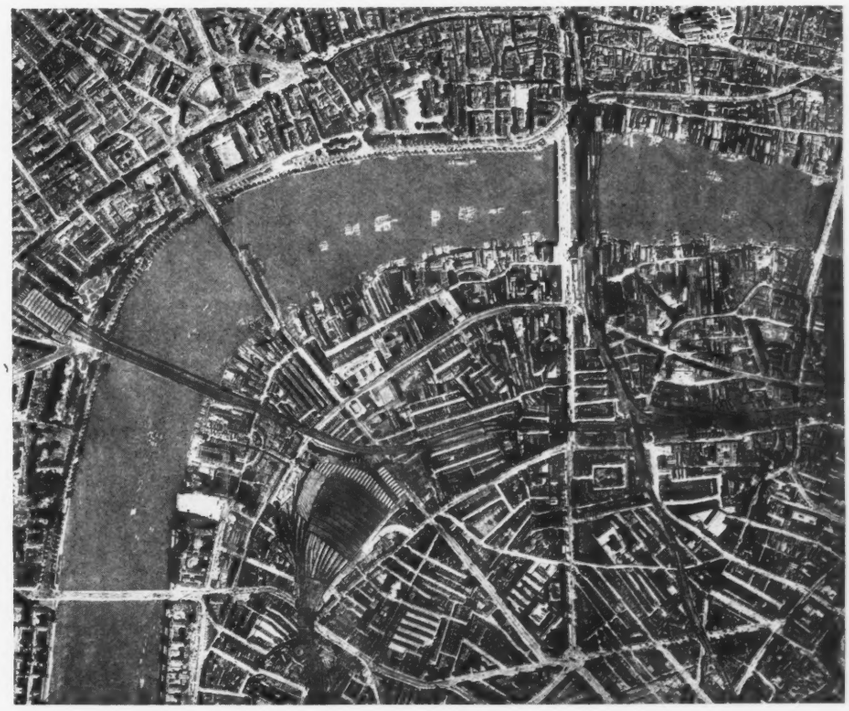
THE ARCHITECTURAL REVIEW

A Magazine of Architecture & Decoration



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THE

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THE ADELPHI, LONDON

"What are the Adelphi buildings?" wrote Walpole to Mason in July, 1773. "Warehouses, laced down the seams, like a soldier's frill in a regimental old coat." But no one who looks at this aquatint will be able to agree with so prejudiced a Gothicist as Horace Walpole. This illustration illustrates two important points stressed in this issue. First the effect of regulating the heights of buildings. It is too late now, but how excellent and harmonious a setting are the two groups of basemented buildings, Somerset House (Pennethorne had not yet completed the West wing) and Adelphi Terrace, to the distant vista of St. Paul's gathering round it a forest of Portland stone and lead steeples. Almost every large building in this illustration still stands, but swallowed up and hidden for ever in the quagmire of commercial Queen Anne office blocks. The second point is, that from this picture it is possible to see how good a processional way the Thames was a century ago, and how excellent it could still be made if we could cure our mania for wheeled transport.

PLATE I *March* 1933

This aquatint is from the collection of Mr. James Bone,
by whose permission it is reproduced here.

Must The Adelphi Go?

By A. E. RICHARDSON

THE privilege of reviewing the changes in the Metropolis belongs to all who were alive in the last years of Victoria's reign ; and if a consensus of opinion could be taken as to the most serious defect in the appearance of London today the pronouncement would be, " spoliation of the City's skyline." The temper of the age must first be considered. The inhabitants of modern cities live in a world of complex unrealities. The majority pass their lives according to schedule, absorbed in business, or caught up in a net of engagements. The very immensity of the Metropolis and scope for energy makes for the commonplace. Even leisure is dissipated in the universal orgy of excitement ; as to culture of the old-fashioned kind, once thought to be essential to the practice of the arts, this too is in disfavour. Yet the discrimination of the English for beauty in all things was at one time relatively high. London a century ago was as attractive as the city of Stockholm is today. And this discernment was most active when architects were few in number, and before town planning had been raised to an exact science. Viewing old London dispassionately, through the medium of internal evidences, at any period during the eighteenth and nineteenth centuries, particularly the character of its more famous quarters, the student cannot fail to be impressed by the fact that its buildings and streets were at least well established. Every building was a picture, the river appeared more stately, the dome of St. Paul's more dominant ; the steeples of the City churches more eloquent of reverend custom. All the foregoing can be classed as assets to the wealth of a city. It is, therefore, towards an endowment of the amenities that still remain that the attention of lovers of London is directed. For something is needed to arrest the wanton and piecemeal destruction which threatens to become more serious. " But," rejoins the critic, " this is the modern age ; would you stand in the way of progress ? " " Certainly," you reply, " if modernity piles Pelion upon Ossa and overbuilds on narrow sites, thereby excluding the sun and flaunting the transience of humanity in meaningless cubistic masses." It is for such reasons as the latter that a few diehards distrust the changes ; for with unerring instinct thoughtful opinion holds that wisdom does not always accompany rebuilding. But at long last, thanks to the Press, the public conscience is awakening to the need for some form of control, and the checking of that unbridled licence which can sweep historical quarters out of existence. Today, when a group of fine buildings is threatened, the Press encourages comment ; questions are asked in Parliament, and that which a few have admired in secret soon attains wide notoriety as worthy of preservation. Every fresh proposal to exploit the finest sites in London impresses on one that some artistic illusions have a doubtful brilliancy.

In our hearts we know the past is part of our being, just as much in fact as we are part of the future : and as such must take our place in all consideration of what is to come. The plain truth is that the changing aspect of London is at last viewed with dissatisfaction. For the new is recognized as no better than it should be, nor less perverted than commercial greed and opportunist illiteracy propose. Gone is scholarship, long since swept into the limbo of neglect ; vanished too is that attribute of quiet restraint, once characteristic of every old street and every house of architectural pretension. No Act of Parliament, nor resolutions of learned societies, much less the feeble academic voice can hope to check the morbid ghoul-like tendencies of destruction. This is all the more strange when we consider that never in the national history has civilization reached such a peak of almost universal and cheap comfort.

Never before has art education been organized with such deliberation, nor has it heretofore been so well sprinkled with formulæ. It is clear that the care of historical buildings is not only the duty of Authority but the immediate regard of the average citizen. At this present the responsibility is trebled, for all values are in a state bordering on chaos.

The real theme of this article concerns the preservation of The Adelphi and the reconditioning of the whole quarter to its former magnificence.

Here, near the centre of official London, lies a small compact neighbourhood, raised on stilted arches above the foreshore of the river. The amenities are unique, almost as sacrosanct as the precincts of the Temple. On the north the quarter is bounded by the Strand, below the terracing it is honeycombed into a series of vaults and steep declivities. From the frontage you glimpse St. Paul's, and the grand panorama of riverside scenery. Over this quiet territory the steeple of St. Martin's-in-the-Fields sends the sound of its bells, and the classic façade of the Royal Society of Arts affords an air of suzerainty. There are few spots in modern Babel entitled to greater veneration, and there must be very few who are not familiar with Adelphi secrets. I have dined beneath one of the houses in a basement, have attended council meetings in the Royal Society of Arts, and have lectured in the great room. It has, moreover, been my privilege to enjoy hospitality in the first-floor apartments of several of the principal houses. To my way of thinking the whole quarter is neither debilitated nor fallen into decline ; its traces of former splendour are everywhere apparent. For nearly a hundred and fifty years it has been the centre of learning and of art, and from its earliest days it has been associated with literature, with the names of Garrick, Topham, Beauclerk, The D'Israelis, Rowlandson and lately Barrie and Shaw.

The architectural account of the Adelphi goes back to the early years of the reign of George III, and its inception was due to the foresight of the Adam Brothers ; among the first to indulge in building speculation on the great scale. That the scheme came to maturity after many difficulties had been overcome was due to the indomitable will of Robert Adam.

The site was forbidding enough ; Durham Yard was occupied by a number of small houses, hovels, coal sheds,

and lay stalls. The muddy deposits of the Thames laved the very doors and fences. The property, then in the possession of the Duke of St. Albans, was leased to the Adam Brothers for ninety-nine years, to be exact from Lady Day, 1768, at a yearly rental of £1,200. Almost immediately the City opposed the scheme, alleging that the architects were encroaching too far upon the Thames, and thus interfered with the rights of the Lord Mayor, as conservator of the river. The Adam Brothers, secure in the patronage of Lord Bute and the protection of the Crown, were content to have the case taken to Parliament, and gained their cause. Walpole, in his memoirs of George the Third, asserts, " through the influence of the Crown." The upshot of the whole matter was a special Act of Parliament (2 Geo. III, c. 34, 1771).

The selection of such a site is a tribute not only to the artistic genius of the Adam Brothers, but to their sense of business in the face of anti-Scottish opposition. The development effected by the architects was extraordinary. They levelled and drained the main declivity, and then constructed an elaborate system of arches and vaults ; over these they constructed well-built streets and terraces, and later the premises of the Royal Society of Arts.

In those days is was customary for architects to finance contractors during the progress of works, also to supply the bills of quantities, and to supervize the employment of labour.

The Adam Brothers naturally favoured the employment of Scotch labour, for it was found possible to engage bricklayers and labourers from north of the Tweed at lower rates than demanded by workmen of similar status in London. Some hundreds, we are told, were accordingly imported from Scotland, and these came attended by half a dozen bagpipes, for the purpose, as was asserted, of keeping up the national feeling. These pipers played daily while the foundations were in progress. The workmen soon discovered, however, that they could obtain higher rates of pay in London, and very speedily escaped from what they termed " the curse of Adam." Nothing daunted, the architects hereupon imported a number of Irish bricklayers and hodmen into London. Many of these men settled with their families in the neighbourhood of St. Giles and Seven Dials, and it is said began the flow of Irish immigrants into England.

When the scheme was first mooted, Mr. Coutts, the banker, being anxious to preserve the fine perspect over the Kent and Surrey hills, which the back windows of his banking house then afforded, purchased a share of the Durham Gardens property, and arranged with the Adam Brothers that the streets should be laid out as to preserve their vista. Robert Street was accordingly so planned as to form a frame for the banker's landscape.

So far we have seen that the scheme, fraught with so many hazards, was on a fair way to success. All kinds of difficulties had been surmounted, when at last a new form of disaster threatened. The architects ran short of money. The fact was well advertised in the press of the day. I remember to have seen in a room at Warbrook, Eversley, which room is attributed to Robert Adam (the house itself is by John James of Greenwich), a newspaper sheet pasted over a door—since covered—advertising a sale of their personal belongings, including their drawing instruments. How they surmounted their difficulties and rose to ultimate success is even more extraordinary. They eventually had recourse to a public lottery for which they obtained an Act of Parliament (13 Geo. III cap. 75) in 1773. There were issued 4,370 tickets ranging from £50,080 to £100. The drawing began on March 3rd, 1774, at the great room, formerly Jonathan's Coffee House in Exchange Alley. Apparently all parties were satisfied and the advertisement given to the architects brought them into greater prominence.

The origin of the premises of the Royal Society of Arts is equally interesting. In 1770 the lease of the Society's premises having nearly expired, it was decided to advertise for new premises. The result was that the Adam Brothers offered to include in the Adelphi scheme a suitable house for the Society's purposes. Negotiations, the progress of which is described in the old Minute books of the Society, went on for some time, and eventually the architects undertook to build a house for a premium of £1,170 and a rent which was finally settled at £200 a year. The plans, after much discussion, were decided upon ; and the foundation stone was laid by Lord Romney in 1774.

For a little less than a century after their completion the buildings of the Adelphi were left much as designed. When the leases expired in 1867 the whole property came into the possession of Messrs. Drummond, who obtained the estate from the trustees of the Duke of St. Albans. A few years later extensive repairs were carried out. It was found that the footings to the vaults were failing, and this necessitated extensive underpinning. About this time it was thought that the river frontage could be " improved " by the addition of a newer form of pseudo-classic detail. A pediment was added at the centre with deplorable results. The whole brick surface was covered with dull stucco, large sheets of plate glass were substituted for the delicate sashing, and other details were added. Fortunately the buildings in the back streets escaped this modernization. The outrage, for such it must be considered, occurred long before the Society for the Protection of Ancient Buildings became active. It is indeed curious that at the time this refurbishing did not arouse particular comment. But the Victorians did at least spare the group of buildings.

