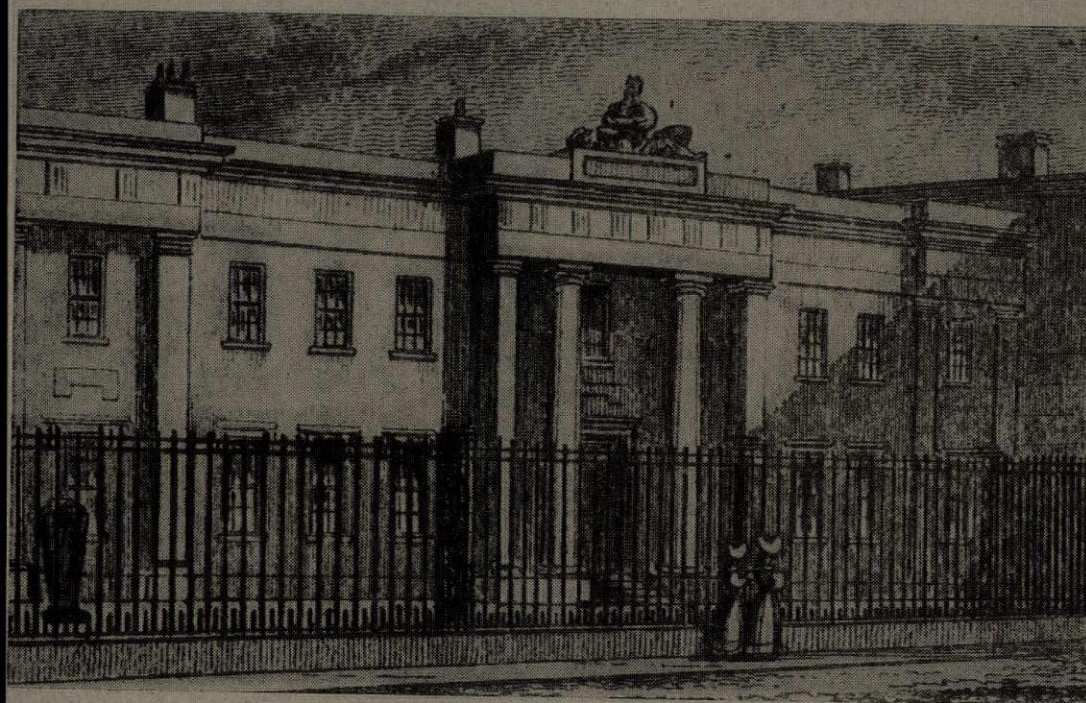
OLD SCOOP WHEEL 33'-8" O. DIA.

DIRECTION OF ROTATION.

FROM ENGINE DRAIN AND WATERBEACH FEN



Mountain of Hull



One of the less known provincial architects working in the early part of last century, who nevertheless deserves a small place in history, was Charles Mountain of Hull, the leading neo-classical architect of that city. He designed the first major neo-classical building in Hull, the almshouse in Posterngate (1826-27) for Trinity House—which still survives but without its Greek Doric portico—and in 1833-34 the Master Mariners' almshouse—now demolished—in Carr Lane, also for Trinity House.

He was the only son of Charles Mountain (1743-1805), a builder-architect. During the first years of the nineteenth century, Charles the younger appears to have practised in Lincoln¹ and then returned to Hull when his father died in August 1805. Under the terms of his father's will, Charles was left his architectural books, papers, etc., the materials of the building business and his copyhold property in the Manor of Myton. Mary, his daughter, was left his freehold and leasehold properties in Hull and Sculcoates.² The first notice of the younger Charles Mountain's working in Hull occurs in 1806, when his design for the New Shambles in Queen Street was accepted by the Corporation.³ In 1812, however, he was declared bankrupt and his assets offered for sale, one of the properties being an estate of 21 houses and tenements, lately erected, at Glandford Brigg in Lincolnshire.⁴ His affairs soon recovered, and in 1820 he started a business as a slater and slate merchant.⁵ When he re-established himself as an architect, among his principal works⁶ were the two almshouses already mentioned.

From a footnote printed in Greenwood's *Picture of Hull* (1835) it has been accepted that he moved to Malton during 1835. He is subsequently not heard of again, no obituary notice



1 and 2, Trinity Almshouse, Posterngate, 3, Master Mariners' Almshouse, Carr Lane.

appearing in the Hull papers. That he was dead by 1843 is supported by an obituary in the *Hull Advertiser* for October 27, 1843, reporting the death of 'Edward Thomas, fifth son of the late Mr. Charles Mountain, architect of this place.'⁷ No burial of a Charles Mountain is recorded in the transcripts of the Malton Parish Registers between 1835 and 1838,⁷ nor in the national register of deaths at Somerset House from 1837 until 1843. The only entry for a Charles Mountain is for one who died at Wakefield in 1839, and in the transcript of the Wakefield Parish Register for 1839, the entry states that Charles Mountain of Westgate was buried on April 23, 1839, aged 66.⁷ An obituary notice in the *Wakefield Journal and West Riding Herald* for April, 1839, adds the important fact that this Charles Mountain of Westgate was an architect.

This would put the year of his birth at 1772-73. Charles's only sister, Mary, was born in 1778 and died in 1854.

We do know that he executed work in Wakefield and in fact designed the Savings Bank there in 1834.

A. G. CHAMBERLAIN

¹ Registry of Deeds, Beverley, CG/267; CH 382.

² The Borthwick Institute of Historical Research, University of York.

³ *Hull Advertiser*, June 6, 1806.

⁴ *Hull Advertiser*, September 4; November 27, 1812.

⁵ *Hull Rockingham*, September 16, 1820.

⁶ See Colvin, *Dictionary of English Architects 1660-1840* for a comprehensive list of his works.

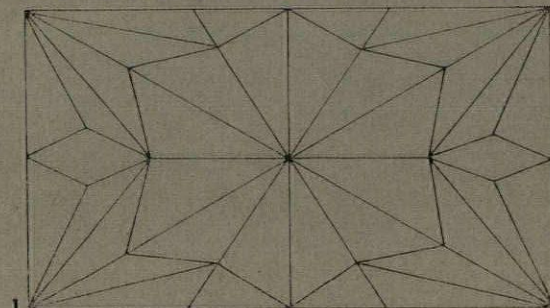
⁷ The Borthwick Institute of Historical Research, University of York.

A NOTE ON NORWICH VAULTING

A new interpretation of stylistic and documentary evidence¹ suggests that the nave and chancel vaults of Norwich cathedral, begun c. 1465 and c. 1472 respectively, were built by a master mason who had close contact with the most splendid of all late Gothic buildings, King's College Chapel, Cambridge, and also Boston parish church in Lincolnshire.

It had been thought² that Robert Everard, who almost certainly built Norwich cathedral spire, using Salisbury cathedral and Grantham church as his prototypes, also constructed the beautiful vaults. Everard was a local man and worked on the cathedral for a quarter of a century before the new nave vaults were started; this might explain why the nave vaults still comprise a lierne rib pattern and not the up-to-date fan vaults of the Gloucester cloisters and Sherborne Abbey. The execution of the spire, however, is workmanlike but provincial, and altogether of a different order from the vaults; their arresting patterns of ribs betray the presence of a sensitive designer anxious not to over-shadow the massive Norman walls and arcades beneath.

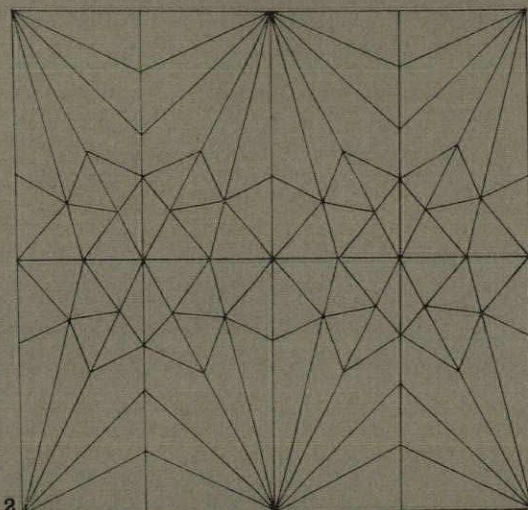
For this is what a fan vault would have done. A fan vault is essentially a complement to an interior containing a similar pattern of Perpendicular panels, as at King's. King's was also initially intended to have a lierne vault, but the original designs were altered by the mason John Wastell after his experiences with fan vaults in the great Bell Harry tower at Canterbury³ and in the Peterborough retrochoir. How, then, did King's influence the Norwich vaults?



1, side chapel vault, King's College Chapel, Cambridge

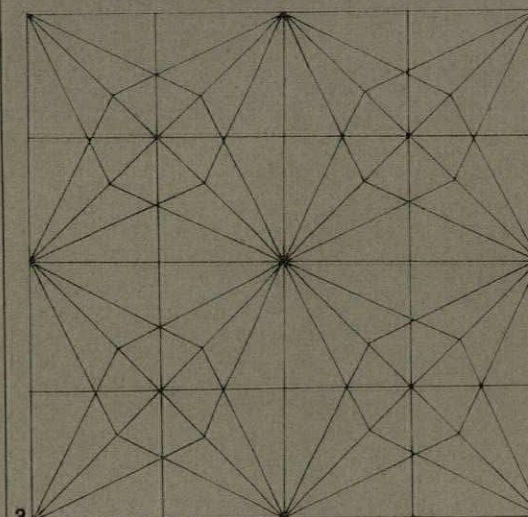
The answer lies not in the stupendous fan vaults of the main body of the chapel but in the close confines of the small north-eastern side chapel, the first, counting from the east, of nine side chapels on each side of the main chapel. The first architect of King's, appointed originally by Henry VI in 1441 (John Wastell was the fourth and last, under Henry VII), was Reginald Ely,⁴ and he remained in charge until 1461 when internal state troubles brought a halt to all building. At this stage the east end was more advanced than the rest of the edifice, which was only six to eight feet high at the west end. Even so, the tracery of the great east window was not inserted until c. 1478 by Simon Clerk, another East Anglian architect.⁵ Reginald Ely himself probably came from Coltishall in Norfolk according to the evidence of his will.⁶ The crucial vault in the King's side chapel, diagram 1, is a simple lierne vault, an elongated octagon with a diamond shape at each end to fill out the rectangular shape of the chapel. This design is similar to the vault under the St. Ethelbert gate at the

entrance to the Norwich Cathedral close (erected 1316). Also the vaults of the choir and lady chapel at Ely, 2, should be mentioned because of an inherent similarity in design to the Norwich vaults, but these were finished about 1328 and 1345 respectively and, like the Ethelbert vault, antedate the Norwich nave vaults by more than a century. Another vault more directly related to the Norwich vaults is that inside the tower of St. Botolph's church at



2, choir and lady chapel vault, Ely.

Boston, the famous Boston stump, 3. Reginald Ely was also probably responsible⁷ for this exquisite vault, which is possibly the last word in lierne vaulting prior to the domination of the fan vault. At first sight the patterns appear complex but with a little effort the simplicity and geometrical delicacy of the design become apparent. The Norwich vaults were started c. 1465⁸ but Ely was too busy in Cambridge or elsewhere to undertake a large commission like

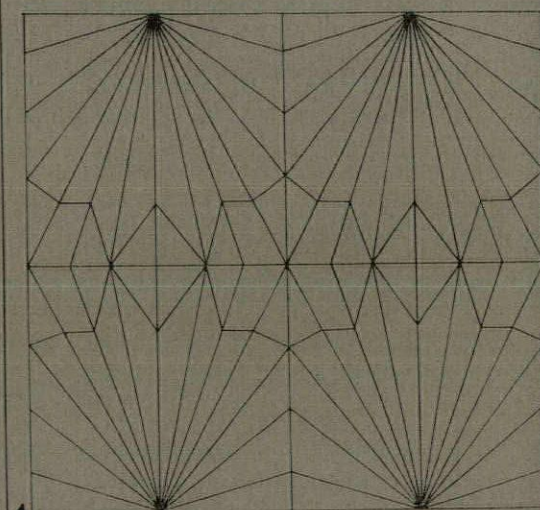


3, tower vault, St. Botolph's, Boston.

the rebuilding of the nave and chancel vaults of a major cathedral like Norwich, even if he had spent his childhood in the vicinity. What's more he was getting old; he eventually died in 1471.⁹ Whom did Bishop Lyhart commission to rebuild the nave vaults burnt in the disastrous fire at Norwich in 1463 when the central tower was stuck by lightning? Robert Everard may have marshalled the local resources required for the operation but who was the master mind

behind the design of the vaults themselves?

The evidence points to John Antell (or Auntell) who is recorded as being a freemason at King's under Reginald Ely in August 1459.¹⁰ He probably worked with Ely on the vault of the north-eastern side chapel and they must have discussed how they were going to vault the great span of the main body of the chapel. But in 1461 work on the chapel was halted¹¹ and Antell had to go elsewhere. In 1469 he was admitted as a freeman of the city of Norwich;¹² i.e. he had been working in Norwich, very probably at the cathedral. Everard, who had procured timber in 1466 to provide roofing material for the vault, had been admitted as early as 1440.¹³ What had Antell been doing to earn himself this honour? It seems probably that he had been busily engaged on the construction of the new nave vaults of the cathedral, 4, because the pattern at Norwich bears a striking resemblance to the King's side chapel vault where Antell had worked under Ely. Antell was also called in by the Cellarer of the Priory at Worstead to erect a new chancel¹⁴ and it is significant that the Sacrist of Norwich Cathedral



4, nave vault, Norwich Cathedral.

should award Everard and Antell the same amounts: 6s/8d and a new robe each in 1484;¹⁵ Everard the old local mason and Antell the younger and more gifted protégé of the King's architect Reginald Ely.

The chancel vaults and the vault of the Bauchun chapel were built under Bishop Goldwell in the interval 1472-99,¹⁶ and it seems very likely that Antell was responsible for these vaults as well because they contain identical patterns to the nave vaults. The only difference is that the ribs in the chancel spring from points between the clerestory windows whereas in the nave the ribs merge with the tops of the Norman shafts, another sign of Antell's concern that his vault should not disturb the aesthetic equilibrium of the Norman nave. The transept vaults are later still, after 1509;¹⁷ it is doubtful if Antell built these but his successor only copied Antell's vaults in the rest of the cathedral.