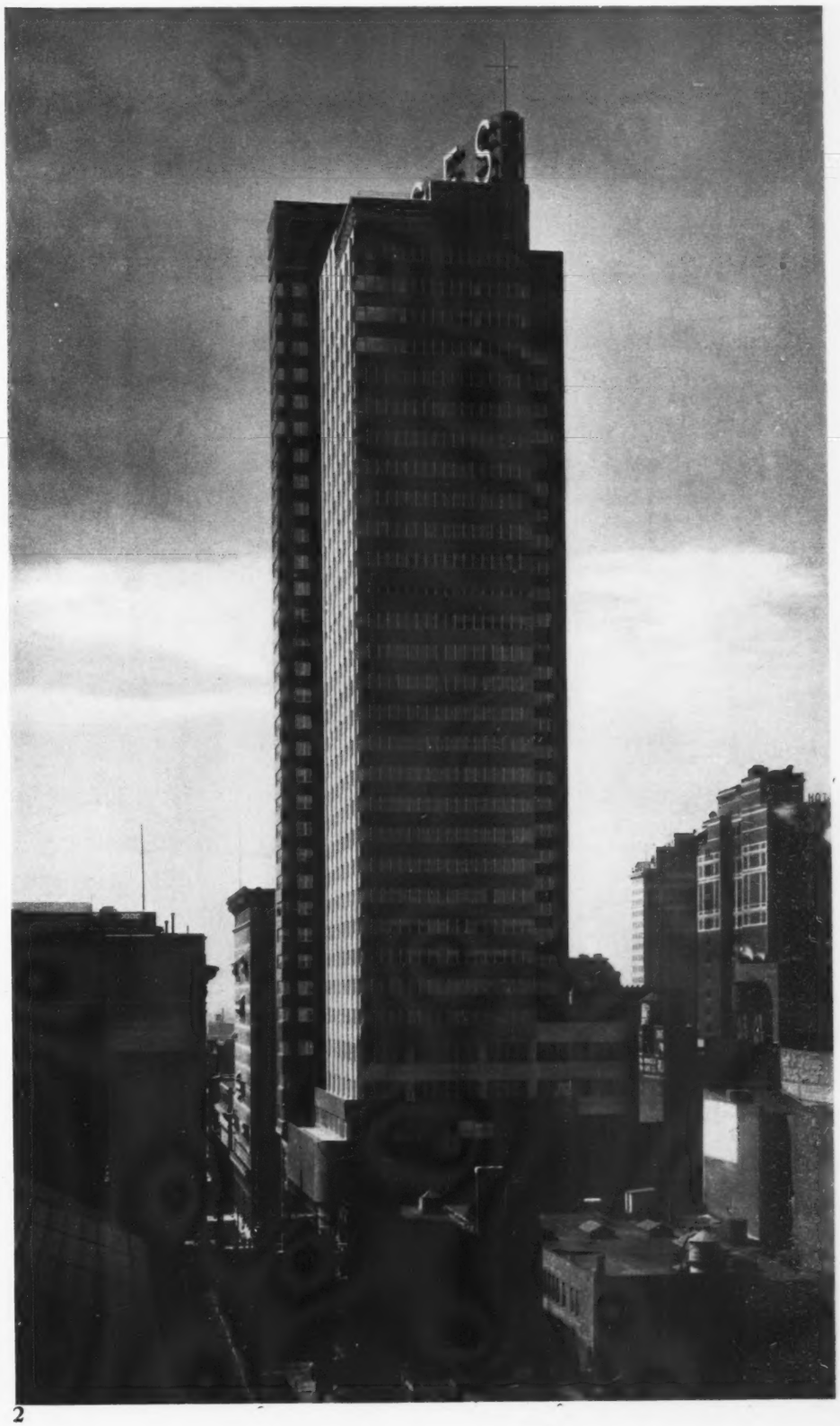
The problem of the moment is to arouse interest in the Adelphi and to seek by all possible means to ensure its preservation and reconditioning. It should not be beyond the skill of a considerate architect to rid the terraces of the Victorian mantle, to reveal the original brickwork, and to reconstruct the Liardet lacings which Walpole mentions. The structure of the individual houses is sound. The roof timbers are in good condition, the fireplaces, mahogany doors, and painted ceilings are beyond price. Add to this the beauty of geometrical stairways, and the fine proportions, and it will be realized that a worthy asset exists. To walk down the side streets and along the terraces is to follow in the steps of famous characters. The houses are seemly, they retain a strange attractiveness by their simplicity. They are gratifying to our sense of fitness. The very aloofness and seclusion of this showplace is its charm. It is a beautiful section of old London, and one sharing with the Temple and Gray's Inn the distinction of possessing general harmony. Of its usefulness for the next two hundred years or so there can be no doubt. Of the unselfishness of architects when a fine example of architecture is concerned, there is likewise no doubt. Once roused, the *vox populi* will demand the conservation of the Adelphi from the hands of the speculator and the opportunist. Of what advantage would be newer and taller buildings on the site, to darken the streets, and to create immense basements below the level of the Strand ? Another example of speculative folly perhaps. More unlet offices, yet another pile of many storeys pockmarked with windows ! The present Adelphi never lacks tenants. Surely there are less disciplined regions to be exploited, noxious slums to be demolished, and less conspicuous sites to be experimented upon.

To quote the ancient Nash—" What I write is most true . . . . I have a whole booke of cases lying by me which, if I should sette forth, some grave auntients (within the hearing of Bow bell) would be out of charity with me."

THE PHILADELPHIA SAVINGS FUND SOCIETY BUILDING

ARCHITECTS · HOWE AND LESCAZE, PHILADELPHIA

1



2

THE PHILADELPHIA SAVINGS FUND SOCIETY is the oldest and still the third largest savings bank in the United States.

For one hundred and sixteen years this institution has symbolized the progressive conservatism of Philadelphians. Today its thirty-five stories of air-conditioned, sound-insulated, and many-windowed offices, towers 497 feet above the busy pavements of Twelfth and Market Streets to proclaim a new and rational conservatism to the 450,000 " P.S.F.S." depositors.

When the architects presented their first sketch plans, the Bank president, Mr. Willcox, declared to the Board, " Gentlemen, this building will never be built." And yet, with only a few minor alterations, it was built. And it was built not because President Willcox and his board were amateurs of " modern " architecture, but because they were bankers. Says President Willcox : " This building is ultra-modern only in the sense that it is ultra-practical."

The illustrations on this page are : **1.** The white-painted metal and red-neon tube initials on the top of the building, screening the cooling towers, painted a bright blue, are 27 feet high. They are overlooked by the statue of William Penn, 32 feet higher, and a few hundred yards away, atop the old Town Hall tower of the capital of the State of Pennsylvania. **2.** A general view of the building.

THE PHILADELPHIA SAVINGS

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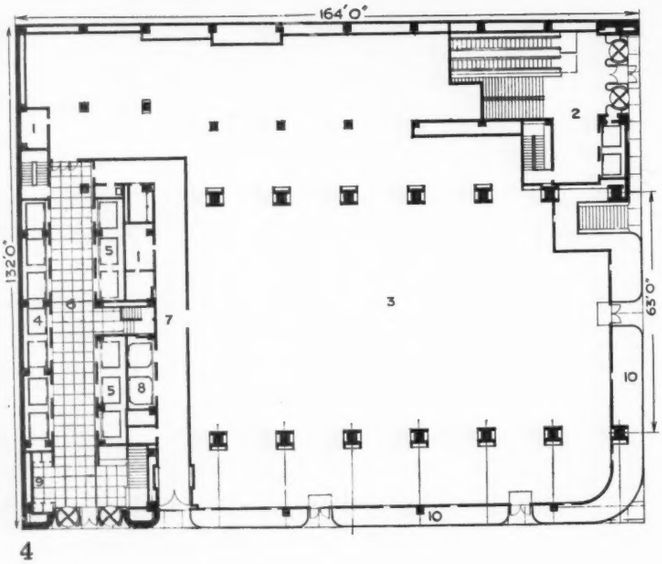

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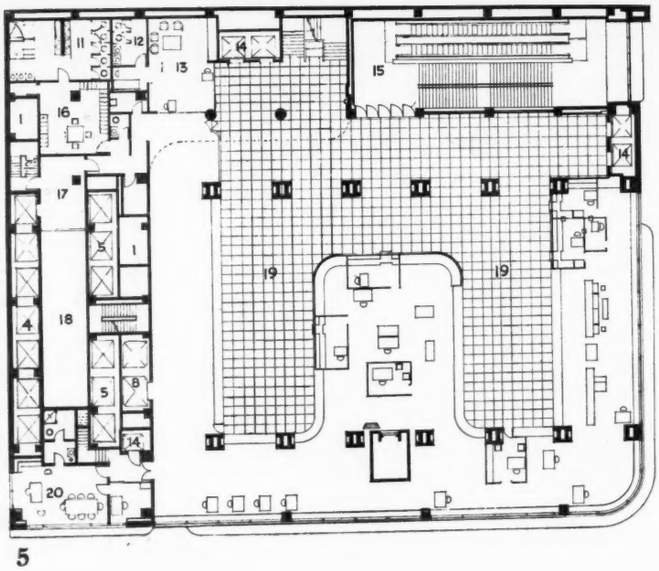


5

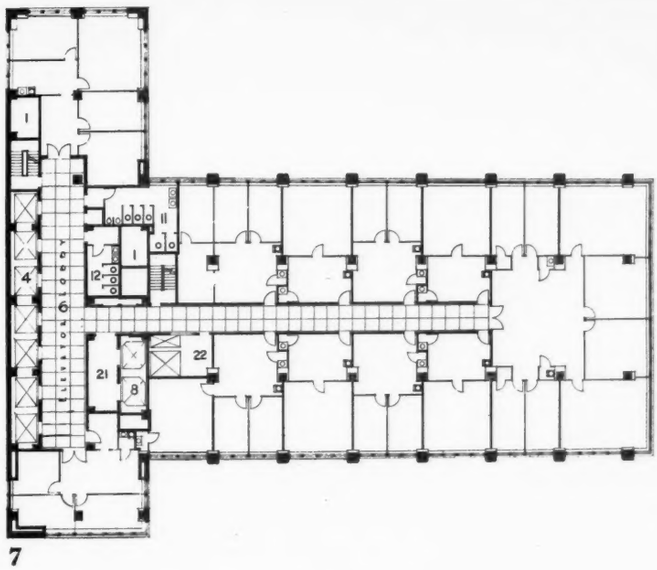
FUND SOCIETY BUILDING

The building is divided into three main elements, both on plan and in elevational treatment. The corner site measures 164 ft. by 132 ft., and the ground floor, let as shops, produces a rental of $250,000 a year. This floor and the banking hall and bank offices, immediately over, with their huge aluminium-framed windows and walls faced with dark grey slabs of polished Quincey granite, and stainless steel letters (**3**) forms the base for the column of office floors over, whose externally placed constant-dimensioned stanchions are cased with oyster-white Alabama stone, the walls being in light grey matt brick. The walls of the lift and services section at the back of the site are of black glazed brick. The board room and bank-staff dining rooms are placed appropriately enough on the top (33rd) floor, with an enclosed and an open roof terrace commanding a view of the whole city. **6**. The bank entrance hall, with its lifts, staircases and escalators, is 52 ft. high, and is enclosed on the street side by an enormous window. The wall towards the main banking hall is black marble under the windows, and the opposite (party) wall is of mirror-polished grey marble. The entrance doors are in stainless steel. The letters of the sign are faced with white opal glass behind which are frosted sign bulbs placed at $2\frac{1}{2}$ in. centres.

6

4, 5, 7 & 8. Plans of the ground floor (shops), first floor (bank), typical office floor, and top (thirty-third) floor (board room and dining rooms).

1. Shafts. **2.** Bank lobby. **3.** Rental space. **4.** Express elevators. **5.** Local elevators. **6.** Elevator lobby. **7.** Services. **8.** Freight elevators. **9.** Telephones. **10.** Show windows. **11.** Men's lavatories. **12.** Women's lavatories. **13.** Lounge. **14.** Elevators. **15.** Bank lobby. **16.** Locker room. **17.** Balcony. **18.** Upper part of elevator lobby. **19.** Public space. **20.** Conference room. **21.** Service lobby. **22.** Fan room. **23.** Committee room. **24.** Vestibule. **25.** Corridor. **26.** Board room. **27.** Kitchen. **28.** Main dining room. **29.** Enclosed terrace. **30.** Terrace. **31.** Staff dining room.



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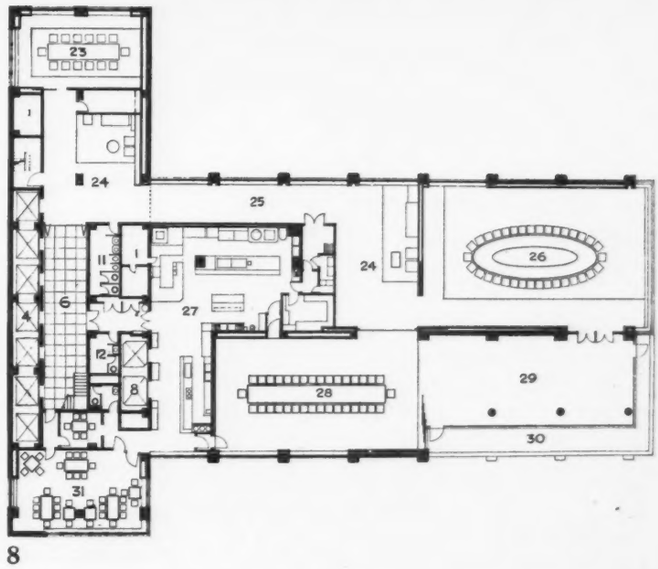

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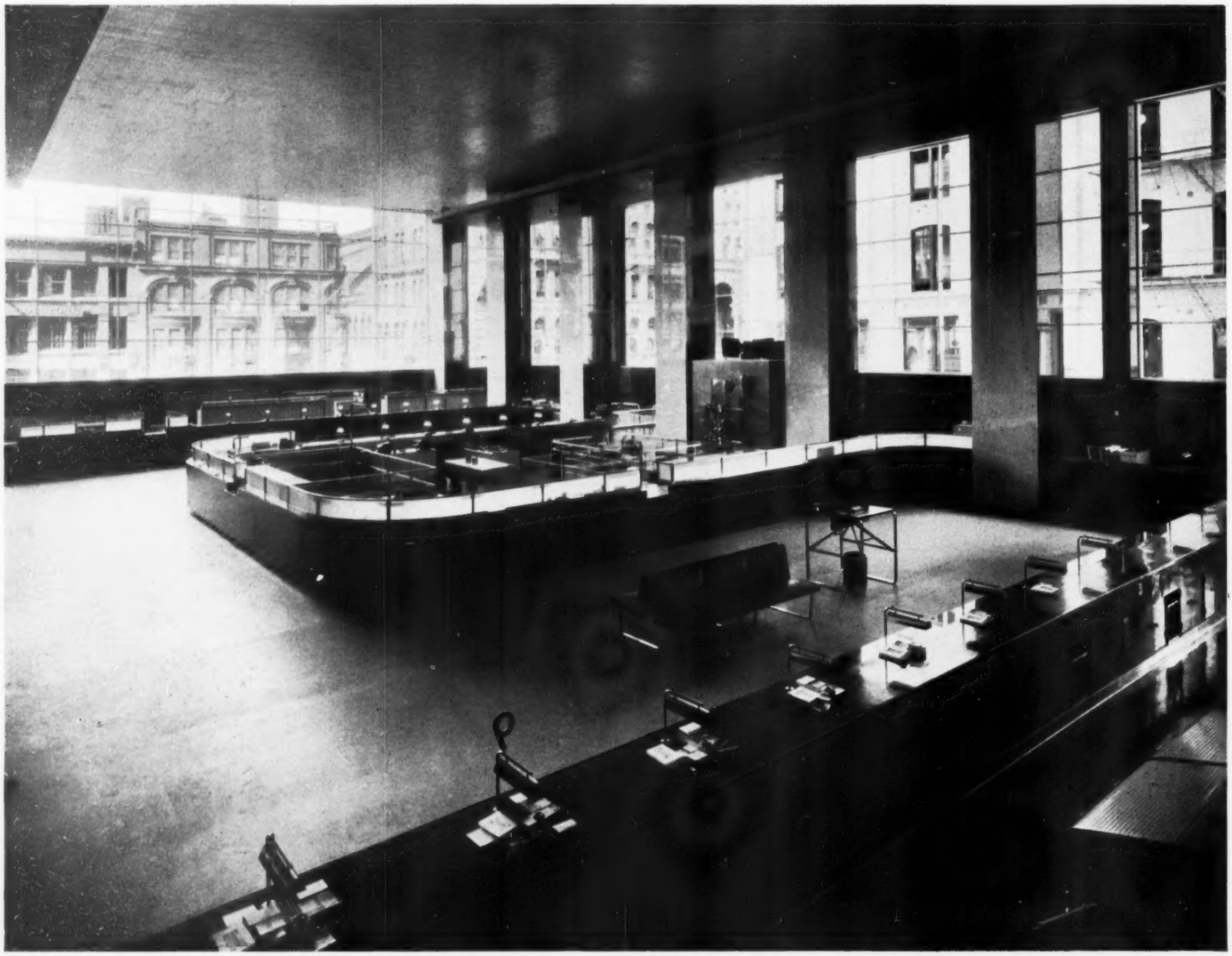
PHILADELPHIA S.F.S. BUILDING



9

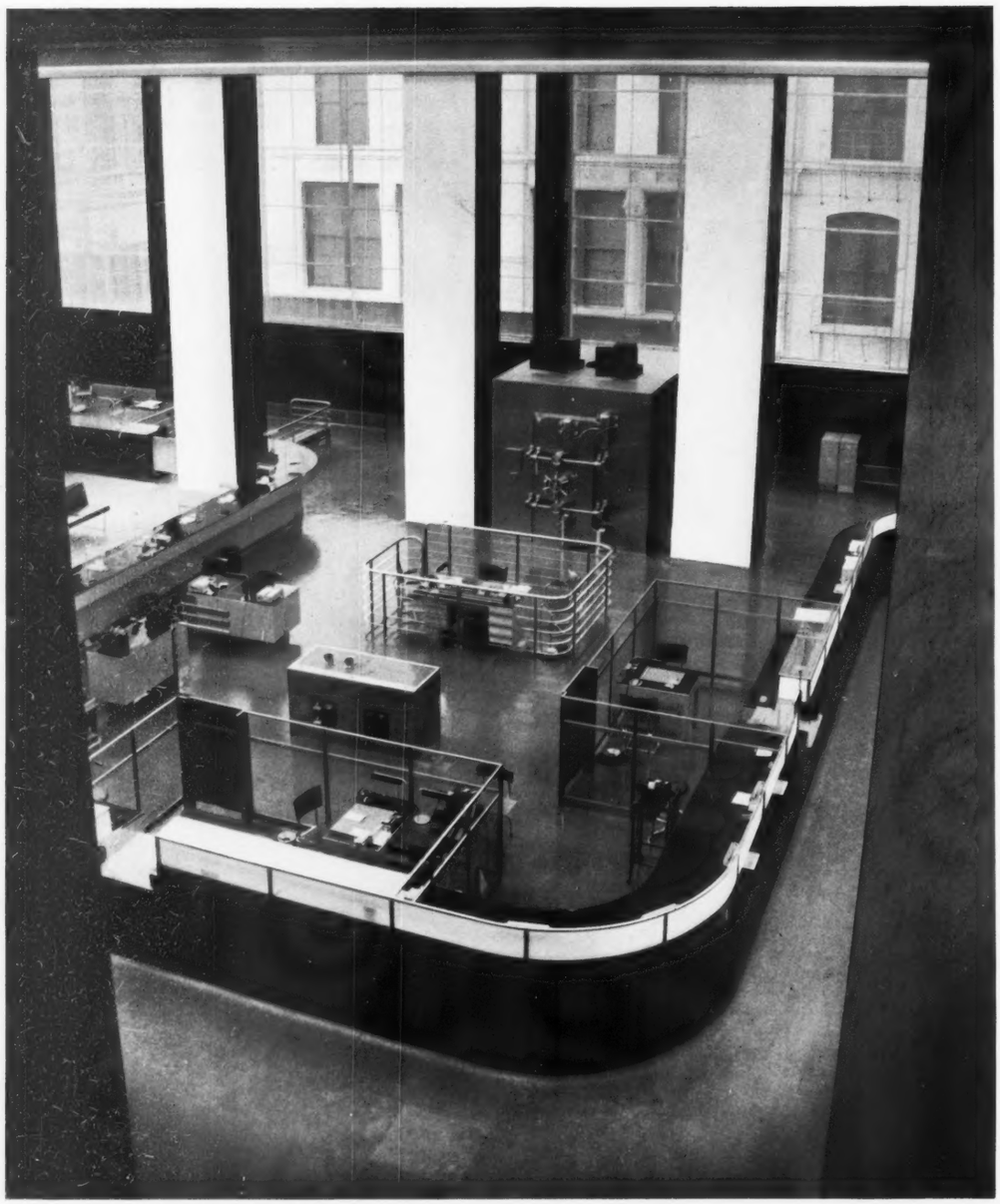
10

The Main Banking Hall (**9**) has a floor to ceiling height of 30 ft., with 22 ft. height of glass framed in aluminium sections on practically the whole of two sides. The flat expanse of the suspended ceiling, which is faced with small squares of white-painted perforated acoustic tiles, and the huge main columns which expose their alternately white and black polished marble surfaces to the flood of light, convey a sense of simple and impressive grandeur which is unique in modern architecture. Every detail of equipment, desks, chairs, clocks, inkstands, lavatories, basins, urinals, faucets; the sound-proof office partitions and the ceiling baffles which combine both lighting and ventilation units, were specially designed by the architects. Between the central piers is seen the main safe with the cashier's enclosure immediately in front. **10** is another view of the cashier's enclosure, looking towards the 1st and 2nd mezzanine balconies, with the safety vault door open on the extreme left.

11

The balconies to the first and second mezzanine floors, leading to the smaller offices of the bank. The balcony fronts are faced with Sienna marble, the soffites with white acoustic tiles and the walls under the first balcony are of black marble. Above these floors is placed a third and windowless "mezzanine," enclosing the 63 ft. span plate girders which carry the whole of the office floors over. Between these girders are situated, significantly, the main vaults of the bank and also the scores of thousands of safety-deposit boxes protected by specially designed automatic electric devices.

PHILADELPHIA S.F.S. BUILDING

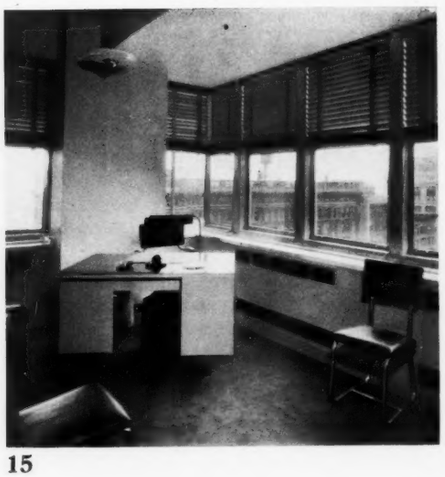


12

12 is a closer view of the main safe vault in the banking hall, with the cashier's enclosure immediately in front. This vault is used to house the cash and securities of the day, and occupies a significantly unsecretive position in the layout of the banking hall, all the impressive solidity and mechanism of the safe doors being frankly visible. **13** is the ground floor lift lobby. The doors are of stainless steel with a facing of dark, variegated grey marble filling the spaces between. The band of indirect light over the doors is reflected from a strip of white marble. **14** and **15** are typical offices with furniture and fitments designed by the architects. The standard equipment includes grey Venetian blinds, aluminium windows, flush movable partitions of enamelled grey and lighting fixtures designed to produce an average intensity of 21 foot-candles.

13

14



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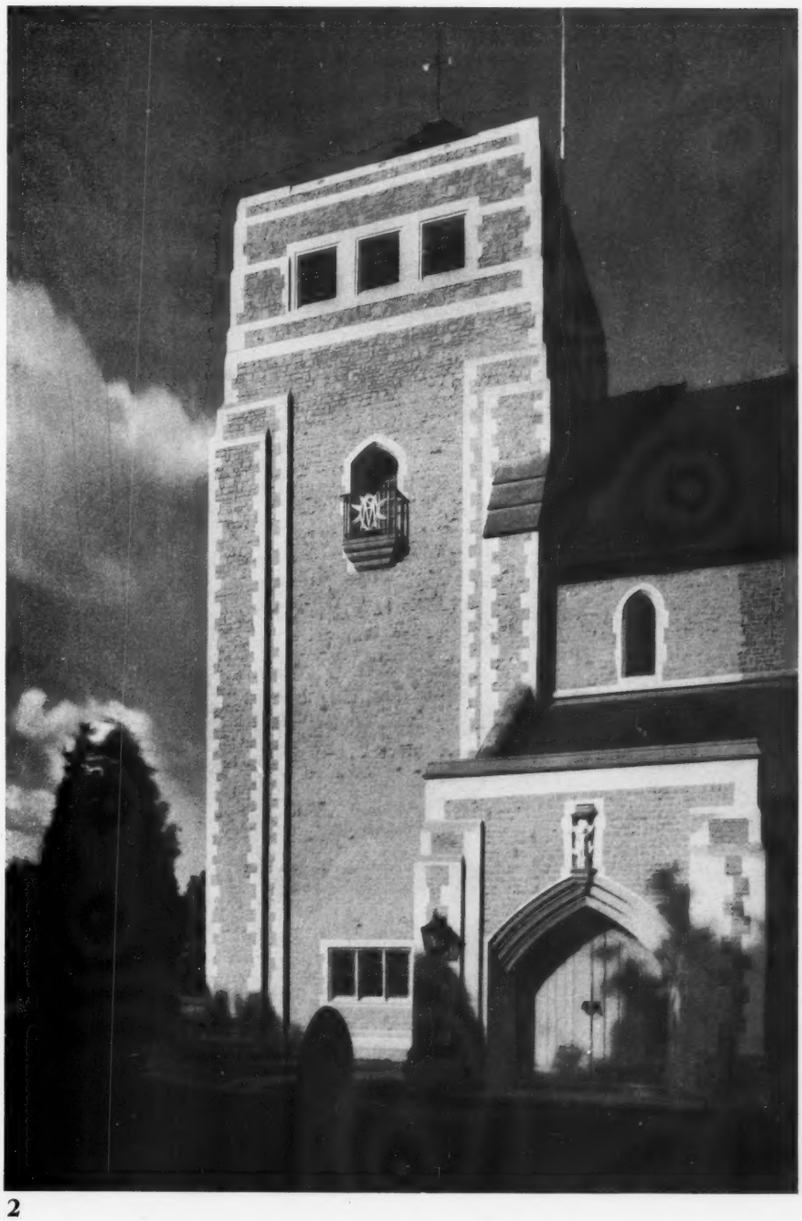

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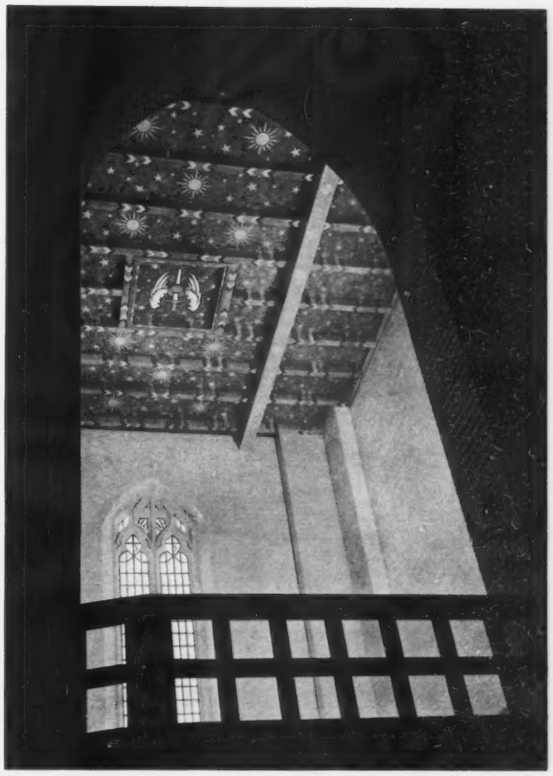


3

A NEW CHURCH TOWER IN HANTS

ARCHITECT · EDWARD MAUFE

1. A view of St. Mary's Church, Liss, Hampshire, from the north-west, showing the new tower which has been added by Mr. Maufe to the church, built in 1892 by Sir Arthur Blomfield. **2.** The new tower and porch from the south-east. The walls are built of Bargate stone with Bath stone dressings similar to those of the old church. The stone figure over the porch was carved by Eric Gill. **3.** Looking up to the gallery in the tower. The ceiling is of oak which has been partly painted in blue, green, grey and gold. The walls are an opaque cream slurry to match those of the chancel.

A London Planning Board

By The Editor

THE following pages contain matter which will be unfamiliar to readers of THE ARCHITECTURAL REVIEW, but which, for all that, is of the utmost importance to those thousands of competent English architects who have been deprived of employment and the means of subsistence through the present lack of co-ordination between landowners, town planners, engineers and building contractors.

Look at what has happened to London. The decline of the coal industry, which grouped considerable populations in the North of England and in South Wales, has largely been counterbalanced by the reorganized power of electricity on "The Grid" system, so that a manufacturer may now set up his factory in almost any part of England he likes. The slump in the industrial North has driven thousands of people and several industries to London. And London, where it has not been unprepared, has been greedy, allowing speculative builders to create slums anyhow over the home counties and imagining that this new London will gradually spread until it absorbs all England; and where it has not been greedy, London has been foolish, attempting to realize the pre-raphaelite vision of separate groups of industrial people living and working in Morris-like communities divided from each other by almost wholly imaginary tracts of unsullied countryside. Yet a single glance at the folding map of merely the central area of London will show, by the black patches which indicate factories and industrial buildings, that industry has already centralized itself in the Metropolis. A further map of the outskirts of London would show that even more factories exist, making the North West of London a new Lancashire and the docks and Thames side almost as far as the coast, which deal with 40 per cent. of England's export trade, a shipping and industrial centre of greater importance than any other coastal town in the country. And this industrial development has come to London with very good reason, because London can offer unrivalled opportunities for the distribution and consumption of products. The decentralization of industry in London cannot be dealt with within an artificial boundary, but involves a plan of distribution of industry and population throughout the South-eastern regions.