ROGER WAIN-HEAPY

¹ The bulk of the factual information used in this article was taken from John Harvey's book *English Mediaeval Architecture* 1954. The interpretation of the evidence, however, is at variance with Mr. Harvey's. The author also, in an unpublished Cambridge thesis, disagrees with Mr. Harvey over the identity of the designer of the first Perpendicular work in East Anglia, the presbytery of Norwich Cathedral, c. 1362.

² *op. cit.*, p. 102.

³ *ibid.*, p. 280.

⁴ *ibid.*, p. 94.

⁵ *ibid.*, p. 63.

⁶ *ibid.*, p. 94.

⁷ *ibid.*, p. 96.

⁸ *ibid.*, p. 102.

⁹ *ibid.*, p. 102.

¹⁰ Rev. J. Stewart: *Architectural Journal*, vol. 32, 1875, p. 45.

¹¹ *ibid.*, p. 46.

¹² *ibid.*, p. 94.

¹³ *ibid.*, p. 21.

¹⁴ *ibid.*, p. 96.

¹⁵ *ibid.*, p. 21.

¹⁶ *ibid.*, p. 102.

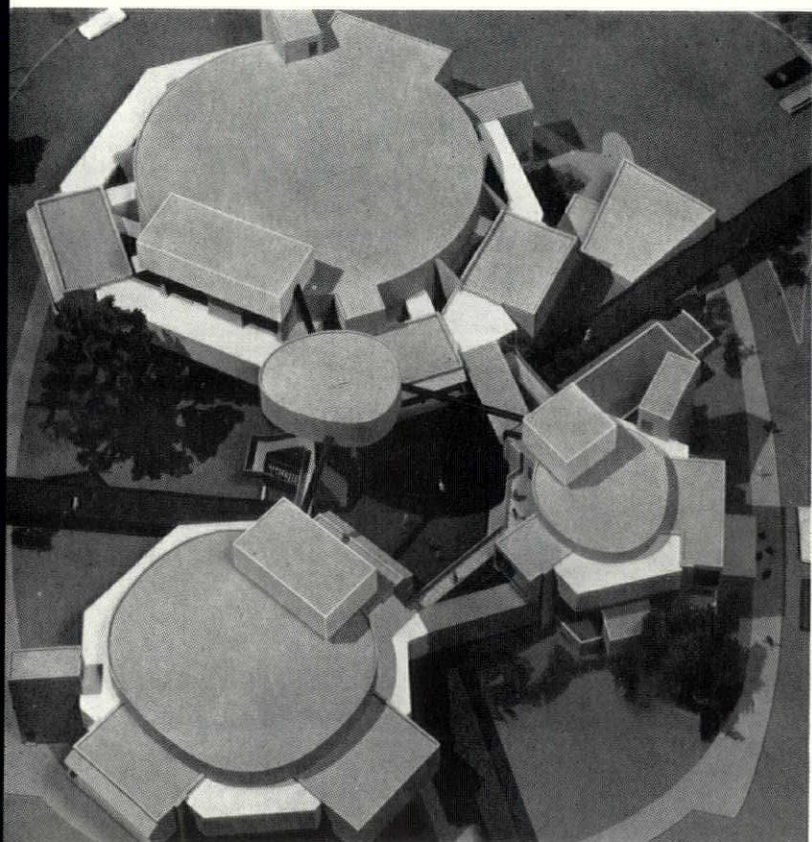
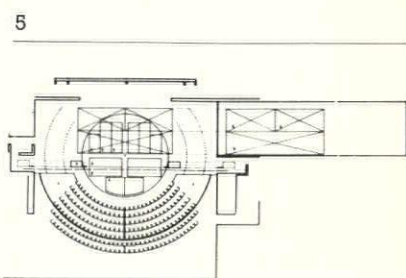
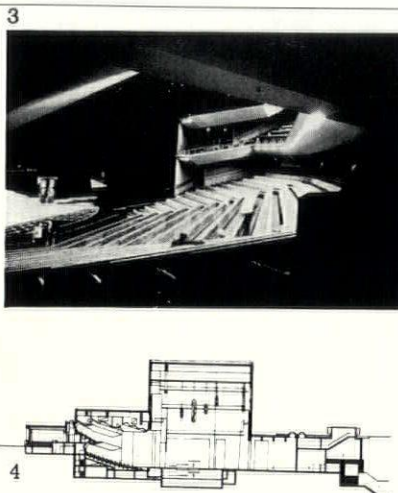
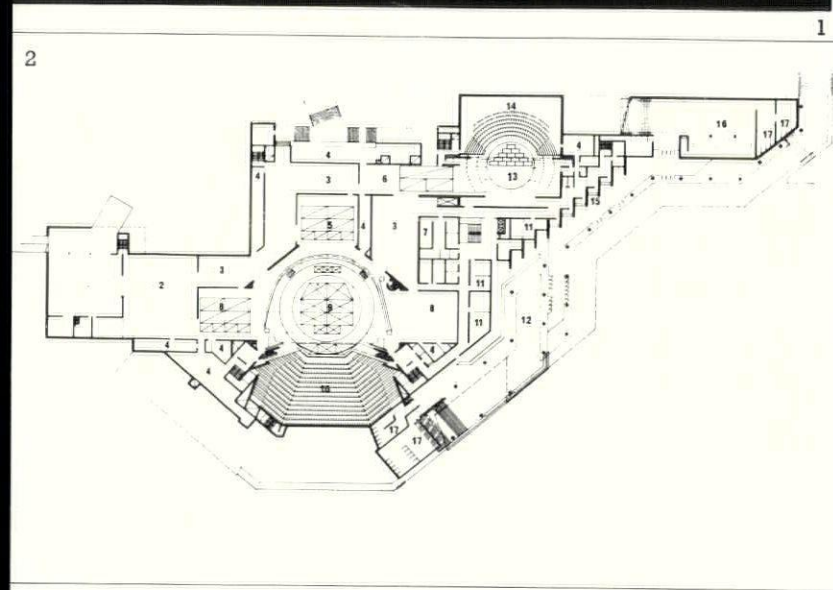
¹⁷ *ibid.*, p. 21.

¹⁸ *ibid.*, pp. 21 and 102.

FINN THEATRE

"The modern age has no theatre of its own". Timo Penttilä, architect of Helsinki's City Theatre (won in competition in 1961), 1, meant by this comment that the work of our playwrights and actors has not yet given rise to a distinctive building type in the way the Greek or Elizabethan theatre succeeded in doing. Limitations were a challenge, but the only limitations in our eclectic age were financial, and even those were often swept aside by heavy subsidies. Flexibility, an expensive commodity, was invariably demanded, but rarely used. It might be better to forget about building, and try to show, as Giorgio Strehler has shown in Italy, that it is possible to have theatre without theatre buildings.

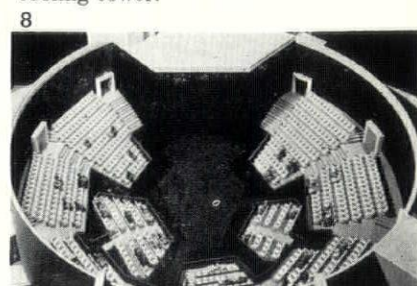
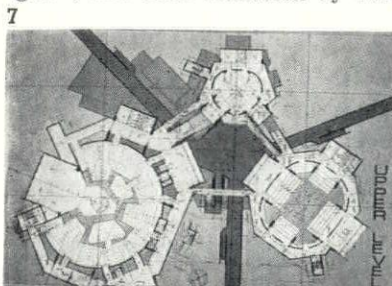
But civic pride must have its way, and the City Theatre is an impressive, if unadventurous, building, which spreads itself comfortably over an unrestricted site, 2, on the shores of Eläintarhanlahti Bay. The large theatre (920 seats), 3, has a flexible proscenium opening, and a wide two-tier auditorium with the balcony only slightly overhanging the stalls, 4. Continuous seating avoids the disruptive centre aisle, and helps to keep a close relationship between audience and actors (see also University College Theatre, London, in ID of this issue). The small theatre is adaptable from the normal 'peep-show' stage to three-quarter round, 5. There is a single portal work-bridge system covering the whole roof; wings forming a proscenium can be pushed back and housed in the walls; and seating can be moved along runners to all but encircle the stage. The equipment in both theatres is remarkable, and has been designed to cut down man-power. 15 people will be doing the work of 60 in a central European theatre.



MUMMER'S LUCK

J. M. Johansen has called his lavish project for the Mummers' Theatre at Oklahoma City a fragment, 6. 'The future city may look like one building; it will most certainly be continuous construction. The building, as a fragment, may look like many'. In his desire to escape the Beaux-Arts habits of design procedure (which, he maintains, most architects are still stuck with), he has borrowed disciplines and images from electronics: 'three "components" with "sub-components" attached, plugged in to a "chassis" or "gate", and then connected by four

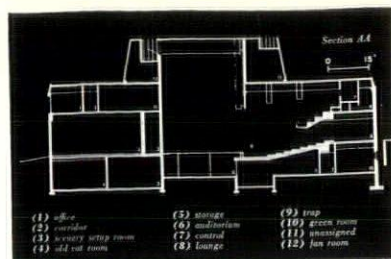
"circuiting systems" superimposed at separate levels to avoid cross-circuiting'. Construction is on the same principles, with the main structural elements in concrete, and the cantilevered and spanning elements in a light steel frame. The plan consists of three distinct buildings, 7, a theatre school with rehearsal hall and office space, a 300-seat arena theatre, and a 600-seat theatre in three-quarter round, 8. The three buildings enclose a court for open-air performances, which is overshadowed by a water cooling tower.



PROSCENIUM FOR ARENA

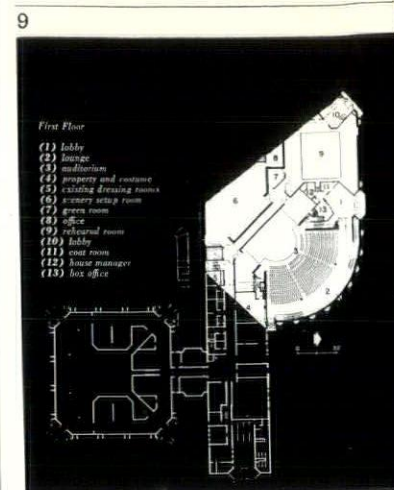
'Formalism, centrality, ordered sequence, and individuation of building design cannot deal with the demands that urban problems are now making upon the profession'. These words are Johansen's, but Harry Weese, in his project to extend the Arena Stage at Washington, is also acting upon them. His one-sided extension to a classically symmetrical plan is startling, to say

the least, 9. But Weese points out that a project to the north will blot out views of the theatre, and that it will then no longer be possible to appreciate the form of the building as a whole. The form of the extension follows the site limits with its triangular prong (containing a rehearsal room), and reflects the auditorium in its semicircular sweep. An unusual feature of

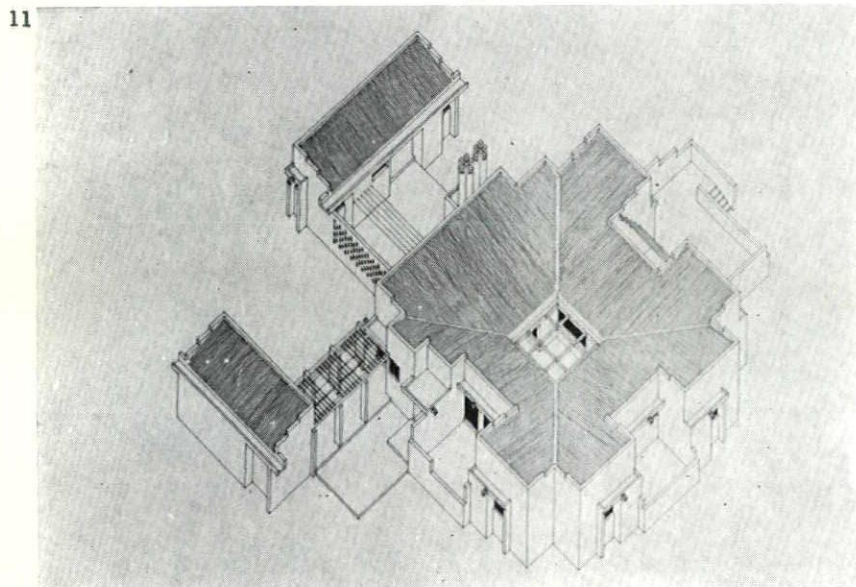


10

the 490-seat theatre is a proscenium which follows the semicircular front of the stage. Nevertheless the two-tier auditorium, the stage with its fly tower, and the axial relationship of the two, 10 seem conventional after the in-the-round arrangement of the earlier theatre, and prompts the question whether the open stage has proved rather less flexible than anticipated.