What is needed is not a decentralizing Town-Planning Committee trying vainly, with thin cultured fingers, to thrust away forces which cannot be impeded, but a London Planning Board which shall organize the stable resources at present struggling for existence in the Metropolis, which will segregate the industrial, commercial and residential areas that are now, as the maps show, so tangled up; which will open up traffic routes between them; which will do away with slums, and which will cope with landlords.

For all these diverse but essential functions there are institutions in existence.* A list is appended of all the associations and societies which have long been trying to deal with the various problems or which certainly ought to deal with them. A London Planning Board *must* be formed which shall co-ordinate and control these various official and unofficial activities. The state of affairs is indeed insane which allows them to work away at their various functions unaware of what their neighbours are doing. The Bethnal Green Housing Committee may spend an immense amount of hard-got money in building a block of handsome workers' flats in a district which has been scheduled by some other association as particularly suitable for factory buildings.

The first area to be considered is, of course, Central London, for if we follow a policy of Centralization, reorganization at the heart of things comes first. It has naturally been impossible to provide solutions in these pages to a problem which has not yet been analysed by authorities far more fitted for performing the task than architectural journals. But it has been possible to show by maps and illustrations some of the causes which have given rise to the problem itself. Mr. Dent outlines the method of dealing with the congestion in Central London.

By way of corollary to the general theory, Miss Denby contributes a second article which shows how the squalor of Kensington can be solved by the adoption of the advisory plan illustrated on page 116.

But none of these schemes can be attempted without the co-ordination of the landlords, economists, architects and town planners concerned. Private enterprise has surely learned its lesson. All England is looking at, flying to, and depending on London, a good many eyes are looking at England, and London is rotten at the core. Its reorganization is not an affair of municipal councils and local associations, but of a London Planning Board which should be established by Parliament—by a dictator—or by a revolution.

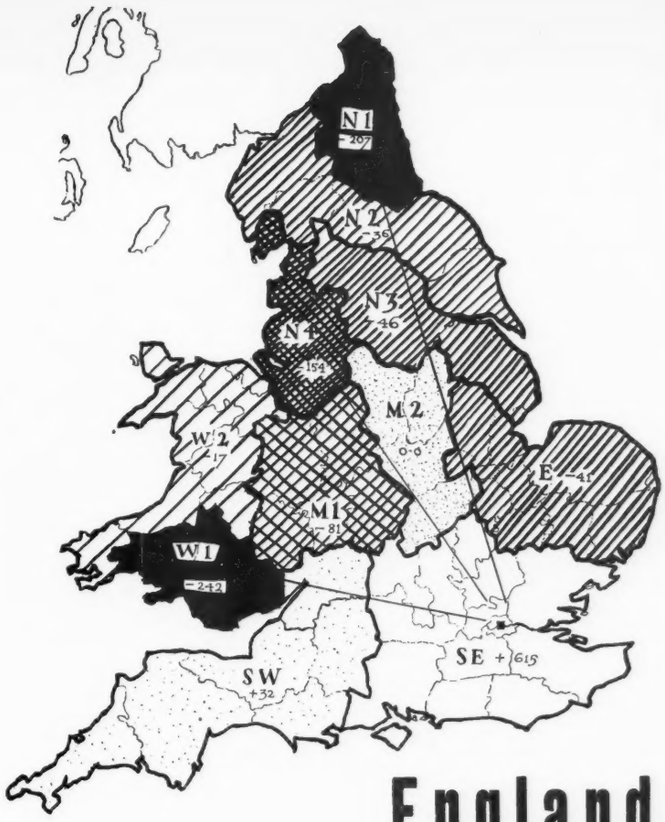
*** BODIES CONNECTED WITH THE ORGANIZATION OF LONDON**

OFFICIAL OR SEMI-PUBLIC

Government Departments—
Ministry of Health
Ministry of Transport
Ministry of Labour
Ministry of Agriculture
H.M. Office of Works
Ancient Monuments Board
Home Office Board of Trade
Municipal—
London County Council
Home Counties County Councils
Metropolitan Boroughs County Boroughs
Urban Districts Rural Districts
Regional Planning Bodies (Advisory)
Lea Conservancy Board
Port of London Authority
Thames Conservancy Board
Greater London Regional Planning Committee (Advisory)
Ordnance Survey
Electricity Commission
Central Electricity Board
The Underground Group
Railway Companies
Gas Light and Coke Company
Metropolitan Gas Company
Metropolitan Water Board
Royal Commission on Historic Monuments
The Building Research Station (Watford)
Royal Commissions on Thames Bridges
L.C.C. Committee on Charing Cross Bridge
Ministry of Health Com. on Unhealthy Areas
Ecclesiastical Commissioners
Forestry Commissioners
Duchy of Cornwall
Duchy of Lancaster
The City Corporation
The Bridge Estates Committee
Royal Commission on London Squares
Aerodromes Committee
Royal Fine Arts Commission
Royal Academy of Arts
Royal Society of Arts
Society of Antiquaries

UNOFFICIAL

London Society
Le Play Society
London School of Economics
The New Survey of London Life and Labour (Chas. Booth) (London School of Economics)
Toynbee Hall
Town Planning Institute
R.I.B.A.
Institute of Civil Engineers
Federation of British Industries
Institute of Municipal and County Engineers
Sanitary Institute
Surveyors' Institution
London Museum
Royal Geographical Society
Statistical Society
Geological Museum
Society for the Protection of Ancient Buildings
Council for the Preservation of Rural England
Garden Cities and Town Planning Association
National Housing and Town Planning Council
The International Federation for Housing and Town Planning
The Commons and Footpaths Preservation Society
The National Forest
The New Britain Group
Air Surveys Limited
Thames-Side Development Committee
Local Preservation Bodies, e.g., Ruislip Civic Association
Local Archæological and Historical Societies
Local Housing Associations and Trusts
Trade Unions
Technical Papers and Publications
City Companies
Church Organisation Society and other Religious Bodies for Social Work
Bankers' Industrial Development Company
Industrial Federations
Political and Economic Planning



This map of England shows the migration of people from the North of England and from Wales to the South-east and South-west. The figures under the lettering show the change in population in thousands in the ten years from 1921 to 1931. The results have been calculated from a comparison of the census of 1921 with that of 1931. The Midlands have relatively declined in population. The South Wales coal area has lost 242,000 inhabitants. The Eastern part of the Midlands has alone remained static. It should be emphasized that the figures given on this map show the net gain or loss by *migration* in each region—i.e., the difference between the *actual* intercensal increase or decrease, and the *natural* increase or decrease (births over deaths). While registering the net gain or loss of population, it bears no relation to the actual magnitude of separate or outward movements themselves. The percentage gain or loss, by migration, in relation to the whole population of the various districts may be judged from this table.

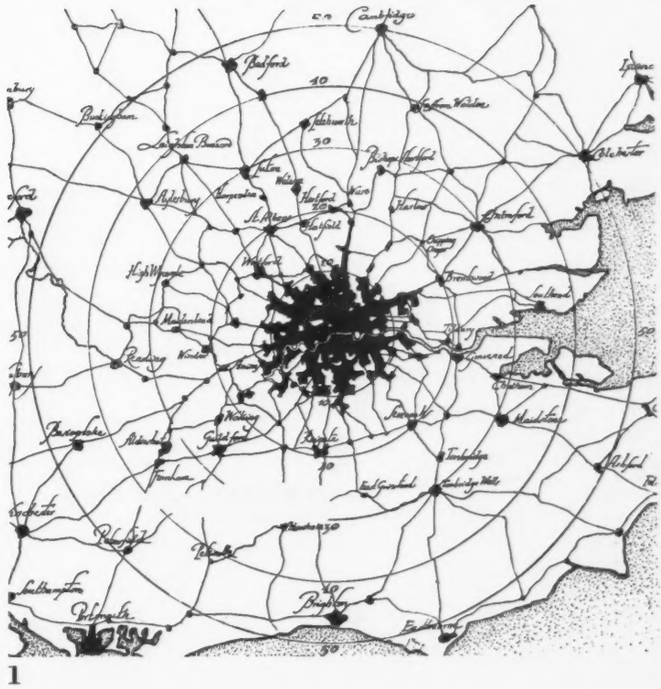
GAIN OR LOSS BY MIGRATION

Region	Counties	% of 1921	Region	Counties	% of 1921
South-East:			Midland:		
	Beds, Bucks, Berks, Essex, Hants, Herts, Kent, London, Mddx., Oxford, Surrey, Sussex	+ 5·0	M.1 ..	Gloucs, Hereford, Salop, Staffs, Warwick, Worcester	− 1·9
Northern:			M.2 ..	Derby, Leicester, Northants, Notts	0·0
N.1 ..	Durham, Northumberland	− 9·3	East ..	Cambridge, Hunts, Lincs, Norfolk, Rutland, Suffolk	− 2·3
N.2 ..	Cumberland, Westmorland, Yorks, E.R. and N.R. ..	− 2·9	South-West	Cornwall, Devon, Dorset, Somerset, Wilts.. ..	+ 1·6
N.3 ..	Yorks, W.R. and York, C.B.	− 1·4	Wales: W.1 ..	Brecknock, Carmarthen, Glamorgan, Monmouth	−12·3
N.4 ..	Cheshire and Lancs ..	− 2·6	W.2 ..	Rest of Wales	− 2·5

The approaching stabilization of the population, confidently anticipated by statisticians, at the middle of this century, will probably correspond with the tendency, already observable, towards a decline in the heavy industries and a corresponding increase in the light. For this reason the labour force employed will be considerably transferred. The lighter industries, which are congregated more or less in the south, will tend to make the southern region the prominent industrial centre of the country and London, by reason of its geographical position, the heart of all. The new "Grid" system of electrical power will provide the means, however, for a more diffused distribution of industry than was possible in the coal era.

England is marching

—on LONDON



As will be seen from the map above, the South-east of England has increased by 615,000, by migration alone, in the last ten years. London has had ten cities as large as Oxford added to it in that time. The detailed map on the right, of its consequent development in relation to the coast line, shows what a sporadic and haphazard affair this change has been. All the main arteries are thick with industrial and residential developments, necessitating still more circular road systems. This is just what should not have happened as main outlets from the Metropolis should serve as traffic ways, not as High Streets. Moreover, towns like Brighton, Watford and Chelmsford, Reading and Luton, have become substitutes to London. London has spread herself out like an Octopus instead of reorganizing, within herself, the new forces with which she has been endowed. Here are a few comparative statistics. The left-hand column shows the actual gain in percentage of the 1931 census on that of 1921 in population. Thus Dagenham tops the list with an increase to nearly nine times what its population was in 1921, while Rhondda, in South Wales, has decreased by 13 per cent. The left-hand column contains districts now included in Greater London, while the right-hand column shows the actual decrease of towns in other parts of England.

STATISTICS 1921—1931

Dagenham	+879·1%	Rhondda	−13·1%
Hendon	+101·1%	Merthyr Tydfil	−11·3%
Mitcham	+ 61·9%	Barrow-in-Furness ..	−10·6%
Heston and Isleworth ..	+ 61·7%	Burnley	− 4·8%
Ilford	+ 53·8%	Salford	− 4·5%
Barking Town	+ 44·3%	Wigan	− 4·5%
Southgate	+ 42·0%	South Shields	− 4·3%

1

FOLDING MAP (2) OPPOSITE—Surface Utilization of Central London.

The map has been prepared under the direction of the London Society in consultation with other bodies. Most of the information was obtained by architects working "on the ground" using as a base the material in the L.C.C. 6 in. maps of London.

The section reproduced above shows examples of the three main divisions of the urban landscape: residential, commercial and industrial. Industrial and commercial areas predominate, while the only "pure" residential district is Kensington. Unfortunately the map obscures this since garages and mews appear as industrial units. Buildings such as garages and builders' yards used for purely local purposes and not manufacturing or warehousing a saleable commodity should really have been shaded in a different manner.

The commercial area, which is shaded with dots, consists of the whole of the City and extends beyond its boundaries to include the greater portion of Westminster. Shops and hotels, clubs, theatres and cinemas are also included in the commercial category so that most of what is usually called the West End appears as an extension of the business area. The map therefore clearly shows the bi-functional nature of the nodal area of the Greater London conurbation.

To the north, south and east of the City the area is predominantly industrial. A glance at the Overcrowding Map (see Maps 4 and 5) will show that the industrial areas are also the most overcrowded areas. This makes clear that the desire to live near one's workplace is one of the chief underlying causes of the dreadful overcrowding in Central London. To withdraw either the people or the factories to the Outer area of London separately provides no solution of the problem. They are functionally connected with each other and their immediate surroundings.

The drastic replanning of the central area and the rebuilding of the units of residential occupation is much the most satisfactory solution. This view, however, cannot be elaborated here.

PLATE II

March 1933

What Central London Needs

By ALWYN R. DENT

FROM the earliest times London has possessed a duality of centres—poised about the site of the "City" and Westminster—and upon these two points the Roman roads converged. Between these two points the V-shaped bend of the river occurs, with Charing Cross as the literal* *turning point*—the actual nodal point of the road system being situated in the *natural* centre of London, about the Elephant and Castle, to which they draw together as in a knot.

But the destinies of the North bank and the South bank have been very different. The City and Westminster drew together along the Strand highway. Later the outward growth enveloped the old villages adjacent, many of them still preserving once local features. Later still came the development of the south side—a neglected marsh until well into the eighteenth century. Then the industrial revolution and a torrent of sporadic building activity, naturally carried along the only road system available—the radial roads—leaving interstices, for various reasons untapped by road or rail. These it remained for the even greater torrent—in relation of momentum to time factor, of still unregulated post-war development—to fill in, and to spread far beyond the limits of London County,† which, for example, has added a "town" of 300,000 to Middlesex alone.