MOZAMBIQUE BLOCK



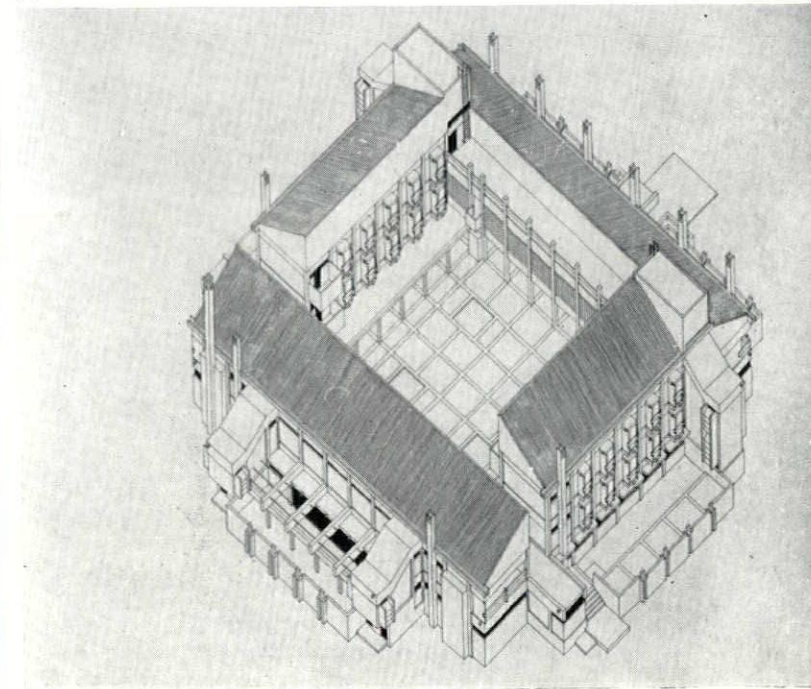
In Amancio d'Alpoim Guedes's recent work in Mozambique, a more sober utilitarian note and a stronger idiom seems to have replaced some of the earlier phantasy. The house at Macuvelque for the Swiss Mission, 11, has a central courtyard plan with addi-

tional courtyards on the perimeter. A single material, painted concrete block, is handled in a bold cubistic fashion, 12. In his Congregational church and house at Choupal, 13, the use of corrugated sheet for roofing provides a welcome relief to the heavy forms of

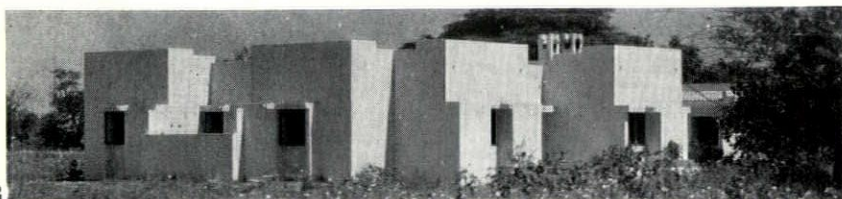
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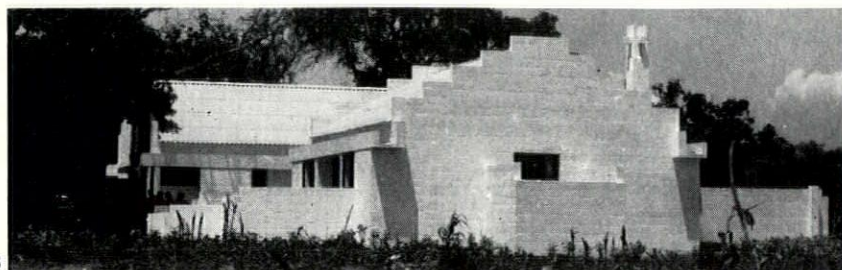
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12



13



MOZAMBIQUE BLOCK



the blockwork. A wealth of character is imparted by such simple details as the gutters and stepped gables. The Social Services building for the Civil Police Savings Fund in Lourenço Marques, 14, is really a block of flats over shops, offices and a canteen—'a tall round-eyed member of a long line of round-eyed houses'. But the round eyes look too much like pattern-making, and do not seem to belong in the way the free curves belonged to, say, the 1955 flats on the Rue de Nevala (see AR April 1961). Guedes's

17



DETROIT GRANITE

the First Federal Savings building, in the heart of downtown Detroit. Smith, Hinchman and Grylls, is a combination of three well-articulated towers, and consists of a banking area with offices above. All the services are contained in one of the towers, leaving the other two with unobstructed office space. Breaking up the plan into these smaller units has made it possible to create forms of an acceptable scale, and to provide many more outside and corner offices. The continuous columns, crisply clad in dark granite-clad precast panels, give a vertical emphasis which happily conceals the sandwich nature of an office block, 19. Another austere and elegant work by the same architects is the North Terminal building at Wayne County Airport, 20, part of an expansion scheme which includes nine new buildings. The structure is reminiscent of Nervi's Palace of Labour at Turin, though Nervi's was a square grid with 11-ft spans, whereas this is a rectangular grid with spans of 70ft. by 150ft. Here the structure is entirely of reinforced concrete, whereas Nervi's was of steel. Here also the structure is made continuous over two columns,

with a single roof panel 232ft. long, supported on twin curved beams, 21. As in Nervi's building, each section is divided from the next by a skylight, but unlike Nervi's this break, as well as the structure, is forcefully expressed on the outside by setting the glazing line well back. The whole building is placed on a raised platform, which contains a two-level roadway.

18



19

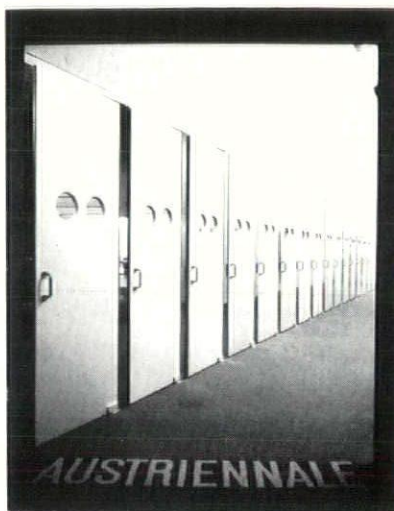


21



AUSTRIENNALE

Hans Hollein's Austrian section for the Milan Triennale was a surrealist mixture of imagination and naïveté. The theme was 'the greater number' (see World in AR June 1968 for the British contribution), and Hollein's intention was to challenge the senses rather than provide information. Going off at an angle and half-facing the entrance, were a row of identical precision-made aluminium doors, 22. To the right, 23, a two-colour automatic injection moulding machine demonstrated 'the greater number' in terms of mass-production by ejecting, every 15 seconds, a pair of transparent glasses for visitors, 24. These, according to Hollein, were a means of carrying the Austrian message to other parts of the exhibition, whether by wearing them or by throwing them away. Opposite the doors was the only con-



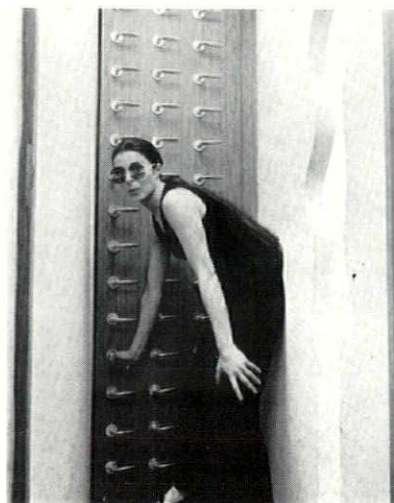
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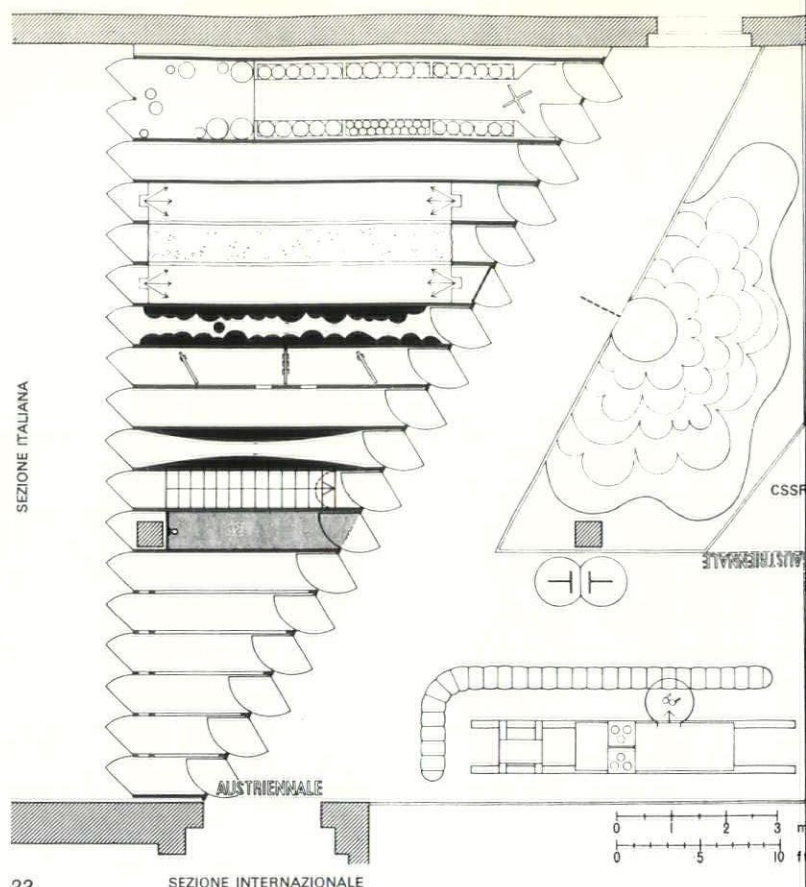
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ventional part of the exhibit—a selection of Austrian products, which could be viewed from a central booth. The identical doors opened into parallel corridors of different lengths, and offered a variety of experiences: a glittering supermarket ending in an area of garbage, a snowstorm in the Alps, a nightmarish tunnel stuffed with files, 24 and one corridor blocked half-way by a door covered in handles, only one of which worked, 25. The Austrian Federal Minister of Industry and Trade, writing in the beautifully produced catalogue, hopes that 'perhaps one of the ways in which the vast problems besetting us can be tackled is by trying to preserve, in the face of the "greater number", some degree of individuality, to stamp even mass products with our personality.'

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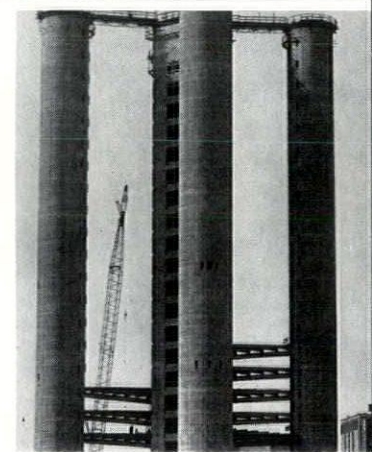
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23

TOWER BRIDGE

Temporary bridges have been erected to connect the four cylindrical corner towers and central lift shaft at the top of Kevin Roche's and John Dinkeloo's Knights of Columbus headquarters at New Haven (see also World, AR January 1966), 26. In the bottom section 80-ft. span Cor-ten girders are now being inserted into the slotted concrete of the towers, which will finally be faced with a dark brick. The other fingers pointing to the sky, 27, recalling the mediaeval *torri* of Italian towns, will shortly be bridged permanently to form part of a new motorway between Menton and Ventimiglia.



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Herbert Read 1893–1968

by Leslie Martin

The pages of THE ARCHITECTURAL REVIEW in, let us say 1934 or 1935, are by now, for architects, a document of some historical interest. They contain, for example, Morton Shand's distinguished essays under the title 'Scenario for a Human Drama': these themselves were engendered by the publication of F. R. S. Yorke's *The Modern House*, which appeared first as a special number of the REVIEW. Shand's essays formed a background which for sustained and critical insight are still difficult to match. Turn the page from the introductory essay and you find the Penguin Pool and the assured work of Tecton. Pass on again and the Lawn Road flats by Wells Coates, the Wembley swimming pool by Owen Williams and the Peckham Heath Centre stand out against the architectural clutter. Moore's reclining figures and Nicholson's white reliefs are there. These things, in their respective fields of criticism, architecture and the arts, were surely for their period significant peaks. They were matched by another: the essays by Herbert Read around the subject of Art and Industry.

Herbert Read's book under this title appeared in 1934. It was assessed in the pages of the REVIEW by Christian Barman in January 1935. This he says 'is a book to be taken seriously and to my knowledge no better book setting out the elements of industrial art has appeared in any language in modern times'. In that same month of Barman's article an exhibition of industrial art was opened at the Royal Academy. Read's review of the exhibition is a significant turning point. An exhibition ten years out of touch with its time was challenged by a writer who spoke for the future; and what is more by a writer who had already defined his position and his terms. 'Two terms are involved in the problem', says Read, 'Art' and 'Industry.' The first requisition for a successful demonstration of their actual and possible relationships is a definition of the meaning of these two terms. There is not the slightest evidence in the Exhibition that the organizers started with any such clear conception.' Read, with *Art and Industry* behind him, is able to supply one. His criticism is powerful because its basis is defined. This is criticism at its fairest and best. Art, the argument runs, is the organization of materials into form and shape; in so far as the work is an object of use, appropriateness comes into play. Industry is modern industry; its characteristics are machinery and mass production and we are concerned incidentally with the mass of the people for whom the machinery is at work.

The basis of selection for this exhibition could have been form and functional efficiency; the choice could have been irrespective of nationality; the type of object could have been that which is within reach of the mass of the people. 'There is', the Prince of Wales had said, 'another greater and far more

important ideal: designing and working for the majority instead of for the needs of the minority'. Section by section the exhibition is judged by these standards: and the work exhibited reveals itself for what it is. Read had to invent a word for it. He called it *Novelism*.

'That', he concludes, 'must complete my indictment. If the real condition of design in British Industry were as bad as it is represented in this Exhibition then the situation would be hopeless. But actually it is very different. Our machine design, our engine design, our transport design, our electrical design, are among the best in the world and slowly the influence of these dominant industries will filter down to pots and pans to furniture and fabrics. For these large industries are based on realities: their designers working in the factories and in the raw materials, design for function and efficiency and for the reflection of these qualities in the finished product. They know nothing about the history of art and will not visit this Exhibition.'

And after that no reader felt quite the same about art and industry. By the end of the year, in December 1935, the REVIEW presented a preliminary catalogue of standard products produced by industry and obtainable through the normal retail channels. It was introduced by an article by J. M. Richards with the title 'Toward a Rational Aesthetic'.

We may well ask how does it come about that the writer who did so much to readjust standards in this way is not an architect, nor a designer, nor an engineer, nor a technician, but a poet. Read's reputation at this time rested largely on his austere poems in which the voice is never raised,¹ and on his extensive essays in literary criticism. *Reason and Romanticism* had appeared in 1926, *The Sense of Glory* in 1929 and his Clark lectures on *Wordsworth* in 1930. It is true that he had written two books on Art, *The Meaning of Art* and *Art Now* in 1931 and 1933. He was also widely read as the art critic for *The Listener*. But the question remains.

The answer, I think, goes to the root of everything that Read ever did or stood for throughout his life. 'My profoundest experience', he says² 'has been not religious nor moral but aesthetic'. And he writes elsewhere, 'In matters of art I respect my intuitions and realize that they cannot be rationalized'. For Read, the critic's first duty is to react. But, if 'positive criticism begins as an impulse to defend one's preferences', it only 'deserves the name of criticism if it reaches beyond the personal standpoint to one that is universal'. Such a work as *Art and Industry* is without doubt directly stimulated by the visual reaction to Moholy Nagy's *The New Vision* and the new world of form which industry and mechanisms presented. It is a question first of being alive and sensitive to a new and expanding frontier and, second, of exploring this to find by argument that

'we must enlarge our conception of the work of art'. Some of the definitions and argument could by now be expanded and indeed were developed in Read's more recent work. But the book in its day was a landmark in its content and its presentation by Herbert Bayer. It spoke for a generation and enlarged its vision and its understanding.