The vital point to consider is that in all probability the rush from the interior congestion to the outer fringe and the influx from the rest of the country have only just begun and may soon assume a more formidable aspect. The approaching stabilization of the population can only mitigate to a small extent a migration which arises from economic unbalance of the national framework.

This re-stabilization or national re-orientation, the key to which lies very largely in the wise development of the national electricity power plan and of the agricultural resources of the country, is a matter for a National Plan, and beyond the immediate purview of the London or any other Region. As far as London is concerned, the solution must lie in two complementary processes, which may be called *Re-integration* and *Sub-Centralization*, the former applying to the welding, unravelling and reshaping of the inner core, and the latter to the redistribution of population and industry amongst subordinate units, whether existing or to be established at key points. It therefore remains to be ascertained, as far as industry is concerned, what can be advantageously sub-centred, and what is functionally pertaining to the central unit, or of purely local significance. This is, moreover, not a matter of extreme logic: a central nucleus, if such were possible, consisting merely of administrative quarters, business premises and amusement centres, is not a city at all, but a monstrosity. What gives interest to London is the diversity of character of its quarters without extreme sectionalization. It is necessary to separate what is essentially *London* and what is, in a sense, parasitic growth. The process of *urbanization* therefore requires primarily the removal of obsolescent industrial areas and their concomitant slums from the central urban district where they have too long continued to function as a legacy of a past industrial confusion.

If this matter is to be dealt with in a fundamental way, merely sporadic improvements, whether of slum clearances, by-pass roads or satellite towns, can only have a minute effect on the whole muddle. Those improvements which relate to the *functional needs* of London are of the first and prime importance.

A starting point is needed; and that starting point is nowhere else than at the *nodal centre* of London. There is needed a re-integration of London about its third prime centre, resolving its natural duality. Conversely, there is needed a sub-centralization of such activities as can be reasonably located without the sphere of the central complex—with this consideration, that the radius of such sub-centres may extend to a far greater distance than can be limited by any present artificial boundaries around Greater London.

Taking the essential developments according to some approximate schedule, we have :—

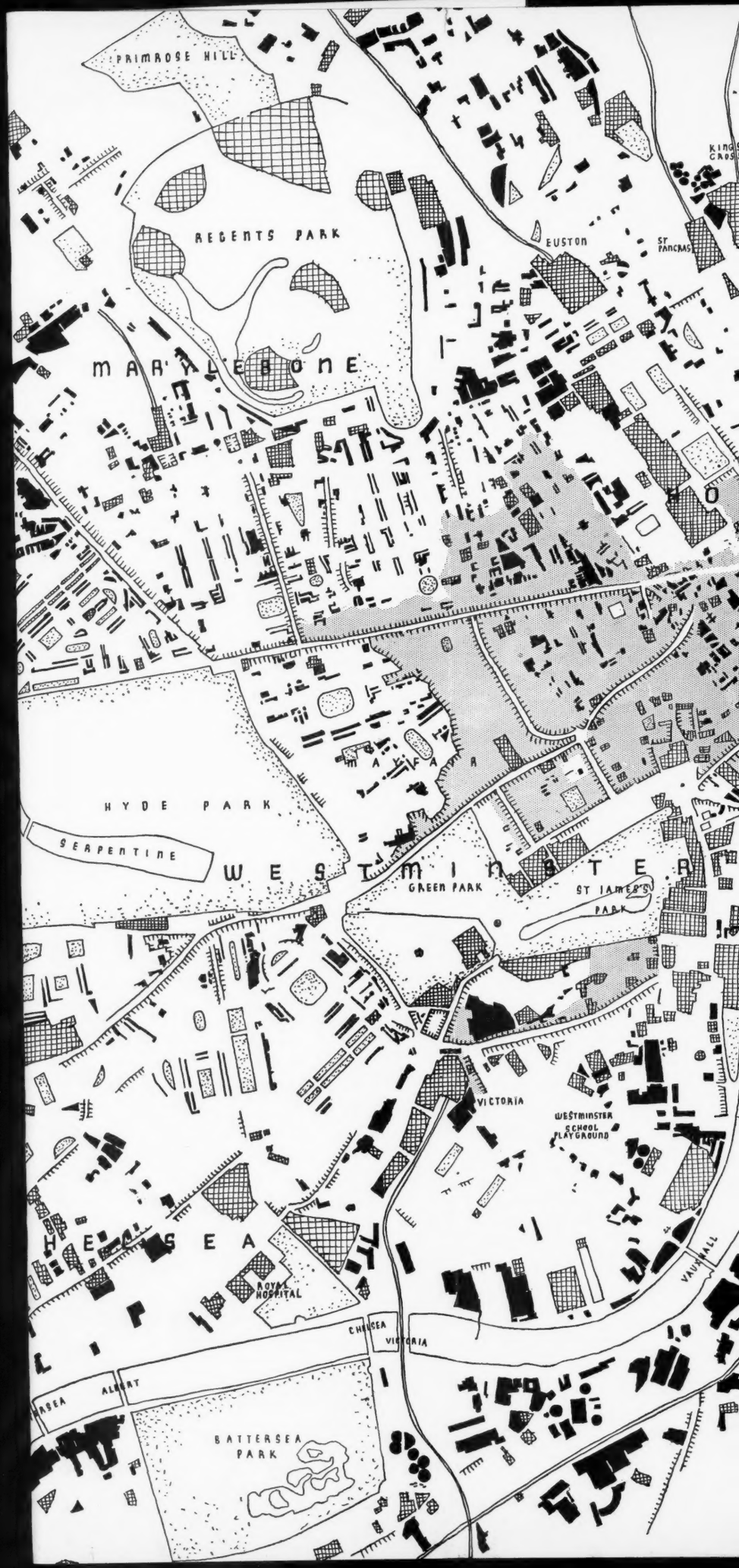
(1) Those relating to the improvement and functioning of all that pertains to London as a port, and its connection to the main stream of S.E.-N.W. traffic towards the Northern and Midland centres, i.e., the Dock approaches and roads bearing N.W. from the docks, as well as improved access to the City (now being constructed).

Following this, the concentration of industrial development as far as possible along the natural line of the Thames estuary to the outport, Tilbury, involving a publicity and development campaign on the lines set forth by the South Essex Regional Report and the Thames-side Development Conference, including housing, main roads and release of obsolescent Government property on the foreshore for industrial development.

* "Charing" = turning; *vide* Charing in Kent, turning point of the main Dover Road.

† *Vide* South Essex sporadic developments—Laindon, Pitsea, etc.—and Biggin Hill in Kent.


LONDON
INDUSTRIES OF ALL KINDS · FACTORIES
GARAGES · WAREHOUSES · LAUNDRIES ETC
GOVERNMENT BUILDINGS · SCHOOLS · CHURCHES
PASSENGER STATIONS · TOWN HALLS · LIBRARIES
THEATRES · CINEMAS ETC
SHOPS · BUSINESS HOUSES · CLUBS · HOTELS
BANKS · PUBLIC HOUSES ETC
PUBLIC OPEN SPACES · LONDON SQUARES
· GENERALLY RESIDENTIAL WHERE WHITE ·
PRIMROSE HILL
REGENTS PARK
MARYLEBONE
PADDINGTON
KENSINGTON GARDENS
HYDE PARK
SERPENTINE
KENSINGTON
WESTMIN
GREEN PARK
HOLLAND PARK
ALBERT HALL
OLYMPIA
SOUTH KENSINGTON
QUEENS CLUB
BROMPTON CEMETERY
THE SEA
ROYAL HOSPITAL
CHELSEA
VICTORIA
BATTERSEA
ALBERT
BATTERSEA PARK
WEST FULHAM
Palmer 1933


PRIMROSE HILL
REGENTS PARK
MARYLEBONE
EUSTON
ST PANCRAS
HYDE PARK
SERPENTINE
WESTMINSTER
GREEN PARK
ST JAMES'S PARK
VICTORIA
WESTMINSTER SCHOOL PLAYGROUND
CHELSEA
ROYAL HOSPITAL
VICTORIA
ALBERT
BATTERSEA PARK
VAUXHALL


KINGS CROSS
ST PANCRAS
SHOREDITCH
HOLBORN
CITY OF LONDON
LIVERPOOL STREET
ST. PAULS
CANNON STREET
BLACKFRIARS
SOUTHWARK
LONDON
TOWER
WATERLOO
HUNGERFORD
WATERLOO
LONDON BRIDGE
WESTMINSTER
LAMBETH
SOUTHWARK
VAUXHALL
OVAL
KENNINGTON PARK

(2) The total replanning of the South Bank of the River between Lambeth and London Bridge, involving possible new bridges at Charing Cross and Aldwych (in connection with Waterloo), the reorganization of the Southern Railway lines and termini, the removal of industries and warehouses as far as possible, and its establishment as a business centre.

The development of the South Bank should now become a business proposition, as well as a vital civic and national concern.

1. The key to its solution is in the hands of the Southern Railway Company. Replanning would be co-ordinated with immediate and long-term plans for the reorganization of their termini and suburban lines—at present distributed over a maze of viaducts into six different termini—in conjunction with the underground and road transport services.

2. It contains an area of immense potential value as a business, hotel and even residential centre which would draw off some of the congestion in the "City," which cannot be solved by replanning that area, even if economically possible.

3. It contains at present industrial works, factories and warehouses which are a survival of obsolete Victorian planning, many requiring reconstruction or extension at an early date, and for which equally or more convenient location can be found elsewhere. Further, in Southwark, for example, it has been found that at least 36 factories and workshops employing about 5,700 workers have been established since the war; and in Lambeth 35 factories with about 3,150 workers. This is a development which should never have been allowed (although many of these are small local workshops, etc.).

4. It contains some of the worst slums in the unhealthy areas (see maps) of London whose rehousing is imperative. Re-development in this case should be a reasonable proposition for large-scale building activities, including rehousing in well-designed flat-blocks, and housing in conjunction with the down-river decentralization of the industries.

5. Under the Town and Country Planning Act there would presumably be a definite case for a scheme for this "land already built upon, where public improvements are likely to be made," on the part of the London County Council (and the Lambeth and Southwark Borough Councils in particular).

6. It is the area immediately surrounding the London County Hall, whose site was decided upon 25 years ago, after much opposition, in order to encourage the development of the South Bank, and where it has remained so far in solitary grandeur.

7. It is the key, through Charing Cross Bridge and approaches, not only to the replanning of the south side, but to the northern approaches and improvements rendered necessary in every direction. It is the lever for the replanning of London, and, logically followed out, its repercussions would extend throughout the whole metropolis to the outermost districts.

From the essential replanning of this civic and road traffic nucleus, for which numerous detailed suggestions have been put forward, particularly in connection with the Charing Cross Bridge Committee's Report, the replanning of the surrounding urban district follows. There is no doubt that a long-term planning view indicates the eventual sinking of the whole railway system and a central terminus midway between Waterloo and London Bridge, connected to the Northern termini, and the removal of the Charing Cross–Cannon Street loop line and termini. If, however, a riverside terminus and the retention of the viaduct system is insisted upon by the railway company, the transference of the station, the new bridge and embankment would be a first step in planning, and in themselves would not prevent more drastic developments in the future.

As the whole system of the London main roads is built upon a radial framework, the corresponding need is for a system of circular and orbital arteries, not only for by-passing and other communications but as part of the process of *re-welding*, and providing the only possible tangible boundaries of delimitation between various categories of development, urban, sub-urban and outer.

A recognition of this principle is furnished by the half-completed "North Circular" and the recently begun "North Orbital" roads—one at about six miles from the centre, and the other along a wide radius of about 20 miles out. These need to be supplemented by a *medial orbital* road—the outer road being too eccentric for many purposes of communication—and another actually within the built-up area, within which the urban area proper may be supposed to exist, together with their complementary arteries on the southern side, and efficiently linked with essential communications to the Docks and Thames-side Industrial area.

The three important points—Camden Town, Aldwych and the Elephant and Castle—are, further, located on the main axial line which indicates the SE—NW directional axis of the road framework. The first and the last require complete by-passing systems, and the Aldwych complex indicates a complementary twin-bridge to Waterloo. Euston Road, which crosses the main axis at right-angles, is a fragment of an early boundary road scheme; and its Western and Eastern continuations require to be opened up towards the incompleted "Western" and "Eastern" Avenues,* as well as an improved connection to Aldgate and the Docks.

With regard to the main radial arteries, these are in practically all cases far too narrow for traffic, particularly in central shopping areas; and the expense of widening, attempted in some cases, generally uneconomic. The development and widening of the parallel secondary arteries which are found in many cases to exist behind these streets would appear to be a sounder proposition, together with the obvious replanning of many very unsatisfactory and closely built up traffic junctions. At present uneconomical building development is going on in many cases in narrow thoroughfares with higher buildings in the maze of alleys which still continue to exist behind the main thoroughfares. Very often there are to be found old village streets or centres hidden away—as Broad Street, Soho, which could be opened up by cross-connections for traffic (page 114).

If we consider the main roads of London, however irregular, as the "main girders" as it were of the system of construction and the various subsidiary arteries as the infilling joists, we shall probably come to the conclusion that there are considerable difficulties in altering and strengthening the main beams, but that there are considerable areas now filled with irregular shapes which might well be reinforced with cross girders. In other words, there is building going on behind the main streets of higher buildings without any regard to the narrowness of the back streets, many of which should be only for pedestrians, nor in fact to the higher building values which would result were the street widenings or new connecting arteries be made to intersect these areas.

Replanning must include co-ordination of the London market system, and improvement of distribution facilities and road approaches thereto. There is the case of Covent Garden Market, whose site has been condemned as an anachronism and is unrelated to main road and rail facilities—and which is further a prime cause of traffic congestion passing along Waterloo Bridge across the Strand—particularly by slow-moving horse-drawn vehicles. This should be transferred to the southern bank area. Mean-

*Projected by Ministry of Transport, as also Elephant and Castle traffic circus.

while, the proprietors are entrenching themselves further and proceeding with local planning on their own account, without much municipal planning control, involving demolition of the Opera House and other developments. The time has passed for a private company to continue such developments without regard to the general planning and convenience of London.