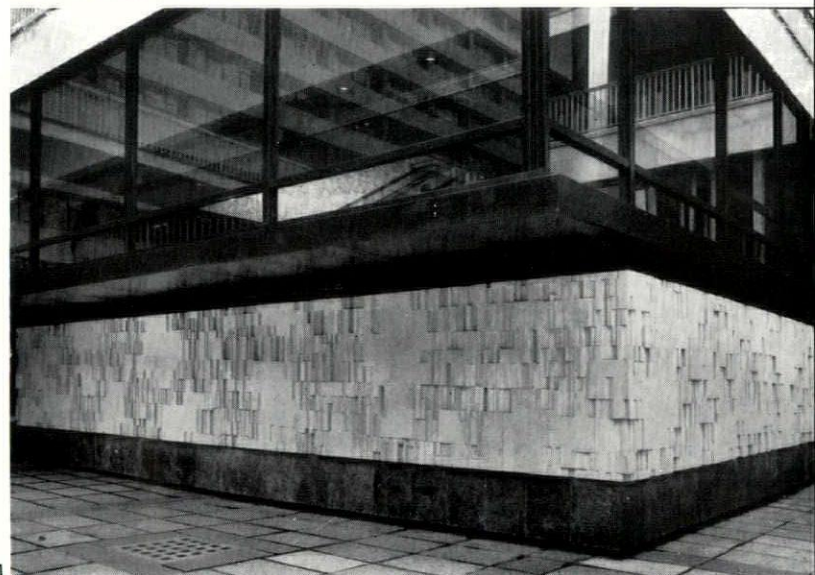
To be always on the frontier is to be in an exposed and dangerous position. Read's readiness to respond to new situations, his willingness to 'fling himself into the fight for an attractive idea' has produced its critics. He has at times supported simultaneously causes which to their adherents appeared to be in considerable opposition: Read's support for both abstract and surrealist art in the thirties is a case in point. To the charge of inconsistency he has blandly replied that he does not hesitate to follow the logic of the imagination in preference to that of the understanding. And in the face of persistent criticism he has been prepared to conduct himself in a manner which is uncommon and to some minds incomprehensible: in fact to admit that he may have been wrong.

These things are aspects of the man that fall into place within the totality of his work. Read's work was built up extensively around art, and particularly the visual arts. But he has never attempted, like such art historians as Wörringer, to formulate great classifications and expositions of style, or like Wölfflin by systematic analysis of form to lift art criticism to the level of a science. Read writes as a poet; he starts at the level of a deep personal conviction about perception, intuition and its transformation into art. His profoundest conviction is the importance in man of 'a child-like eye that sees truth because it is innocent'. That primal vision is at the root of all art, and he respects in others their right to extend those qualities which are at the root of his own most personal experience. And when differences of attitude have made themselves clear, it is more than generosity that has caused him to try to resolve them: it is 'understanding' at a deeper and more fundamental level. From this basic conviction his work has grown outwards in a continual flower-

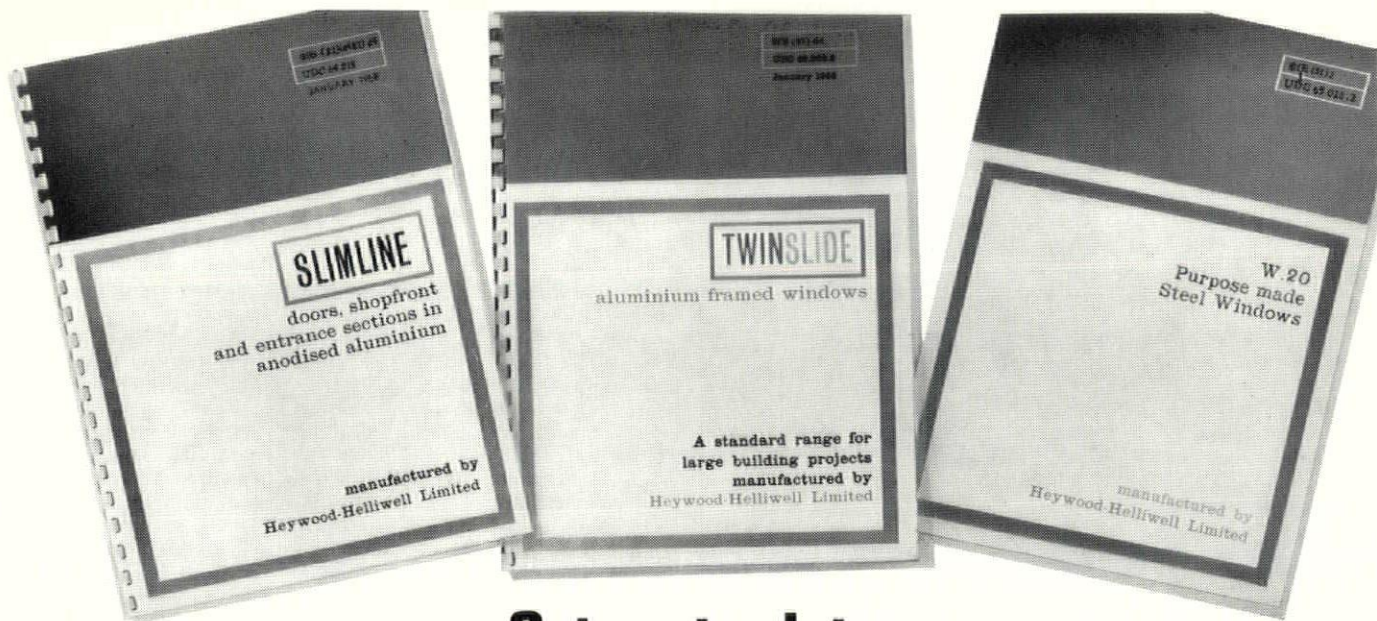
ing of thought. The process of the development he has indicated for us in the final chapter of his autobiography, *The Contrary Experience*. The centre respect for the intuitions as the basis of all art is extended into the concept of the work of art itself as a synthetic and self consistent world. The equivalence of that world and the world of nature (suggested by such books as D'Arcy Thompson's *Growth and Form*) is a natural extension of the centre theme. In his essay on 'Descartes' we see the growing conviction, supported by extensive passages from A. N. Whitehead, that creative art is, at bottom, the sudden perception of the possible pattern of life itself. Art in this sense involves everything. And since it cannot be left at the level of mere enjoyment, since it involves its own sanctions, it includes even moral. It sets a possible pattern of conduct.

An analogy exists between the order of art, the order of the universe, and the order of conduct. 'Goodness is living beauty: life ordered on the principle of rhythm and harmony that are implicit in the work of art. Vulgarity is the only sin in life and in art'.³ The only acceptable social system is that which allows the individual to achieve this completeness. The whole purpose of education is to nurture the intuitions: 'to send people out into the world with open eyes and active sensibilities'⁴ and it is around this subject of education through art that Read had devoted so much of his energy and written his most intensive work. The range of thought constantly extends outwards. The breadth of the supporting reading is immense. 'But the acquisition of knowledge has never been my aim . . . and it is my intuition of the nature of wholeness, my desire to hold within my mind a coherent conception which drives me on to the discovery of facts and their reconciliation in a philosophy of life . . . that philosophical interpretation . . . is contained within myself'.⁵ Everything is recalled back to that central and profound personal conviction which Read records so sensitively in *The Innocent Eye*. 'The only real experiences in life are those lived with a virgin sensibility . . . so that we only hear a tone once

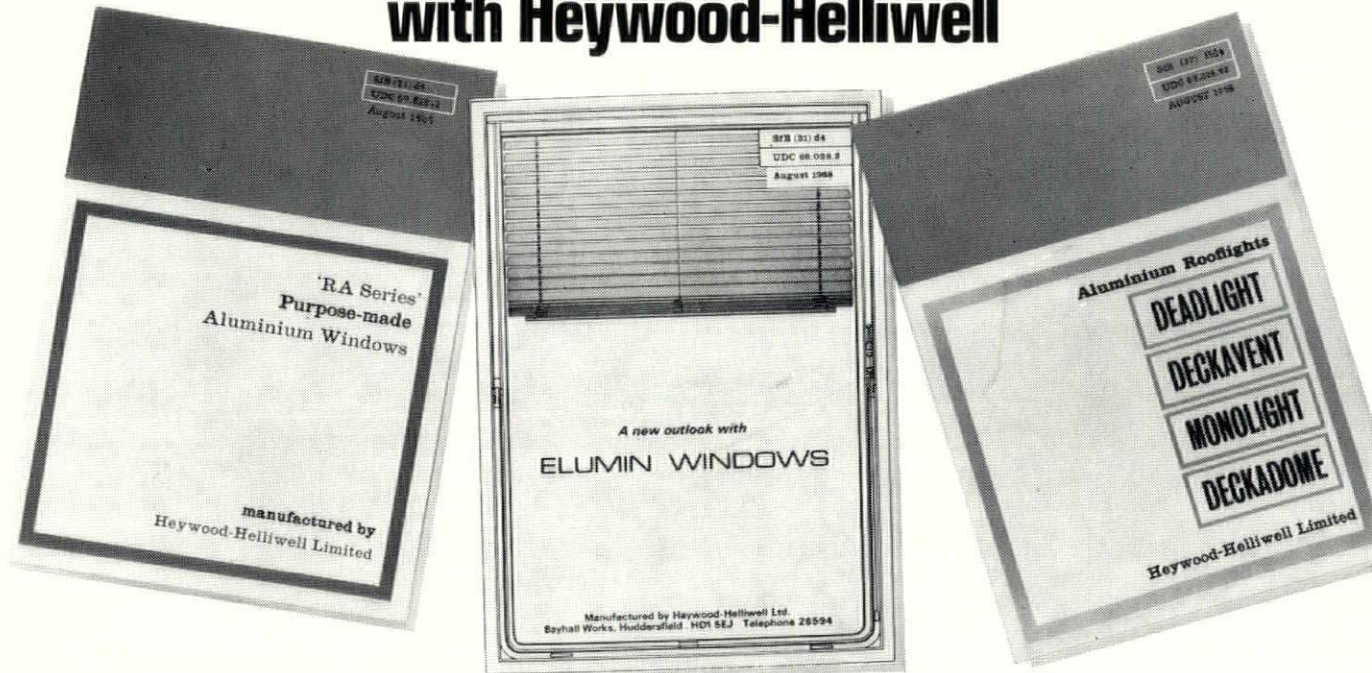
RECTANGULAR RELIEF



This Portland stone 'Rectangular Relief', by Geyther Irwin, is in the new British Petroleum London headquarters, Britannic House, Moor Lane (architects, Joseph F. Milton Cashmore & Partners)—see AR June 1968. A close-up of the sculpture forms the basis of this month's cover.



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see a colour once, see, hear, touch, taste and smell everything once, the first time. All life is an echo of our first sensations and we build up our consciousness, our whole mental life by variations and combinations of these elementary sensations.' J. F. Hendry once pointed out in assessing Read's philosophy, that all this as a view of life, does not add up to a system: it is a description of how life might be lived and the possibility of that constant development and flowering of which Read, in his own life, gave such an apt illustration.⁷

As a view of life it is also unashamedly romantic, and I use the word in its fullest sense which Wyndham Lewis has so roundly attacked and which Read would have regarded as so proud a banner. The links go back to Blake, to Wordsworth (whose Yorkshire origin and life Read found too close to his own for comfortable discussion) and to Thoreau: he carried *Walden* around on a battlefield and through a war. There is no point now in attempting to assess his historical position and influence. That can be left to another generation. What mattered to his own was the freshness of mind and vision that he brought to its problems and for readers of these pages in particular to its problems of art, of architecture and technology.

The house in which he spent the last twenty years of his life seemed a particularly appropriate and fitting shelter. A long low house is protected by a northern bank. A wide flight of steps leads down into a court. There is a simplicity and ruggedness in its architecture, which is built of honey coloured stone. It grows from the land. The interior is fresh: white. There are bookfilled rooms. And everywhere the lively works of those artists whose work Read so much respected and for whom no-one did so much. It is a pity that the village has lost its Inn. It was called 'The Wings of Liberty'.

¹ Michael Roberts in a review of Read's *Poems 1914-1935*.

² *The Contrary Experience*, p. 345.

³ *The Contrary Experience*, p. 348.

⁴ Inaugural lecture: the University of Edinburgh, 1931.

⁵ *Education through Art*, 1943.

⁶ *The Contrary Experience*, p. 344.

⁷ J. F. Hendry 'The Philosophy of Herbert Read'.

IVAR TENGBOM: 1878-1968

The death last August of the veteran Swedish architect Ivar Tengbom, at the age of 90, must not pass without notice in an English architectural journal because his characteristic neo-classical style strongly influenced English architects in the 1920s and 1930s—ever since, in fact, F. R. Yerbury came back from Sweden with photographs of the Stockholm concert hall and others of Tengbom's very distinguished buildings. Why his refined and attenuated classical idiom was so widely echoed elsewhere is a matter for the art historians when the work of the 1920s comes to be analysed—Tengbom clearly created something to which British architects were then ready to respond, though the style is not limited to Sweden and Britain; see Siren's parliament buildings at Helsinki of 1928. Ivar Tengbom's son, Anders, has become in his turn one of the leading Swedish architects.

VIEWS AND REVIEWS

marginalia

STOIC VIRTUE

Pope's classic epistle to Lord Burlington on the art of landscape 'Consult the genius of the Place' ends with a testimony to the work of Kent and Capability Brown at Stowe: 'Nature shall join you, Time shall make it grow/A you to wonder at—perhaps a Stow'. And for those who still come to wonder, Lawrence Whistler has just revised his charming pocket guide to the gardens of Stowe with most of the illustrations taken from eighteenth century guide books. It is a model of its kind, readable, entertaining and informative and with a good bibliography. The only regret must be that Whistler did not choose to use J. C. Miller's charming plan of 1769 brought up to date, as Christopher Hussey has done so successfully in *English Gardens and Landscapes 1700-1750*. The booklet is on sale at the Stowe Bookshop, Buckinghamshire, price 4s., post free.

correspondence

GROWING GLASGOW

To the Editors.