A policy of widening or creating *parallel arteries* would be a means of diverting the traffic off the main streets whilst enhancing the value of the subsidiary streets; and less costly than the alternative of main street widening. In spite of the attractions of underground and overhead expedients for reducing traffic difficulties, it seems more logical —except where the contours themselves make such a solution evident—to seek a solution on the ground plane, by sorting out the street plan, and to do this, and avoid heavy compensation costs, it is necessary to obtain the collaboration of building owners and landlords, or some pooling of individual resources, backed by municipal sanction, in order to deal with these problems on a bigger scale than has heretofore been generally possible.

There is another point of view. So far we have generally thought of the modern city as still consisting essentially of streets—i.e., traffic arteries—bounded on two sides in the vertical plane by "façades"—i.e., faces of buildings with the sky as a kind of ceiling to these long "corridors." But as the units of building tend to become larger, and blocks having four street frontages are designed as a unit, such types as the Underground building with recessed frontages and *cross-type plans*, and set backs at various levels would, carried to a logical conclusion, result in a number of vertically tapering buildings with projecting wings, each perhaps providing the accommodation of one ordinary street length, and standing in open spaces of various shapes, intersected by roadways.

In this conception, of course, the idea of a street as necessarily consisting of long façades punctuated by secondary streets, disappears entirely. The idea of using verticality as a means for greater architectural effect—and more economical units—together with a greater allowance of open space at the ground level, is one which in all probability will develop, but which, of course, must be used with great caution, and in relation to some clearly defined system of height and open space zoning.

What applies to the south bank reconstruction applies in a less drastic fashion to other sections of London, where slum clearance, reorganization of industrial development, zoning of business and residential height and usage are required, as well as co-ordinated with the major road and rail traffic improvements.

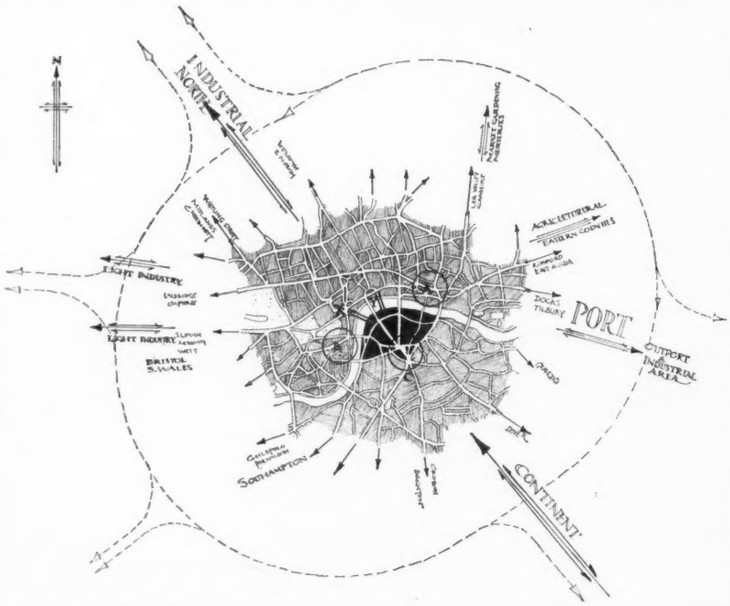
At the same time these various districts need to be dealt with by a right understanding of their diverse character and functions in relation to the whole. The essential London character is still the earthly stock brick or later stucco Georgian façade, and a great deal of the humbler type of this architecture—as well as its rich relations in the squares and terraces—would well repay redecoration and minor repairs without necessitating reconstruction. A continuation of the now lapsed, but the best local, system that was ever devised for London building—that of building around green "squares,"—but with higher blocks, where now rows of terraces exist, would provide great amenities in the inner districts, and counterbalance the continual tendency of moving outwards, leaving deteriorating property behind, and adding to the congestion of suburban traffic coming in.

The consideration of local characteristics is an endless task in London; the main point is the *integration* and urbanization by zoning and connecting links of an area to be definitely worthy of the nomenclature of a "City" and not in the local sense now so significantly employed in London. That area must include the south bank and also anomalous areas on the fringe of the centre, which are now neither suburbs nor part of the essential central core. This process does not mean the obliteration of significant local character, but rather a revivifying and more efficient co-ordination of the essential expanded urban nucleus.

The problem of the *sub-centralization* of some of London's activities and the restriction of suburban growth is outside the immediate scope of central replanning, involving the questions of rates and agricultural policy.

On the one hand we have need of an efficient urbanism, on the other a revitalized land. Between these two cardinal points there is no further place for straggling suburbanism or one-sided sporadic scattering of dwellings over the countryside.

The facts of the economic situation are that the planning of London, both inner reconstruction and outer development, has become more than ever a national concern. The whole of the economic framework is seen to be leaning upon this central pier: and the time has arrived to initiate a complete civic and regional reorganization.



MAP **3.** THE CENTRE OF LONDON. This map shows at once three of the chief problems with which those who must replan London will have to deal. The blacked-in part shows the present disorganized South Bank of the river. This is bounded by the three nodal points of London, A, the City; B, Westminster; the last, C, Elephant and Castle on the South Bank, for the roads from the South of England converge here and spread out to the North Bank to the City and Westminster over the bridges. The obvious "City of London" should not be merely the square mile area at A on the North Bank, but at least a mile North from the North Bank between A and B and the blacked-in area on the South Bank. This should be connected with the North Bank by an adequate system of bridges, not decided upon until the whole area indicated has been replanned. The third problem is that of traffic. Arrows show that the main stream goes S.E. to N.W. This, where it does not need to pass through London, and where it wishes to branch off to the West or North or North-east, should be diverted on to circular roads some distance out. Meanwhile the absence of connecting circular roads in central London between the radial arteries, is already indicated on the map.

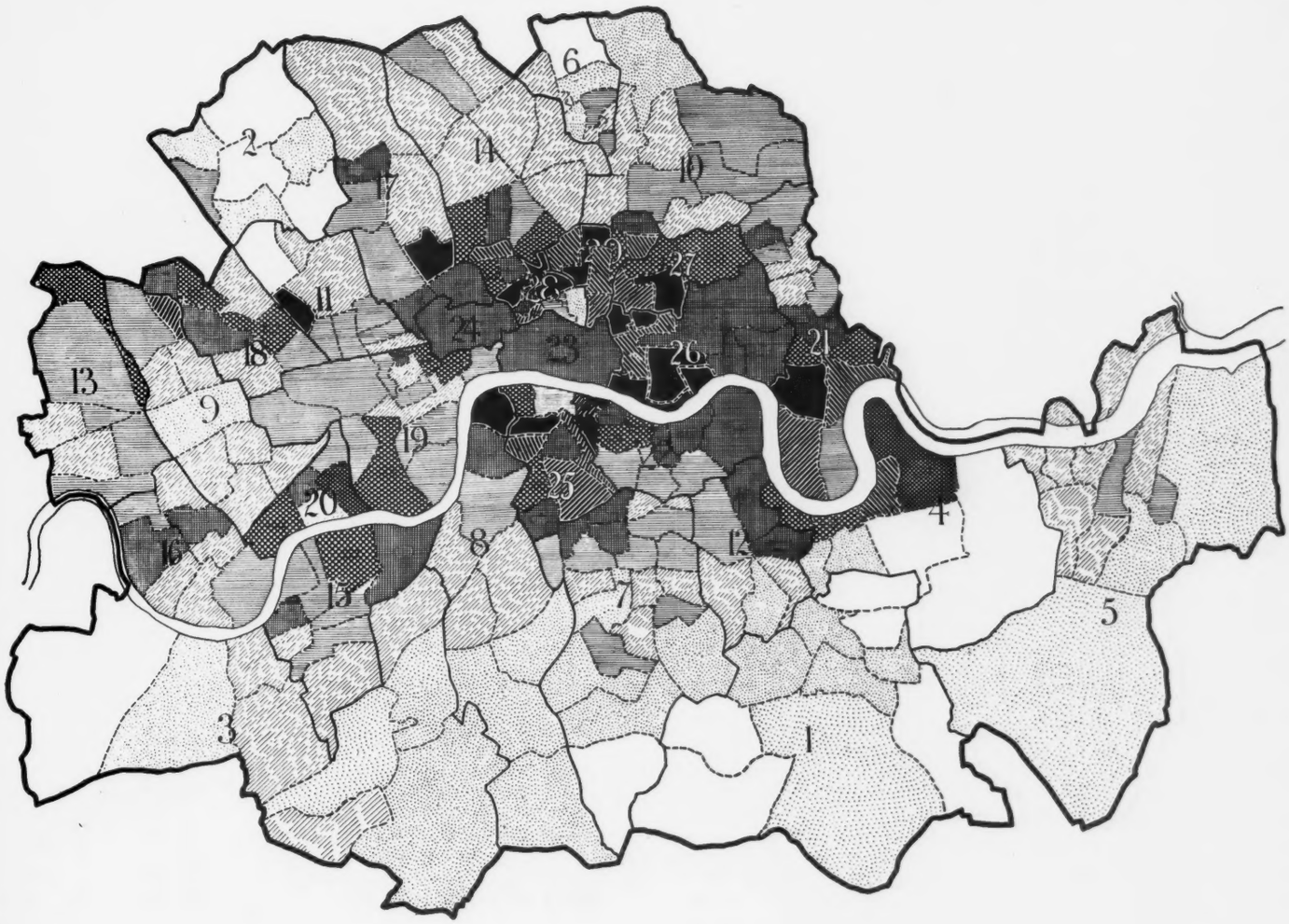
COUNTY OF LONDON
UNHEALTHY AREAS

(1) AREAS CONDEMNED BY THE MEDICAL OFFICER OF HEALTH AND RECONSTRUCTION SCHEMES NECESSARY . . . . .

(2) AREAS NOT REPRESENTED AS UNHEALTHY, BUT MAY HAVE TO BE DEALT WITH BY RECONSTRUCTION SCHEMES . . . . .

(3) AREAS CONTAINING A LARGE PROPORTION OF SERIOUSLY DEFECTIVE HOUSES, AND OTHERS IN FAIR SANITARY CONDITION, BUT FALL BELOW STANDARD

MAP 4. This should be imposed on the map below. Mauve patches must be replanned.



COUNTY OF LONDON

Density of Population per Acre

1 Lewisham	48	8 Lambeth	115	15 Battersea	172	22 Bermondsey	224
2 Hampstead	63	9 Kensington	122	16 Fulham	174	23 London City	240
3 Wandsworth	73	10 Hackney	127	17 St. Pancras	185	24 Holborn	243
4 Greenwich	75	11 St. Marylebone	139	18 Paddington	192	25 Southwark	279
5 Woolwich	93	12 Deptford	144	19 Westminster	193	26 Stepney	291
6 Stoke Newr.	96	13 Hammersmith	159	20 Chelsea	208	27 Bethnal G.	294
7 Camberwell	112	14 Islington	159	21 Poplar	208	28 Finsbury	306
		29 Shoreditch	318				

Density of Population per Acre in Wards

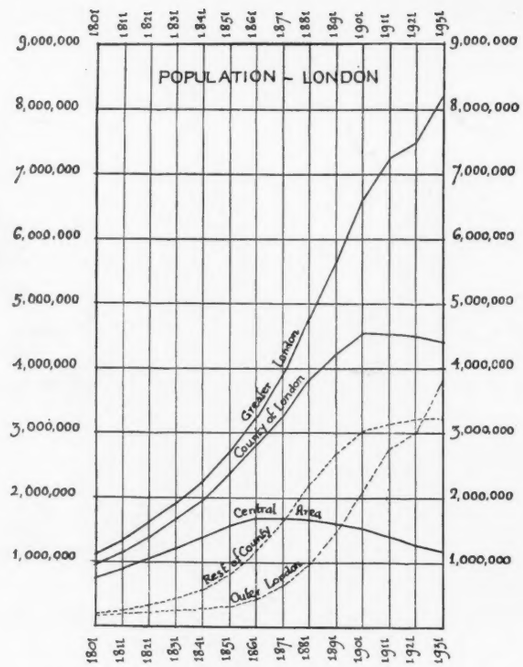
under 50	100 to 149	200 to 249	300 to 349
50 to 99	150 to 199	250 to 300	350 & Over

The "Nett" Density (as distinct from "Gross") which the figures marked on each Ward denote is that of the area only upon which there are houses used partly or wholly as Dwellings.

Maps 4 and 5.—The map on the tissue paper (4) shows the UNHEALTHY AREAS in the County of London; the map on this page shows the DENSITY of the same county. It must not be assumed that density in population always means overcrowding. For instance, Hackney is almost healthily housed. By putting the red tissue map over the blue density map all spots which appear mauve should be cleared away. Southwark and the South Bank of the Thames will immediately appear as a plague spot. This bears out Mr. Dent's argument that this part of the South Bank of the Thames should be replanned and incorporated by means of bridges with Westminster and the City, making a true circular "nucleus" of a Centralized London. A comparison of these maps with the folding map (Plate II) will show the present muddle existing between industrial and residential districts with their consequent effect on health and density and the need for replanning in other districts.

millions are streaming into London

Above : A traffic block at HYDE PARK CORNER showing the congestion of traffic, while at not far distant *Below :* BROAD STREET, Soho. A view taken at the same time of day as the photograph of Hyde Park Corner, shows a wide street practically disused. This is because the main roads are too narrow and the roads connecting them too few. Broad Street, if it were opened up, would prove an invaluable link between Regent Street and Shaftesbury Avenue.



"In Greater London 8,202,818 persons were enumerated, representing rather more than one quarter of the urban population and about one-fifth of the total population of England and Wales.

"The rapid urban development of the latter half of the nineteenth century affected London and the provinces alike. The continued depopulation of the rural areas reached its highwater mark about 1881 and thereafter diminished, ceasing for practical purposes at the turn of the century.

"The latest records, however, indicate that . . . . the London area is growing at the expense of the provincial towns . . . . " *Registrar General.* CENSUS 1931.