SIRS: I was much upset by the review of *The Second City* in your June issue. I had hoped that it was now becoming established that Glasgow is the finest Victorian city in Britain: Lord Kinross thinks less of it than I do, but he owed both the city and the cause of architecture a duty to base his depreciatory remarks on more and better evidence than he produces. It is especially unfortunate that you should give currency and weight to unsupported opinions of this kind at a time when, at last, Glasgow is discovering the value of the architectural inheritance which it contains.

Lord Kinross speaks of the 'unhappy architectural and social result' of Glasgow's prodigious growth in the nineteenth century. What are his standards of comparison? What other great industrial city of Victorian Britain has a substantially better social record? And what other city approached Glasgow in architectural quality of so much of its nineteenth century housing? Far from 'monotonous and gloomy' the middle-class areas of Victorian Glasgow are endlessly varied and inventive, and (I speak from much experience) anything but gloomy to live in. And the working-class areas, slums though they so quickly and easily became, had and often still have an architectural dignity that even Liverpool cannot match.

Again, the references to Mackintosh are both inaccurate, and very unfair and misleading. Lord Kinross calls Mackintosh Glasgow's 'one truly creative architect', and remarks that he 'was a prophet with little honour in his own city, who left Glasgow to win renown abroad.' It is true enough that Mackintosh left Glasgow fed up with its philistinism. But this was in 1913, and he then settled not abroad but in London, where he was much less honoured than in Glasgow, where at least he had built several great buildings. His Continental reputation was made while he was working in Glasgow, and to a large extent as a result of the buildings which he designed and which were in fact built in Glasgow and its immediate neighbourhood.

Nor is it true that Mackintosh was alone in Glasgow's architectural history in being truly creative. What, in the first place, about the great Alexander Thomson, who is to my mind the greatest and most truly original British architect between Soane and Mackintosh? Is his 'Greek' nickname still hindering a true perception of his daring and individuality? J. J. Burnet's star is temporarily under eclipse, perhaps, but a Glaswegian ought to respond to it, and to know of his importance both in the development of new kinds of structures in the 1890s and in the design and composition of large buildings of a new type. It is the younger James Salmon, rather than Mackintosh, who has the best claim to be Britain's foremost architect of *art nouveau*, little known though he is. It was David Hamilton who, more than most of his contemporaries, saw the possibilities of a new style for new commercial opportunities. John Baird was the architect not only of the most beautiful of all early cast-iron and glass warehouses but of domestic terraces whose handsome dignity was only surpassed by the work of Glasgow's own Charles Wilson, whose Park Hill is unequalled by anything of its kind and date anywhere in the country.

Yours, etc.,

A. H. GOMME

Stoke-on-Trent

Lord Kinross has been shown the above letter and points out that its criticisms should be directed rather at the author of the book (C. A. Oakley) than at the reviewer, who was recording its views rather than expressing his own.

The Editors.

LOUDON AND ASSOCIATIONISM

To the Editors.

SIRS: Is associationism quite the underlying principle of J. C. Loudon's *Encyclopaedia* that Mr. Hersey makes it out to be in his article in the August AR? If we are to talk about a Loudon theory, it should be possible to follow some sort of consistent associationist theme throughout the half million and more words of the whole book and not merely in a section tacked on for show at the end. In his selectiveness Mr Hersey has missed the point that associationism all but begins and ends with Book IV, and that even here it is not entirely clear. While Loudon certainly says that style is 'not an essential beauty in a building' he goes on immediately to distinguish between building and archi-

itecture, whose object 'is to add to the beauties of use and truth other beauties.' These arise from two sets of inherent qualities, the first of which includes unity, variety, symmetry, etc., and the second: 'the expression of certain forms and details which have been consecrated to Architecture by long-continued use . . . the historical or accidental beauties of particular styles.' That Loudon regards style as having some importance is evidenced by the four hundred or so pages headed buildings 'In Various Styles.'

Mr. Hersey is at liberty to draw what associationist conclusions he cares to about the three smaller buildings he discusses, but he must not father them on Loudon. The variety of roofs and irregular planning are merely standard picturesque practices. The symbolism of vigilance and innocence standing between instinct and temptation might have been all very well if the school had lodged boarders (what does the upstairs passage between the master and mistress symbolize?) Presumably if Loudon had really thought of this interpretation he would have said it somewhere. What he does say is more prosaic—he talks about planning, the Italian style and picturesque elevations.

As Mr. Hersey admits, Loudon has very little to say about these buildings in associationist terms, and nothing at all about the villa. Though not perhaps for the reasons given. Loudon was certainly a democrat but half the 'despised' villas are modest middle-class establishments, some of them smaller than Loudon's own in Porchester Terrace.

At the most basic end of the scale the Dwelling for a man and his wife would seem to offer associationist material, but it is here that we discover that Loudon is relying on a bastard version of picturesque associationism in which the building takes on the character of the train of thought it engenders. (The picturesque writers proscribed shams, which is more that Loudon does here in a postscript on a Tasmanian house in the form of an English church.) Does Loudon admire this utilitarian structure which expresses its interior spaces on the exterior? Not very much. It is 'without any pretensions to either elegance or beauty.' So much for the equation of utility and beauty at the beginning of the book.

Loudon was a collector, a collector of other people's designs and opinions, which in the *Encyclopaedia* he strings together with a text, notable principally for its tone of self-certainty. What Mr. Hersey has missed is that the last section is a slightly more pompous version of this, only here he uses texts rather than designs for his pontifications. A reviewer of one of his first books summed him up succinctly: 'It is the object of Mr. Loudon, . . . to prove to his genteel readers, that he is acquainted with the whole circle of the sciences, and that on every topic his opinion is worth something.'

Yours, etc.

SUTHERLAND LYALL

London NW3.

COSTE D'ITALIA

The publication *Coste d'Italia dal Gargano al Tevere* reviewed in the May AR is issued by the Italian National Petroleum Corporation and not (as was stated) by the Federation of Italian Industry.



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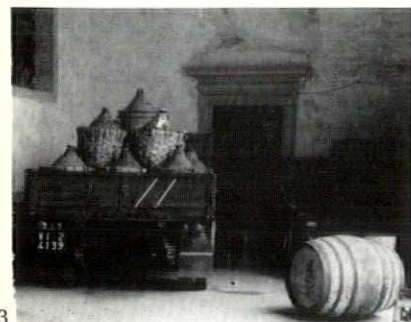
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PALLADIAN VILLA



In spite of the fame of the Palladian villas in the Veneto, and the prominent place they are given in the Italian tourist literature, they are not all accorded the care and respect they deserve. Here are some recent snapshots of the Villa Pojana, one of the group of houses by Palladio in the neighbourhood of Vicenza. It is now used for wine bottling, and 2 shows the ramps that have been built up the steps so that lorries can be driven into the portico (one of them can be seen in 3) and garaged beneath the painted ceiling, 4.

book reviews

DESIGNER AND DIRECTOR

DESIGNER'S TRADE By Gordon Russell. Allen and Unwin, 60s.

What a delight to read this book, especially the first part. Largely through his father's influence, Gordon Russell quickly developed four qualities that were to give him immense, and often impish, pleasure throughout his life. One is his acute power of assessing and remembering things seen. Another is his ability to remember, and apparently understand, stories and anecdotes, particularly when told by the locals—like the coachman who said: 'It was a topecoat colder this morning', and many others delightfully quoted in the book. The third quality is his very great ability, a professional ability, to make things by using hand tools, and also the facility to write clear and convincing remembrance. The fourth quality is the ability to get on with the right people. This no doubt helped him to deal so successfully with the establishment when he was director of the Council of Industrial Design. Without that ability he could not have had the beneficial influence he undoubtedly has had on the visual scene of everyday things in the UK. It is interesting to read how quickly he became a well-known designer of furniture. Unknown before the 1914-18 war, he started after it by repairing old furniture, and by the mid-20s he was recognized both as a major designer and a considerable influence. He has always given great prominence to the importance of machine production, as for example when he quotes, on pages 215-17 of his book, from the Design chapter of the Furniture Working

Party Report. Russell at that time had been co-opted on to the design sub-committee, and he wrote the first draft of the committee report which was accepted with few modifications by the main working party. Incidentally it was not written under the influence of one bottle of Malmsey wine as he claims, but at least two bottles of a Swiss white wine, and his dinner (including smoked eel) was sent up to him in his room on the understanding that the report be drafted by that night as the committee was returning to England next morning. He was found asleep, but under the bed were several sheets of paper scattered about — it was the report, beautifully written.

It is interesting to read how his high regard for machine production was always being qualified, and his preference for products made with hand tools is evident, almost as if machine production meant to him that kind of furniture produced by the Cabinet Makers of Copenhagen, who use in their small workshops more machines than men, and use them for the purpose of fine finish rather than for quantity production.

Again Gordon's own preference comes out in his choice of architects and designers. They are always men and women of great sensibility and competence, but usually with a main interest in a craft or individual hand work. His preferences can also be judged by the people and subjects he leaves out or hardly mentions. Walter Gropius is only mentioned in passing, and no apparent interest is shown in the principles of design teaching at the Bauhaus. Wells Coates, one of the more interesting designers of the 1930s, is dismissed in a sentence as 'an architect and RDI who has settled there' (Vancouver).

No mention is made of Moholy-Nagy or the Institute of Design in Chicago. The account of Gordon Russell's time at the Council of Industrial Design leaves the impression that he was always up against great difficulties, as indeed he was, but there is little doubt that the Council, especially during the early years, achieved a great deal, particularly in opening the eyes of many to designs that would not have come their way without its influence.

J. C. PRITCHARD

FRANCESCO DI GIORGIO

FRANCESCO DI GIORGIO: TRATTATI DI ARCHITETTURA INGEGNERIA E ARTE MILITARE. Edited by Corrado Maltese. Ever since Carlo Promis in 1841 published Francesco di Giorgio's treatise from the Turin codex Saluzziano 148, it has been known that Francesco di Giorgio was a more important figure in the development of Italian Renaissance architecture than the buildings certainly by him would make one expect. But Promis was interested in engineering rather than architecture, and Professor Weller's monograph of 1943 was more on Francesco di Giorgio the painter than on his works of architecture. One had to wait for Papini's three volumes of 1947 to get an adequate insight into the ideas, the experiments, the tentative suggestions contained in the Turin as well as a Laurenziana and—the most profitable—a Magliabecchiano codex.

Corrado Maltese has now at last—not referring anywhere to Papini—edited a facsimile of the illustrated pages of all these three manuscripts. It is a careful edition, but it is alas no more than that. Whereas Paolo Portoghesi provided the edition of Alberti's *Architecture* in the same series with an introduction to the book and its significance, Corrado Maltese's introduction deals exclusively with the relation of the manuscripts to each other and their dates. He decides convincingly that Turin and Laurenziana belong to c. 1478-85, Magliabecchiano II, I, 141 to c. 1489, etc. That is helpful, but should the purchaser of these, naturally costly, volumes not also be told something about the Uffizi drawings and

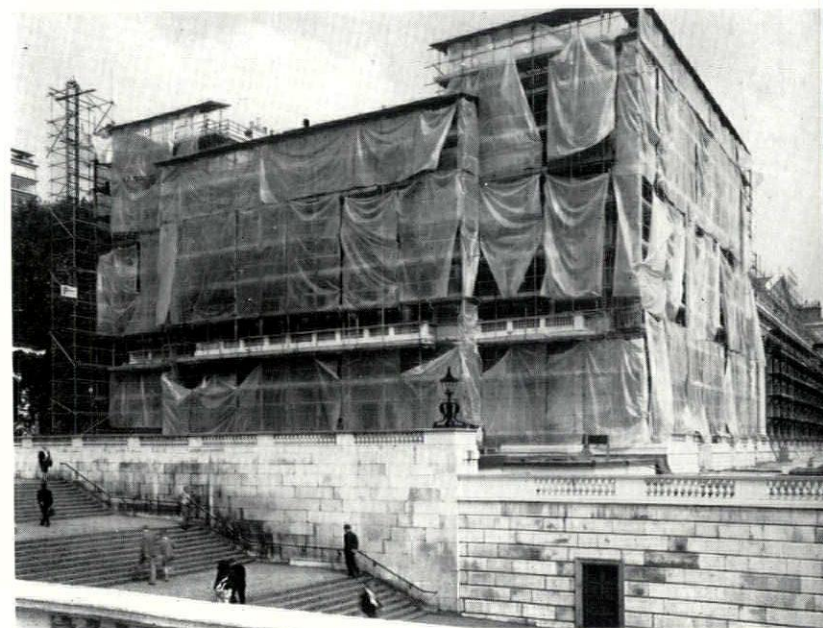
about the relation of Francesco to Alberti on the one hand and Leonardo da Vinci on the other? Leonardo annotated the Laurenziana codex in a few places; so he knew it, and Leonardo's library catalogue which has recently come to light at Madrid (L. Reti in *Burlington Magazine*, February, 1968) has added further proof. Leonardo must have been impressed; for there is much in common between the two in their systematic approach to architecture, their passion for experiment and also their solutions.

Moreover, they did meet in 1490 over the consultations concerning the Tiburio of Milan Cathedral and over Pavia Cathedral. There must have been affinities of character too; for Francesco was painter and sculptor as well as architectural designer, and also seems to have been more interested in putting forward ideas on paper than in stone or brick. How far did they become known, having been put down only in manuscript form? It is the same question which arises in the case of the Leonardo manuscripts. For instance, Francesco designed houses with circular courtyards. Did Raphael know that when he designed the Villa Madama? Francesco's circular courtyards have colonnades around. Did the designer of Charles V's palace on the Alhambra know that? Francesco designed staircase types not built until the sixteenth century (three flights at right angles round an open well, one flight and then two at right angles in opposite directions). Again did he act as a stimulus? And—most important—he designed churches on complex central plans. Did Leonardo know, did Bramante know? After all, for the history of fortification Francesco is accepted as a pioneer. So here is a thrilling job for some architectural historian.

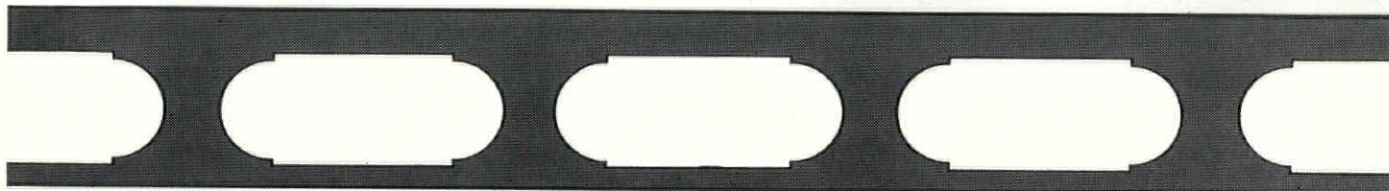
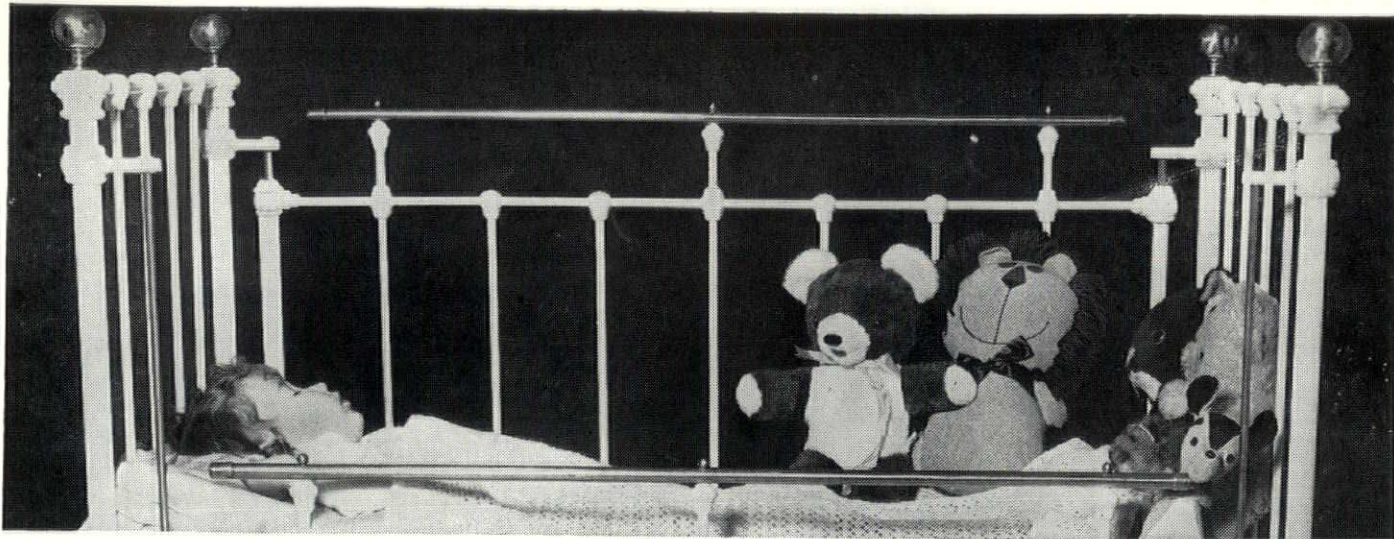
N. PEVSNER

Since this was written Professor L. Heydenreich in *Kunstchronik* XXI, April 1968, has placed side by side quotes on fortification by Francesco di Giorgio and Leonardo proving that Leonardo extracted whole passages from Francesco di Giorgio.

POLYTHENE WRAPPER



Since one of the buildings Christo planned to wrap up (see August AR, page 226) was the Museum of Modern Art in New York, it is only appropriate that the ICA, its opposite number in London, should have wrapped itself so charmingly in polythene. Photograph of Nash House, which will open later this year as the headquarters of a group of arts societies, including the ICA, taken early September.



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tise to cut timing schedules; there are nine Bison factories strategically situated to ensure prompt and economical delivery to sites throughout the country. If you have a question of floors or roofs, Bison have an answer . . . ready-made.

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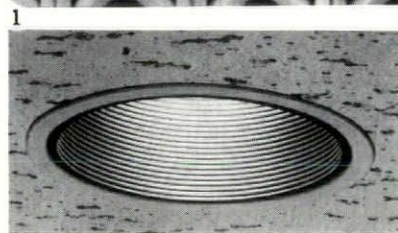
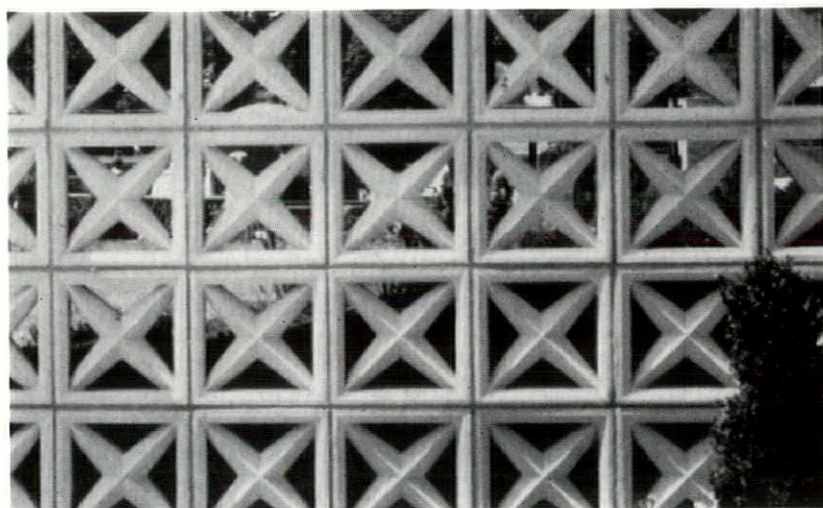
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The Industry



2

Screen walling

Redland have added two new patterns to their range of screen walling blocks, Luna and Stella, illustrated here, 1. The blocks are of reconstructed stone pressed for extra strength and finished to give a smooth profile, and are made to a 12 in. module including joints, which can be reinforced when necessary. Garden type walls can be built freestanding up to a height of 6 ft and with a maximum length of 10 ft. between supports. Facade or vertical infilling panels may be larger, up to a maximum of 24 ft. high and 12 ft. wide according to the type of reinforcement. Standard colours are Crippion green, Portland, light or dark stone and slate grey.

Redland Tiles Ltd., Reigate, Surrey.

Lighting fittings

Allom Heffer have now produced some economy versions in their Darklite range of light fittings, the circular model, 2, costing only £4 3s. The fittings have the same trims as the standard types and have a quick-acting self-locking device suitable for all types of suspended ceiling. The fittings are not enclosed above the ceiling so that they can, if necessary, be used for air extraction. As well as the circular model, there are two square types, and all fittings are designed for 150-watt lamps.

Allom Heffer & Co. Ltd., 17 Montpelier Street, Knightsbridge, London SW7.

Plastic fencing

Fencing made from plastic coated

woven wire has been on the market for some years, but Netlon is made entirely of high-density polythene and metal is only used for the stringing wires. The netting is produced by an extrusion process and the mesh is formed by slitting and expanding in much the same way as metal meshes. The process is not new and is already in common use for the small nets in which supermarkets sell some types of fruit and vegetables. The net is made in rolls 25 yards long and in widths of 2, 3 and 4 ft. and can be used with ordinary fencing posts of any type with tensioned wire stringing. It is made in white or green and will resist severe industrial atmospheres. It needs, of course, no painting.

Netlon Sales Ltd., NE Wing, Bush House, Aldwych, London WC2.

Counter-top lavatory basins

Goslett's are now producing a basin installed in a counter top with a lid which encloses both basin and taps and which has a polished plate mirror inside it. It is intended mainly for hotel bedrooms and similar work and can, when necessary, be purpose made so far as sizes and basin types are concerned. The basic model has a vitreous china drop-in basin 22in. by 15in. and is 33 in. wide with a depth from front to back of 23in. The counter top has a Formica facing on 1/2 in. resin bonded plywood and is normally fixed with wall brackets, but painted timber legs are available as an alternative. The taps are connected to a mixer nozzle outlet.

Alfred Goslett & Co. Ltd., 127-131 Charing Cross Road, London WC2.

Heat-rejecting glass

Pilkingtons have evolved a completely new type of glass known as Spectrafloat, which transmits to the room only 67 per cent of the total solar heat falling upon it as against 84 per cent through clear glass. The new glass is produced

by the normal float process, but is modified by extremely fine metal particles, 1/25,000th of a millimetre in diameter, which are added by an electrochemical method while the glass is still molten and produce a metallic layer immediately below the surface. This layer can be controlled both in intensity and depth to produce different transmission characteristics and different colours. Spectrafloat prices are considerably less than comparable tinted plate glass and the cost is only marginally greater than plain float. The type available at the moment has a bronze colour and there is a distinct advantage in using it in air conditioned buildings, where the cooling load produced by solar heat gain is a significant factor in both the capital and running cost of the plant. Each building needs individual calculations, but in a hypothetical case with the facade 70 per cent glazed about 40 per cent of the air conditioning load would be due to solar heat gain, and with Spectrafloat the capital cost could be cut by 7 per cent and running cost by 10 per cent. At the same time there is a considerable reduction in sky and ground reflected glare. In buildings which are not air conditioned there is no cost saving from Spectrafloat or any other solar heat rejecting glass, but the other amenities remain. An Armourplate glass to harmonize with the Spectrafloat bronze is now in production for infill panels and can also be supplied in the form of Armourclad insulating panels, factory-made units with a one-inch backing of fibreglass and a protective vapour barrier.

Pilkington Brothers Ltd, St. Helens, Lancs.

TV aerial systems

Carrieke Communications specialise in the installation of communal television aerials and distribution systems for blocks of flats or housing estates in any part of the country. Since individual aerials cost about £20 installed, and need alterations or additions whenever a new channel is introduced, there is much to be said for systems of this kind as individual aerials in flat blocks are often unsatisfactory and for housing developments the clutter of endless aerial displays is avoided. Carrieke quote examples of local authorities

who withhold planning permission unless communal aerial systems are installed. The company is independent of all TV set and amplifying equipment makers and will recommend the appropriate central aerial and equipment, which is connected to the houses or flats by co-axial cable, underground as required. Various types of installation can be provided. In the first the developer or local authority buys the system outright and is thereafter responsible for all service, maintenance and insurance, as well as for the updating of the system—colour conversions for BBC 1 and ITA will be needed before the end of next year. In the second system the developer buys the system and Carrieke meet running costs and alterations for an annual fee from each householder, while in the third scheme the householder makes a payment of 1s. 6d. to 2s. 6d. a week and Carrieke bear all installation and running costs. The choice of the TV receiver remains entirely with the householder.

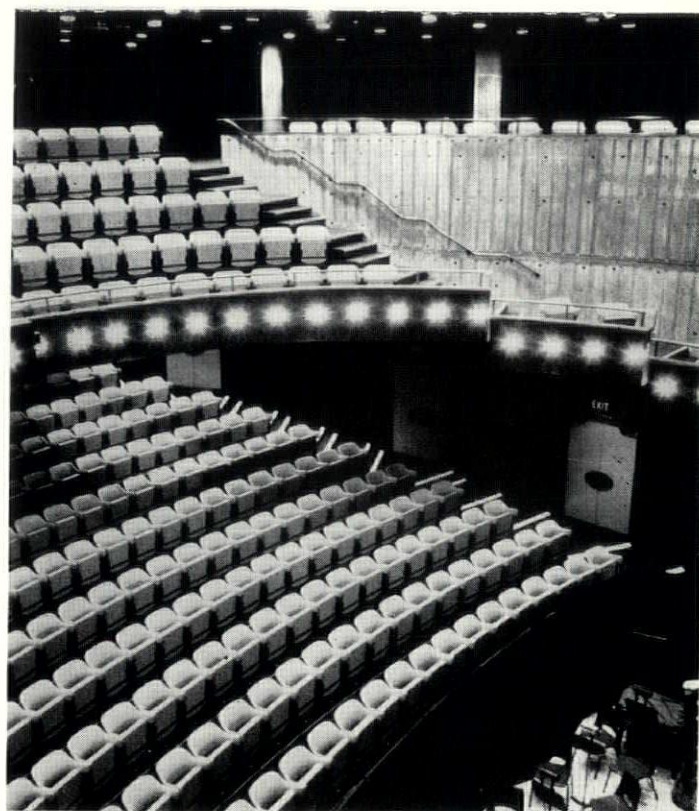
Carrieke Communications Ltd, 6-7 Russell Gardens, London, W14.

Knock-down furniture

The armchair by Ian Audsley Workshops, 3, was designed by Allen Cull and consists of only five units which slot together and need no tools, bolts or screws for assembly. The shaped side panels and arm rests are in natural ash and the cross rails are solid pine, all the parts being held together by the tension of the rubber webbing suspension. The cushions are in polyether foam and the upholstery fabrics are in three colours which combine well with most schemes and contrast with the timber parts of the chair, which have a sealed and waxed finish. The chair is delivered in a cardboard pack which measures only 27in. by 23in. by 9in. thick, and costs £15 by mail order. A settee and other types of chair based on the same system of construction and assembly are in course of development. *Ian Audsley Workshops Ltd, 97 London Road, Sevenoaks, Kent.*

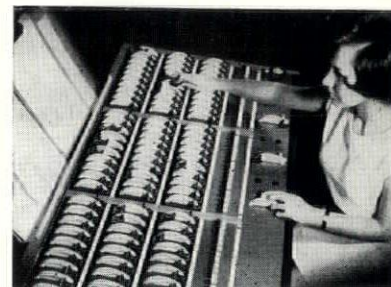
Furniture for student rooms

For some years Concept have been designing furniture for student rooms and now have a new range of Budteg



Professional in all but name

Many a professional theatre management might envy University College the design and technical facilities of its new amateur theatre. Not least they would admire the Strand stage lighting and control



system chosen by the architects. This enables even the most sophisticated lighting plots to be set up for any of the various stage forms likely to be presented there.

One of a series of new Strand low budget control systems it provides all the benefits of scene presetting with control facilities for 80 dimmer channels and will do much to help make the University College drama presentations professional in everything but name.

Consult Strand when the planning brief calls for a stage or theatre.