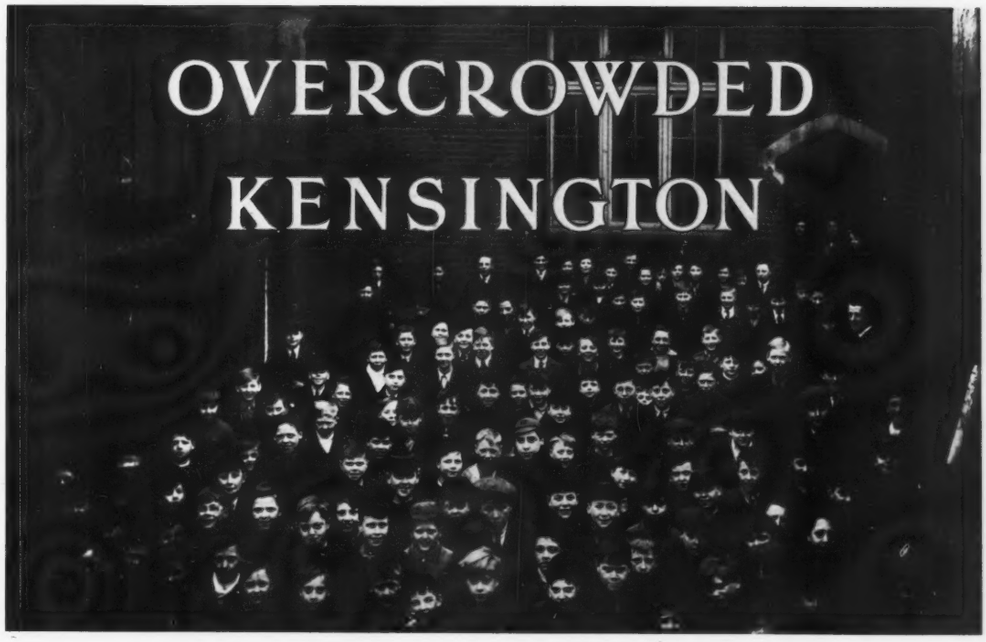
Diagram reproduced by permission, from the L.C.C. *London Statistics,* Vol. 35, 1930-31.

—to find it congested

—and its very centre

The South Bank of the Thames, "THE SOUTHWARK RIVIERA," taken from Shell-Mex House, showing the congestion between County Hall on the right and the Waterloo Road on the left. The greatest argument for reconstruction.

—unplanned



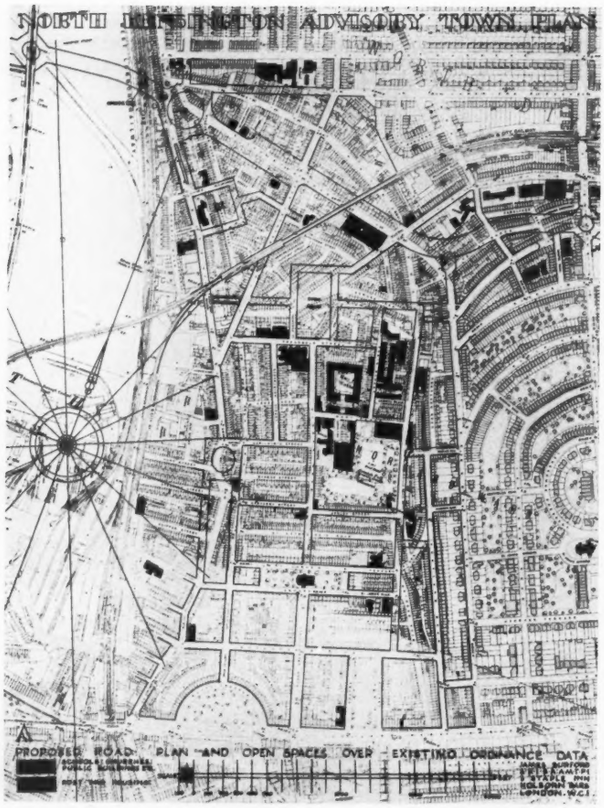
THE PLAYGROUND OF ST. JOHN'S CHURCH OF ENGLAND SCHOOL, HEATHFIELD STREET, NORTH KENSINGTON. This view shows the full extent of a playground for 160 boys, some of whom, for purposes of demonstration, have been wedged in it. The influenza epidemic had considerably reduced the numbers when this photograph was taken. Very near the School are the large premises of a brewery which has been derelict since before the war but which the owners are only willing to sell at an exorbitant price (Plate III).

In The Royal Borough

By E. DENBY

To the man in the street the " Royal Borough of Kensington " calls up a picture of prosperous citizens, solid houses, comfortable homes. But this is only half the picture. Another and equally real Kensington is to be found north of the Holland Park Avenue, housing a population of 93,362 persons against 81,438 in the southern half. Here live railwaymen, busmen, labourers, costers—people who are obliged to live near their work and who have found in Kensington conveniently situated but, alas, neither particularly healthy nor comfortable quarters for themselves and their families.

This large residential district is one of the four inner London Boroughs (the others being Hampstead, Lewisham and Wandsworth) in which the population had increased at the 1931 census. It contains some of the densest areas in London, with 10,000 people in a district the size of Lord's cricket ground and a general density in the Golborne ward of 366 persons to the residential acre. Yet few visitors, passing through the streets, would guess at the numbers living behind the drearily similar façades, except on a summer evening when they would probably find it impossible to believe that the children swarming in their only playground—the street—could be absorbed later into the houses already bulging with adults at doors and windows. There are few " black spots " in the sense found in Shoreditch, or Southwark, but there is here a housing problem which is one of the most difficult in the metropolis—the problem of overcrowding—a warren of people—eight families in eight rooms, 30 people in a ten-roomed house—houses built for one and now inhabited by many families without structural alteration to meet the changed and multiplied demands. No house could withstand the daily onslaught of numberless children clattering to and from school—few families can retain their integrity



6. This plan shows how the main traffic routes and allocation of sites would, in a well-considered scheme, reduce unnecessary road areas which could be thrown into the estate gardens. Prepared by the London Society and R.I.B.A. Zoning Conference. *This map and that on Plate III are reproduced from the Ordnance Survey Map with the sanction of the Controller of H.M. Stationery Office.*

when forced, by lack of alternative accommodation, to live, eat and sleep in one room only. Yet 2,412 families of two to nine persons do so in the Royal Borough.

Perhaps the worst feature of the housing shortage is the occupation of rooms which are quite unsuitable as dwellings. There are for instance 13,000 inhabited basements in Kensington and in over 400 of them (housing 5,600 persons) the ceiling is at or under the level of the street. In addition to the obvious drawbacks of damp, rats, bugs, it is costly to light these rooms, as much as 7s. a week being spent on gas. Another unsatisfactory type of home is the mews dwelling, with its general lack of air (being generally overshadowed by tall houses), with tiny rooms and with at least one bedroom lighted only by a skylight. In a large part of North Kensington it is rare for a family to have a living room which has not also to be used for sleeping. And the results of this density of occupation are reflected in the health figures. Here are a few for 1931 :—

	North Kensington	South Kensington
Infantile death rate per 1,000 ..	86	44
Scarlet fever notifications ..	299	86
Diphtheria notifications	172	50
Tuberculosis deaths	105	43
Puerperal fever and pyrexia ..	51	18
Pneumonia	213	40
Acute rheumatism (under age 16)	43	3

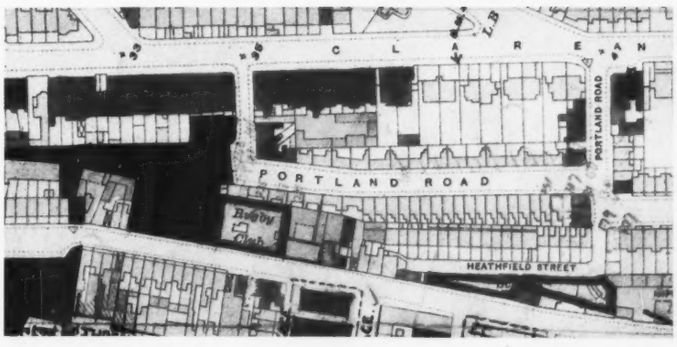
A suggested elevation, indicating the type of dwelling which might replace the existing tenement houses. *Architect :* JAMES BURFORD. Prepared for the London Society and R.I.B.A. Zoning Conference.

What is being done to alleviate these conditions ? Valuable reconditioning work is being carried out by the Improved Tenements Association, but it must be remembered that the first essential for success in this work is to reduce the population in the houses to more reasonable numbers, thus increasing still more the pressure on the surrounding properties. New building has been undertaken by the Borough Council, the Kensington Housing Trust, the Sutton Trust, and others. Some estates have been developed in two-storey cottages, others in blocks of five-storey flats. But these buildings have been erected on land which has happened to come into the market and they bear little or no relation to the surrounding streets and conform to no general scheme.

Something more drastic than these sporadic efforts must be undertaken if any real impression is to be made on this area which was so recently still a suburb of farms and open fields. Obviously the best way would be to prepare a plan for the district to which all new building would in future be required to conform. A plan by which industry would be zoned and no longer allowed to spring up among dwelling houses, blocking out light and air ; by which the inhabitants would be rescued from the dismal treeless streets of the speculative builder ; by which proper provision would be made for schools, playgrounds, allotments.

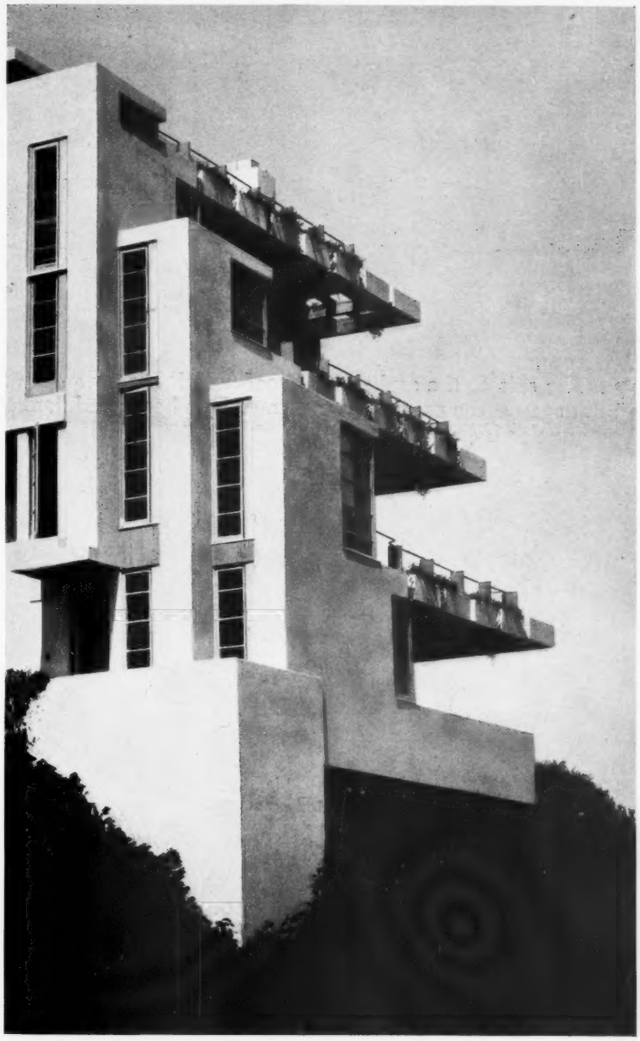
Actually, in the scheme illustrated here, by proper planning and by the elimination of unnecessary streets, more people could be rehoused (with two-thirds of the area kept as an open space) than can be accommodated in the present jumbled rookery.

There is already in North Kensington an admirable example of the financial advantage of planning—the Ladbroke estate. This was built 70 years ago on the site of the old race course, and has completely justified the vision of its creator by maintaining both character and values in a depreciating neighbourhood and successfully resisting the pressure of surrounding decaying properties. Let us hope that this generation will follow the lead set by Mr. Ladbroke and, by undoing the mistakes of the past, accomplish the true economy of housing all its citizens in decent and healthy surroundings.



PORTLAND ROAD. A typical North Kensington scene. The brewery at the end has been disused for many years, but a high price is being asked for the site.

ON THE LEFT: MAP **7**. A plan showing wasteful arrangement of streets. Portland Road is blocked to the north by the derelict brewery, while the Heathfield Street cottages are built close behind the west side of the street. The school is quite unsuitable for its purpose, the playgrounds for over 400 children being negligible.



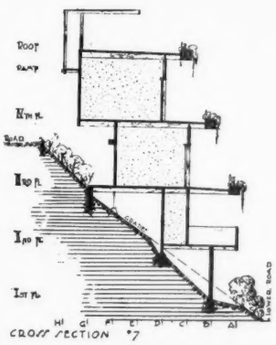
A CANTILEVERED SUMMER-HOUSE

(Wolfe house)

ARCHITECT:
R. M. SCHINDLER

This house is built on a plot of ground only 13 by 10 metres in area, perched on a steep cliff which overhangs the Gulf of Avalon California and overlooks the open Pacific to the west. On the other sides it is bounded by an upper and lower road. The house was designed by a German architect for a small family's summer holidays, with separate accommodation for guests and servants; the top storey for the owners, the first floor for visitors, and quarters for a housekeeper underneath. As the site was too sheer and narrow for a garden the roof was utilized for this purpose, and the lower floors were provided with wide balconies. The roof-garden, which has a sheltered fireplace, is reached by a suspended ramp on the north side of the building. The garage lies on the intermediate floor, fronting the upper road; and has a private staircase leading into the house. It contains a shower-bath for bathers returning from the beach. Each of the top floors has its own kitchen, but there are no bathrooms. All the principal rooms face both south and west, the position of windows and built-in furniture being arranged so as to leave the view unobstructed in each direction. Sliding glass doors and partitions allow the expanse of the balconies to be added to the area of the rooms.

The card-castle form of the house, with its succession of receding planes, is rather playful in character. Owing to the avoidance of large wall surfaces, and the deliberate suppression of vertical elements and supporting members, it appears singularly light and airy—almost flippantly flimsy. Instead of regarding the hillside as a solid foundation for a solid structure, and half burying the house in its slope, the design was conceived as a spatial composition, floating like a ballet-dancer in the air above its crest, and barely touching *terra firma* with the tips of her toes. Thus the only real link between house and hill is the hanging foliage of the creepered balconies. This cantilevered terrace-plan obviates a basement, saves excavation and walling, and enables every room to be flooded with light from several directions at once.