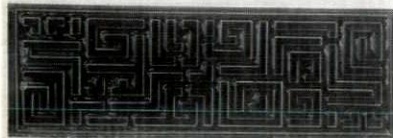
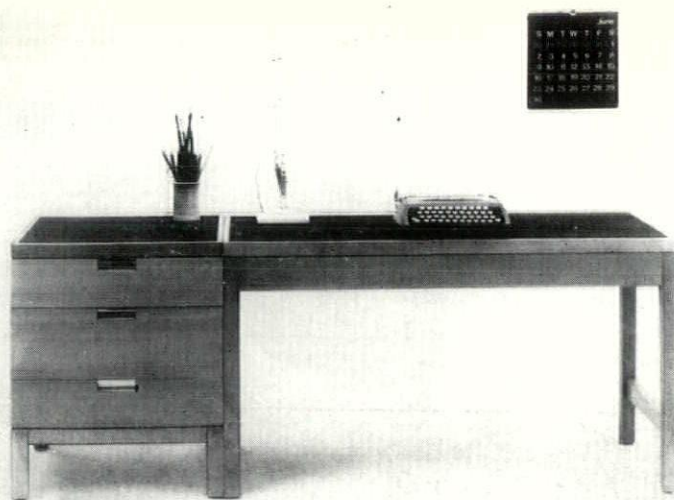
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4



5

furniture, 4, which allows a great variety of room arrangements, while the low cost allows its use in housing developments. Construction and finish are good, with all frames in solid selected beech with exterior veneers in white beech. Wardrobe and drawer interiors are mahogany lined, with Arborite facings on the wash basin units. Other timbers and finishes can be used for orders in quantity. Wardrobes are normally supplied with bases but without top panels, so that they are tax free. Ceiling heights are made up with scribing strips fitted to the adjustable cornices. Wardrobe units are butted together using a common end panel and a vanitory unit with or without door, can be added. Doors are 3/4 in. thick and have rotating bars which lock at top, bottom and centre to reduce any likelihood of twist. Desks can have one, two or three drawers and have linoleum tops. Separate chests also have linoleum tops and can be supplied with a pedestal or on castors to fit under the tables. Beds have ventilated plywood bases and slide easily on timber skids; a deep 4ft. wide drawer can also be provided for bedding.

Concept Interiors Ltd, 7 Harley Street, London W1.

Decorative plastic panels

The Cordecor range of moulded acrylic panels, 5, is available in a variety of colours and has a high degree of transparency. They are intended for door panelling, shower cubicles, screens in open-plan arrangements, back lit wall

panelling or for shop window or display backgrounds. They are considerably more resistant to impact than glass and can be used in hospitals or mental institutions. Maximum dimensions are 70in. by 41in. Standard transparent colours are yellow, amber, red, green, blue and neutral, and translucent opal white or peach are also available. Many other non-standard colours can be provided.

Cordar Ltd, 34 Dean Street, Newcastle-upon-Tyne, NE1, 1 Q P.

Club furniture

Pel are introducing a range of modular furniture, chairs, settees and tables, intended mainly for clubs. The range has been designed by R. D. Russell and the frames are rectangular section steel tubes with curved bases which can be moved easily without damaging floors or carpets. Deep upholstery is either in a choice of soft covers or expanded vinyl. The arms of the chairs and settees, and the table tops, are in teak. The range is being shown in the middle of the month at the Club Trade Fair in Leeds.

Pel Ltd, Oldbury, Warley, Worcs.

Contractors

Publisher's Offices, Harlow. *Architects:* Frederick Gibberd & Partners. *General contractor:* William Sindall Ltd. *Sub-contractors:* *Mechanical services:* Benham & Sons. *Electrical services:* Duncan Watson Ltd. *Lifts:* Express Lift Co. *Precast cladding:* Portereite Ltd. *Aluminium windows and doors:* Boulton & Paul Ltd., Heywood Helliwell Ltd. *Revolving door:* Coleman & Sons. *Marble wall linings and slate flooring:* Thermal & Acoustic Installations Ltd. *Demountable partitions:* Venesta-Holoplast Ltd. *Ironmongery:* Alpha Architectural Ironmongery Ltd. *Kitchen equipment:* Smethursts Foods Ltd. *External maintenance equipment:* Cradle Runways Ltd. *Blinds:* Stillsound Vertical Blinds Ltd. *Terrazzo flooring and partitions:* Diespeker & Co. *Letter Chute:* Culford Art Metal Ltd. *Sanitary fittings:* Adamsez Ltd. *Armourtile & vinyl flooring:* Nairn Williamson Ltd.

Students' Residences, Hull University. *Architects:* Gillespie, Kidd and Coia. *General contractor:* Shepherd Construction Ltd. *Sub-contractors and suppliers:* *Doors:* Shapland & Petter Ltd., Glik-

sten Doors Ltd. *Electrical fittings:* Caldwell-Young. *Electrical & plumbing:* Shepherd Engineering Services. *Facing bricks:* Proctor & Lavendar Ltd. *Hardwood flooring:* Hollis Brothers. *Heating:* Andrews Weatherfoil Ltd., Rosser & Russell. *Ironmongery:* Bell Donaldson & Co. *Main cable:* Rashleigh Phipps. *Painting:* Healey Brothers. *Reinforcements:* GKN Reinforcements Ltd. *Roof lights:* William S. Cox (Sales) Ltd. *Sanitary ware:* Coates. *Scaffolding:* Mills Scaffold. *Site service mains and central heating:* Edward Pearce & Partners. *Towel rails:* George Boyd Ltd. *Ventilation:* Greenwood Airvac Ventilation Ltd. *Electrical services (Centre Building only):* Powell Duffryn Technical Services.

Theatre, Central Collegiate Building, University College, London.

Architects: James Cubitt & Partners. *General contractor:* F. G. Minter Ltd. *Sub-contractors:* *structural steel:* Mathew T. Shaw. *Fire protection:* Atlas Sprinkler Co. *Electrical:* Barlow & Young Ltd. *Metal stairs:* Clark Hunt & Co. *Profitit glazing:* James Clark & Eaton Ltd. *Louvers:* Colt Ventilation & Heating Ltd. *Wood roller shutter:* Deans Blinds Ltd. *Metal roller shutter:* Denison Kett Ltd. *Stage lantern light:* Haywards Ltd. *Plumbing, drainage, air-conditioning:* Hopes Heating & Engineering Ltd. *Roof light:* T. W. Ide Ltd. *Sound proof door on stage:* Geo. W. King Ltd. *Kalcolour windows & auditorium finishes:* H. H. Martyn Ltd. *Lifts:* Platt Schindler Lifts Ltd. *Forestage gear & paint bridge:* Rank Audio Visual. *Steel handrails:* John Rawlson (Engineers) Ltd. *WC partitions:* Roneo Vickers (Partitions) Ltd. *Metal roofing:* The Ruberoid Co. *Sliding folding door:* Tidmarsh & Sons. *Sewer connection:* O. C. Summers. *Suspended ceiling:* The Universal Metal Furring & Lathing Co. *Steel windows:* Williams & Watson Ltd. *Mosaic:* Alpha Mosaic & Terrazzo Co. *Asphalting:* Amalgamated Asphalt Co. *Bronze handrails:* Allied Engineering Co. *Glazing:* Aygee (Glass) Ltd. *Painting:* Balclutha Ltd. *Radiator casing:* Builders Iron & Linework Ltd. *Steel framing:* A. J. Bridle Ltd. *Sprayed asbestos:* Chancery Insulations Ltd. *Formwork:* Geoffrey Collins (Formwork) Ltd. *Vinyl flooring:* Dunlop Semtex Ltd. *Plastering:* Eaton Contractors Ltd. *Steel lift guard:* Evans Turner & Co. *Scaffolding:* Flays (Services) Ltd. *Steel reinforcement:* Hyten Reinforcement Co. *Acoustic tiling:* G. C. Horsburgh & Co. *Maple flooring:* Hollis (Floors) Ltd. *Cork flooring:* Mace (Flooring) Ltd. *Mastic jointing:* MR Mastics Ltd. *Glazed wall tiling:* Parkinsons (Wall Tiling) Ltd. *Metalwork:* Skillfix Co. *Clearglaze:* P. G. White (Contracts) Ltd. *Scaffolding:* Westminster Scaffolding Ltd. *Demolition:* Willment Bros. Ltd. *Precast concrete arches:* W. & C. French Ltd. *Bricks:* Sydney A. Hunter Ltd. *Ironmongery:* James Gibbons Ltd. *Joinery:* J. C. Richards (Woodworkers) Ltd.

Banking Hall and Boardroom, Cheapside, London. *Architects:* Stefan Buzas and Alan Irvine. *General contractor:* A. E. Edmonds & Co. *Sub-contractors:* *heating and ventilating:* Matthew Hall Mechanical Services Ltd. *Table fabric:* Hunt & Winterbotham Ltd. *Chairs:* Lehigh Furniture Corporation. *Fibrous plaster ceiling:* Balclutha Ltd. *Curtains:* Furdecor Ltd. *Carpet:* V'Soske.

Sailing Club, Grahtham Water, Hunts. *Architects:* Robert Matthew, Johnson-Marshall & Partners. *General contractor:* W. & C. French. *Sub-contractors:* *Ceiling heating:* ESWA Ltd. *Floor finishes:* GC Flooring Ltd. *Kitchen & bar equipment:* Phipps Brewery, Flavourfare Ltd. *Sanitary fittings:* Adamsez Ltd. *Lifts:* Pickering's Ltd. *Lighting:* SLR Lighting Ltd. *Starters' box windows:* Henry Hope & Sons. *Steel balustrades:* Allen & Greaves Ltd. *Ironmongery:* James Gibbons Ltd. *Furnishers:* Hemmings Bros. Ltd.

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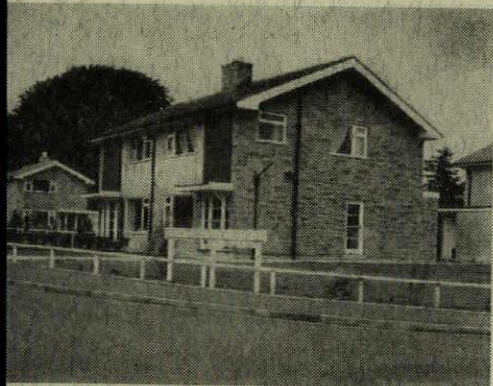
loquent stop-go of rear facades, shows the view in reverse, with a patch of emptiness on the right. And on the left the building seen in close-up, 7, next to the splendid eighteenth-century house used by Lloyds Bank. 'Have a pint with what's left over, and I'll say goodbye to you. The bells of hell' . . etc.

BOUGHTON, SUSSEX

A local water board installation in an unspoilt bit of the South Downs near Winchester which is well above the usual standard for this kind of building, 8. And then, alas, the whole effect nullified by the stupid and doctrinaire fence around the perimeter and a clutch of free-standing hydrant signs, 9.

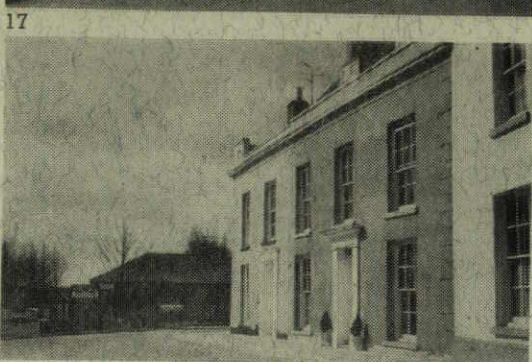
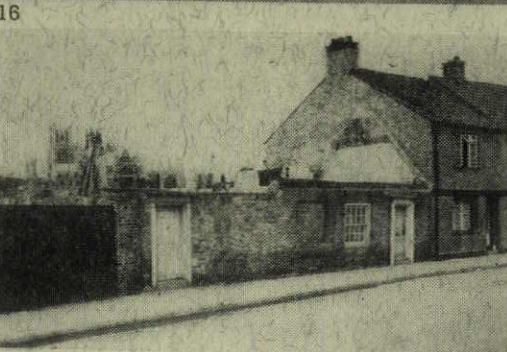
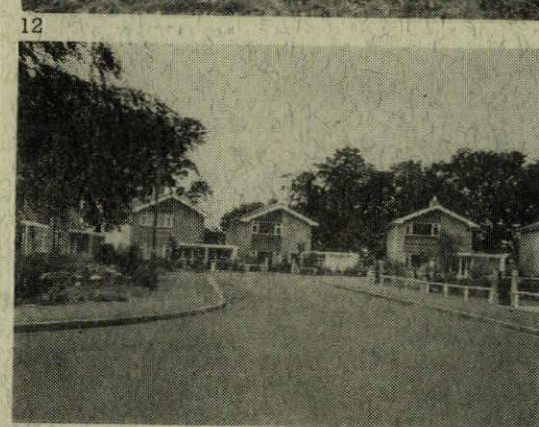
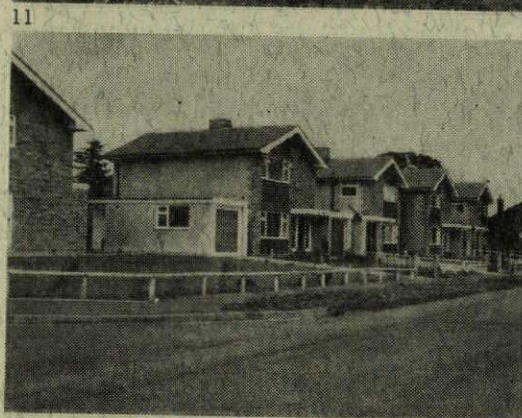
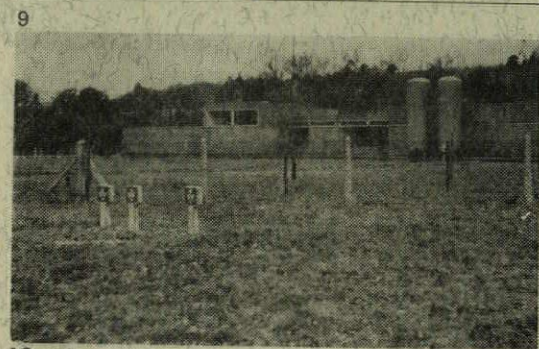
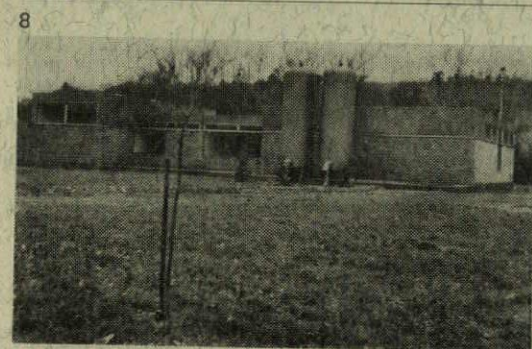
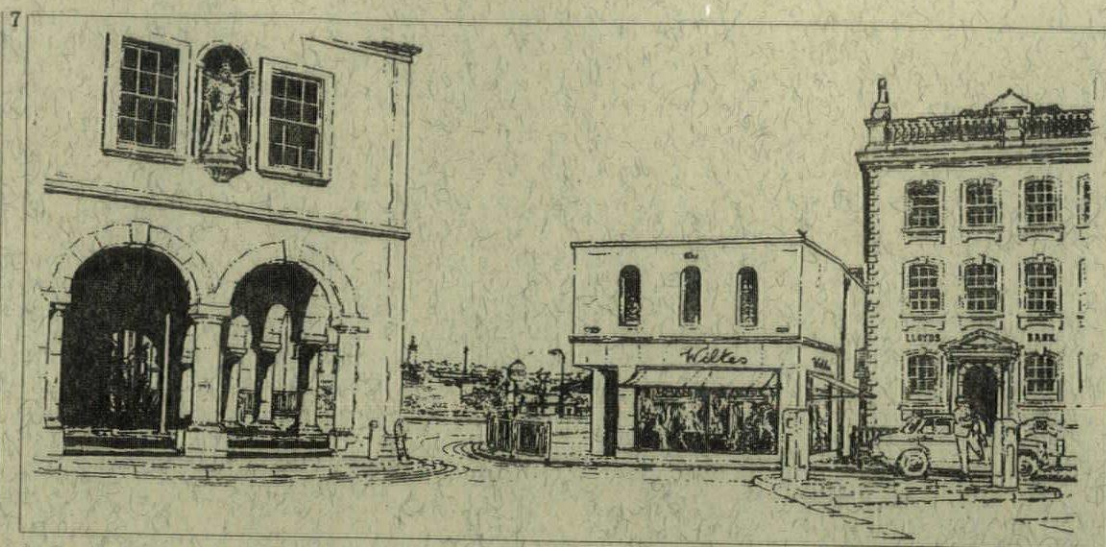
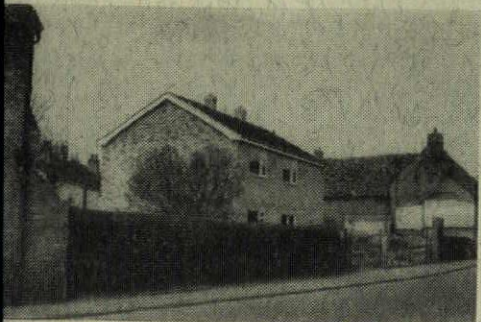
OPPLETON, YORKS WR

A few miles from York, beside the Ouse—vale of York village whose old houses are extremely simple almost all in red brick and pantiles. So what happens in Oppleton Hall Gardens? Rubble, newwork, weatherboarding, all the disastrous fuss-work which passes so often for modern architecture. If the designers are insensible to local colour then surely the planning authority need not shut their eyes and keep their lips sealed, 10, 11, and 12.



BERGATE STREET, ELY

A fine but unshowy and neglected street which runs down from the Market Place to the river. The old cottages are Georgian, yellow brick, and make up a very subtle streetline, 13. Unhappily some are empty, 14, others have been already polished. And when they go, the replacements, inoffensive in themselves, are totally barbarous in the context of the street: set back and isolated as though this were the most pretentious of Pinner, not an urban street in a small town. 16 shows another cottage the way out, with Ely's splendid spire in the background: 17, just around the corner, is an example, albeit a little too formal, of how the houses could be kept up.



Ian Nairn

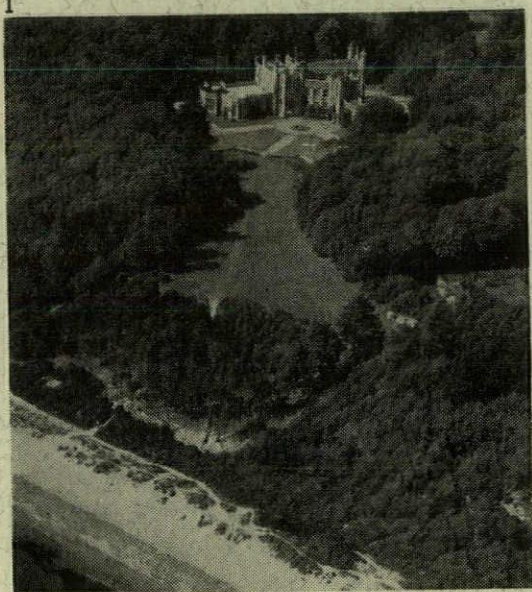
STOP PRESS

Townscape problems, outrages and opportunities compiled by Ian Nairn, with drawings by G. J. Nason.

S.O.S.

HIGHCLIFFE CASTLE, HANTS

A full-blown bit of Gothick nonsense, incorporating parts of a house brought over from Les Andelys in Normandy. It recently had a fire, and the SOS is that it should be kept as a dramatic ruin instead of being demolished for more bungalows. The air photograph, 2, shows the

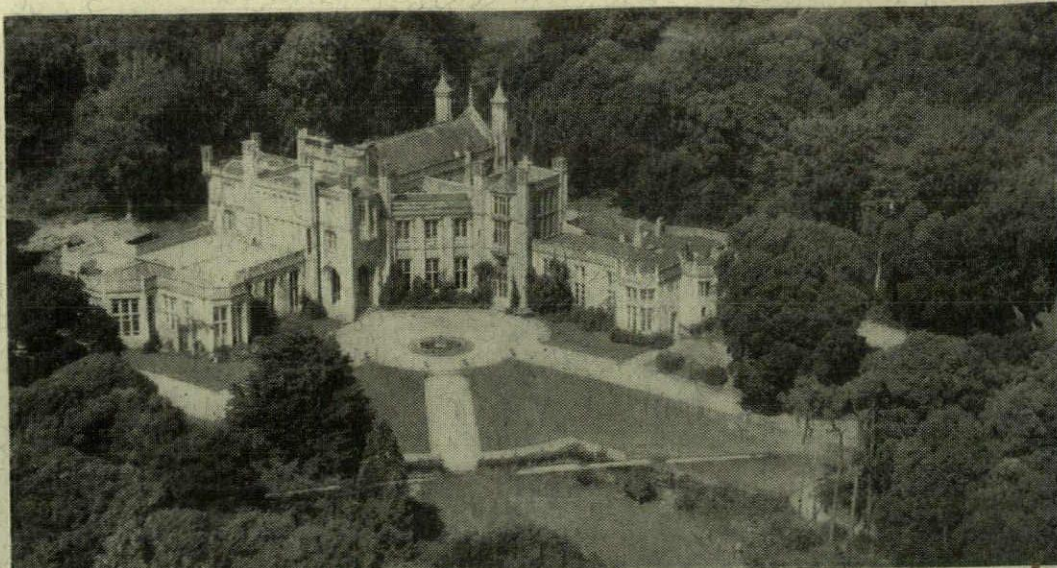


surroundings as they were a few years ago, and the seaward side is still unimpaired. But behind, the villas have crept in, and someone's mini-Nirvana, 3, looks across at roofless grandeur. Enough is enough: the building's basic personality is still there, 4, and ought to stay. A maxi-Nirvana, plus one.

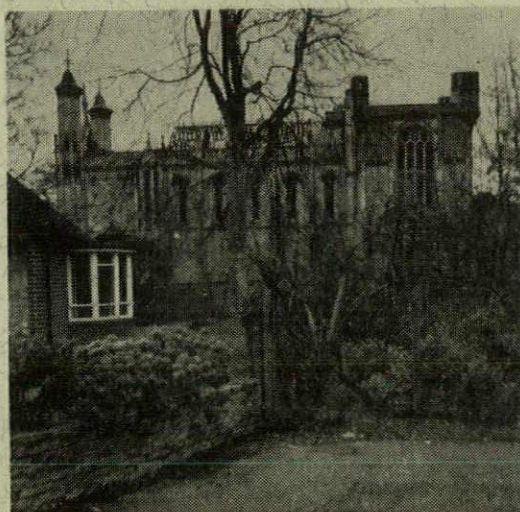
OUTRAGE

DURSLEY, GLOS

Small hope here of Gordon Cullen's splendid twelve-year-old study bearing fruit. Here is the present state of the market. The market hall is still there, but if you look out from under it you find a desert of the kind we do so well nowadays, 5, a road blasted in on the north side where the whole point was the



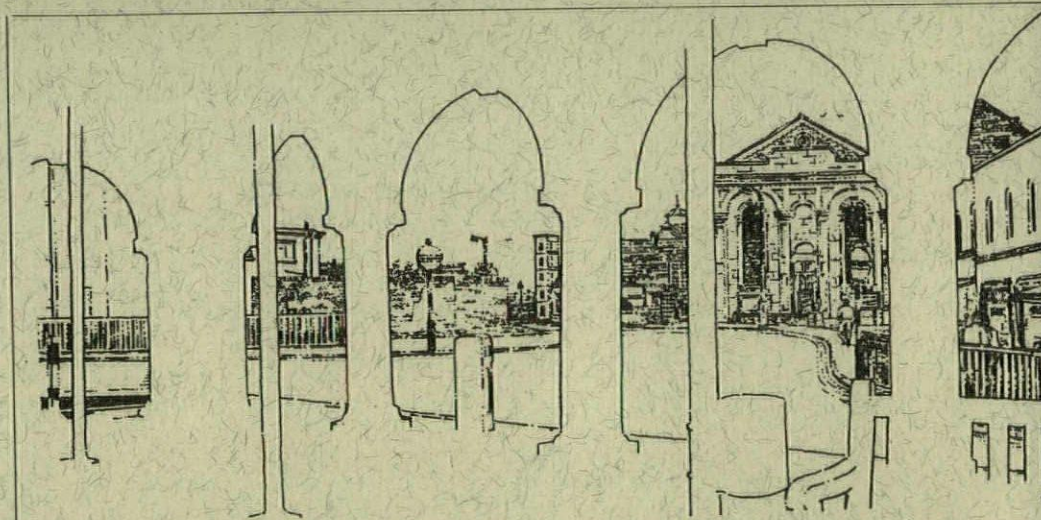
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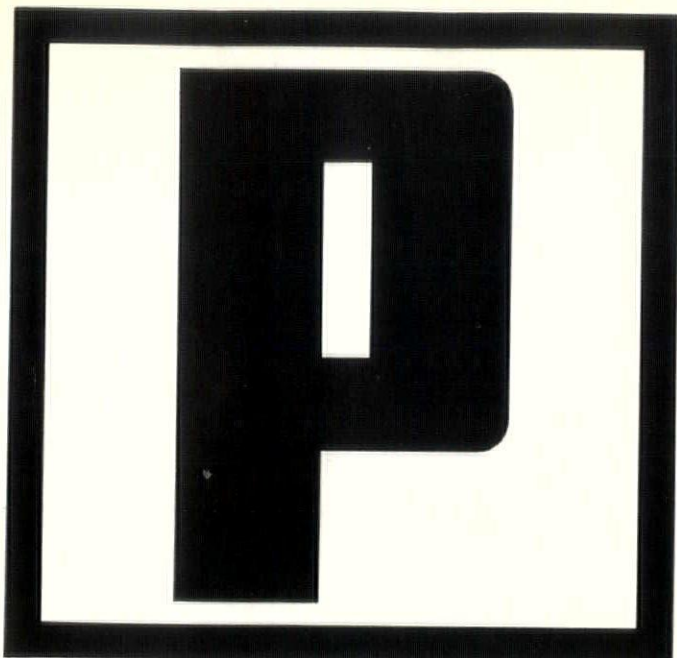
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6



Waterproofing elevated traffic areas

How do you permanently waterproof a carpark on a roof? The problem is analysed in a new Ruberoid publication 'Roofs for vehicle or pedestrian traffic'. The solution lies in Hyload 75 Roofing which has a remarkable performance as a waterproofing membrane under asphalt or concrete slabs on roof car-parks and pedestrian precincts.

Hyload 75 Roofing has properties which few if any conventional materials possess:

Toughness and ability to withstand rough handling during construction.

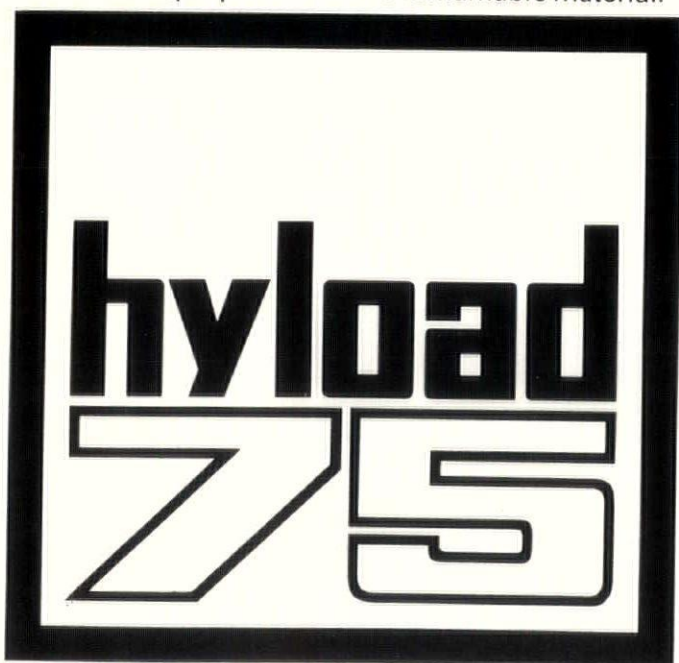
Flexibility in freezing temperatures.

Imperviousness to petrol, oil and grease spillage.

Resistance to decay when permanently wet.

Ability to yield to thermal expansion and contraction of concrete without rupture or fatigue ageing.

Remarkable properties from a remarkable material.



Roofing by Ruberoid

Design criteria, technical data and sketch details are contained in 'Roofs for vehicle or pedestrian traffic', available from:

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Biddle for warmth! Biddle for warmth with design in the new Series 'UV' Forceflo range of fan assisted convectors. These well proved heaters are renowned for their quiet, efficient operation and have been re-styled and extended into 6 basic models with capacities from 9,500 to 62,000 Btu/h. Each model is available in free-standing, recessed, remote and ceiling arrangements. Another important point. Forceflo's have a two-tone finish and have been styled to harmonize with our Vectair units — so that means Biddle for warmth *and* range.

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