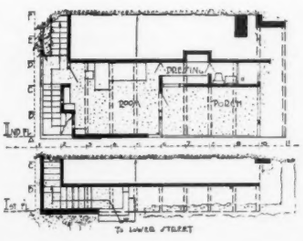


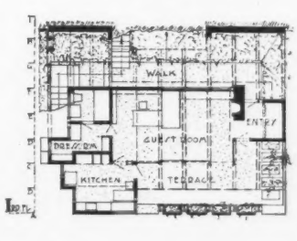
CROSS SECTION

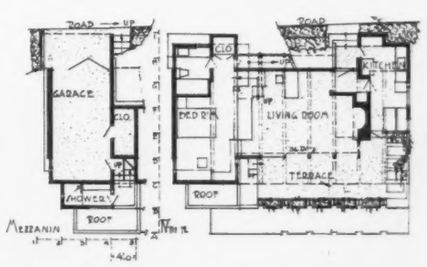
In order to economize cost of construction the house was built with a timber framework, boarded in, and then plastered over with a rendering of rough sand stucco. All floors and balconies are paved with 4 cms. thick reinforced-concrete flags supported on wooden rafters spaced 4 ft. apart. The ceilings consist of corrugated-iron sheets screwed on to beams. These sheets served as shuttering for the concrete, and form a watertight membrane underneath it. They were supported by small concrete tie-bars, poured *in situ*, as soon as the flooring had set. The advantages of this type of construction are that it is very cheap and simple, allows the floors of rooms and balconies to be laid to the same level, and renders their inferior surfaces readily accessible.

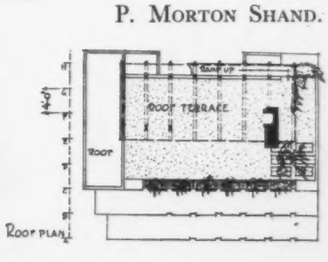
The stucco of the exterior is of a dried-grass yellow to match the tint of the cliffside; exposed woodwork being stained the same colour. The concrete flags are a rather darker yellow, and the corrugated-iron roofs and ceilings have been painted a golden bronze.

P. MORTON SHAND.



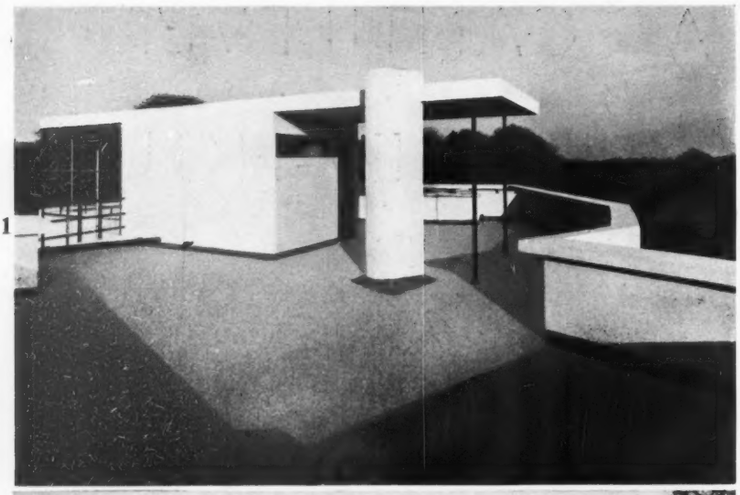






ROOF PLAN

A HOUSE AT GRAYSWOOD



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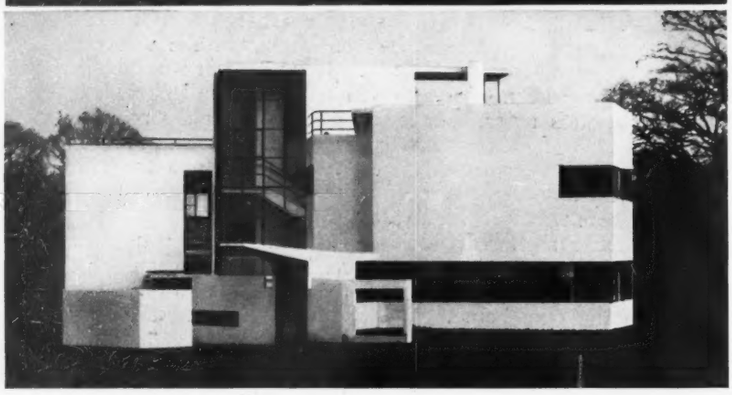


2

1. The exit to the asphalt flat roof, which has flower boxes built against the parapet, is protected by a hood, and flanked on one side by a box room.

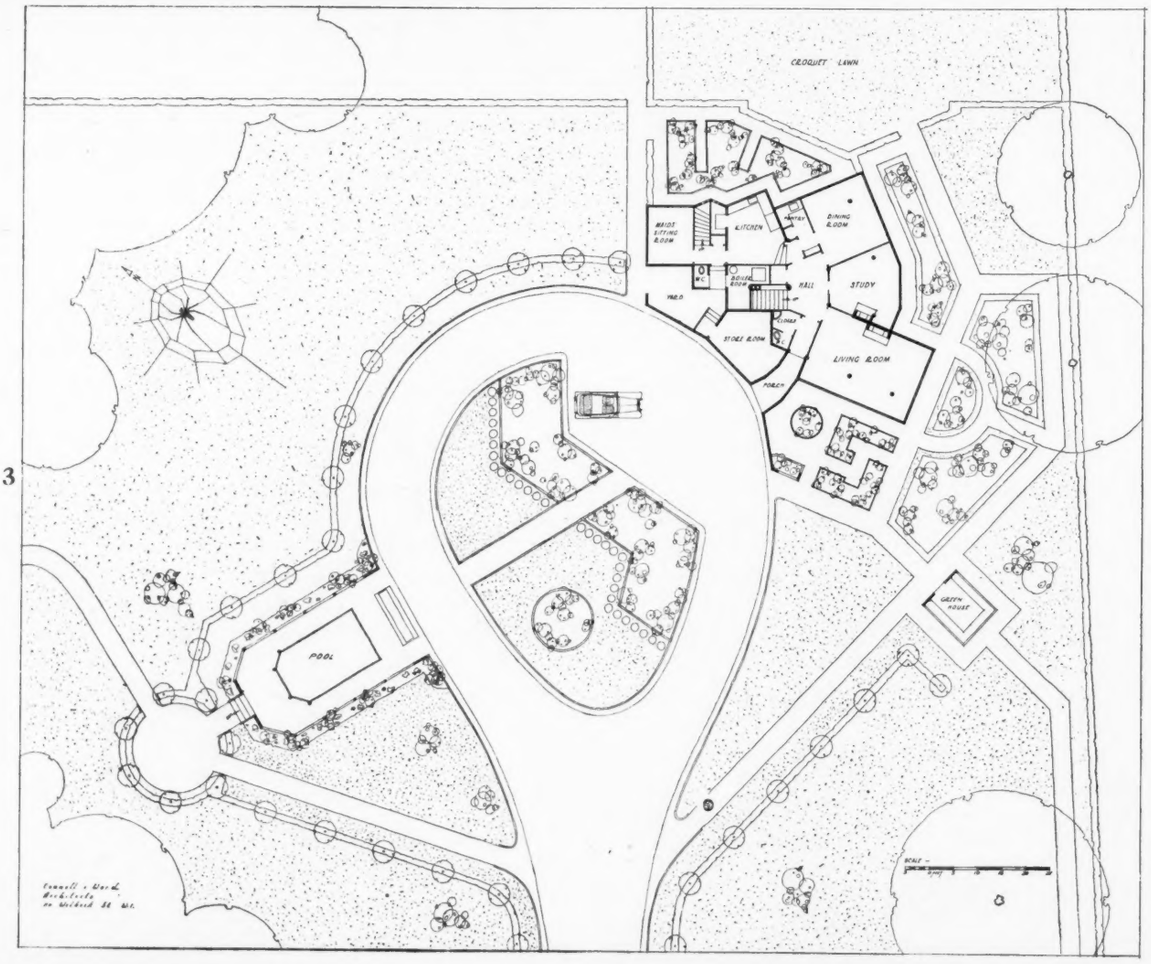
2. Elevation to West. The main entrance is protected by garden walls and a hood, under which a car may drive. The windows and glazed walls are metal casements made up in standard sections. The construction throughout is reinforced concrete with block partition-walls. The external walls are insulated, and, in the main, are not structural. They, with the floors, and roof, are carried upon columns and beams designed so as to standardize shuttering as much as possible.

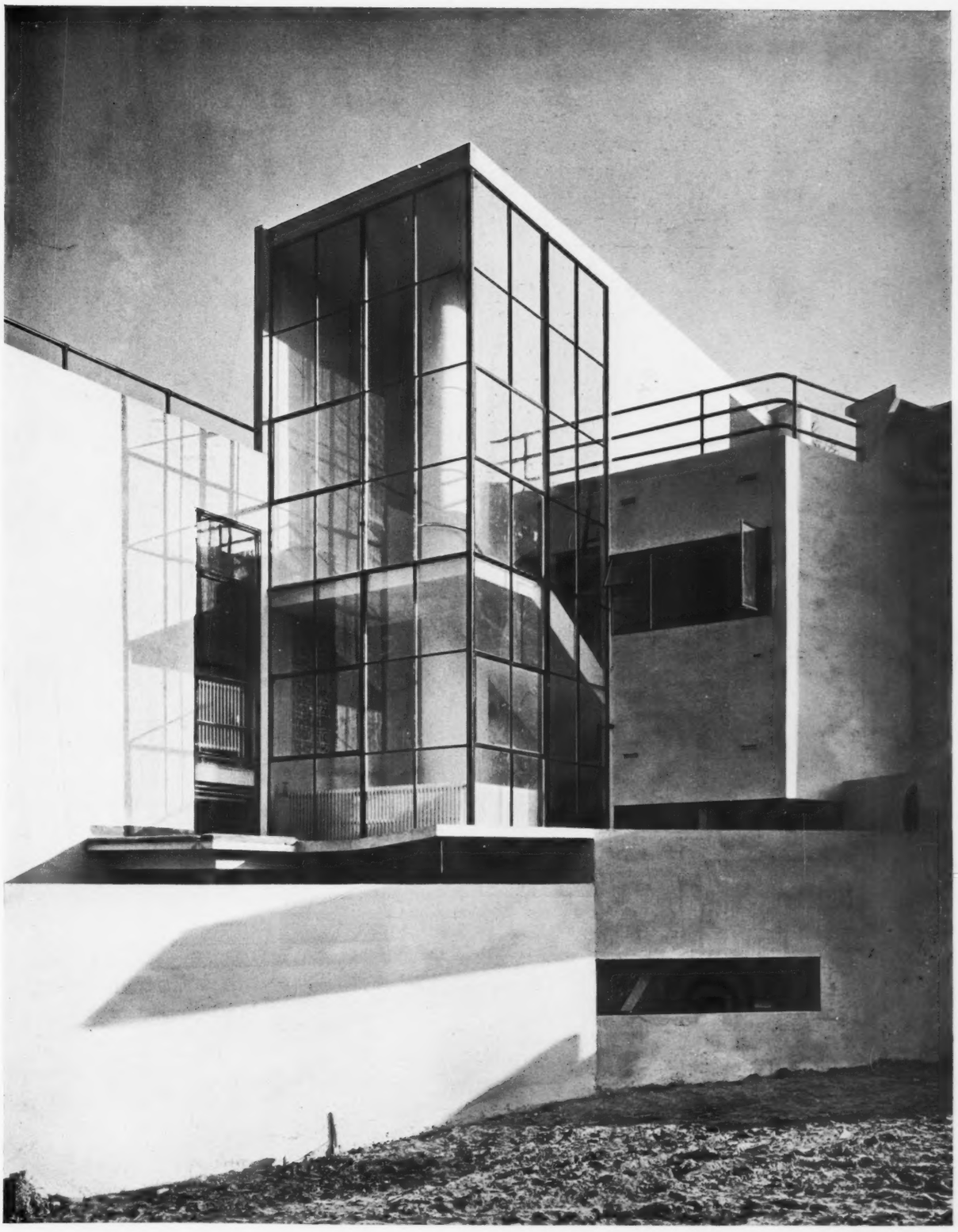
3. The ground floor plan is designed to give the reception rooms a certain aspect, yet it is grouped so as to economize in hall space, which is centralized to give ready access to all parts of the house.

The garden slopes gently to the North and North-west, the centre plot to drive-way being terraced to provide formal flower-beds and a car-park. Terraces, circular garden, stepping-stones and a pool are formed in concrete.

Architects : CONNELL AND WARD.

3





An exterior view of the staircase of a house at Grayswood. The heating-boiler flue, designed in the form of a column, is the chief support of the staircase, whose glass walls allow the centre of the house to receive afternoon sunshine. The external walls are of concrete, and are finished in a light pink colour.

Architects : CONNELL AND WARD.

THE ROYAL HOSPITAL SCHOOL HOLBROOK, SUFFOLK

LATELY AT GREENWICH

Messrs Buckland and Haywood

ARCHITECTS OF THE NEW BUILDING

THE removal of the Royal Hospital School from Greenwich to Holbrook in Suffolk serves two useful purposes. It throws open to the public The Queen's House, Greenwich, one of the best works of Inigo Jones, which will be a welcome addition to the magnificent ensemble of Greenwich Hospital to much of which the public have as yet had but grudged admittance. It has also given the architects of the new school a wonderful chance of erecting suitable buildings on an almost unlimited site surrounded by a wide and undulating prospect of Suffolk scenery.

The history of the Royal Hospital School is not without interest. It was started in 1712 for the education of ten boys, sons of the inmates of Greenwich Hospital. By 1783 the numbers had increased to 200 boys, all sleeping in hammocks on the two upper floors of the school house with the ground floor as a schoolroom. Not until 1807 did it occur to the authorities that this provision was inadequate and more school buildings were built connected to the main block by colonnades which are still a pleasant feature of the existing buildings. The Green Coat School of Greenwich, a similar institution founded by Sir William Boreman in 1672, has had its endowments added to the new Royal Hospital School at Holbrook which will accommodate eight hundred and sixty boys.

The new buildings are in a Renaissance style, dissimilar from those of the old school, and divided into eleven hostels (see plan, page 121). Ten of these will each contain eighty and another, the Nelson Hostel, sixty boys. The last is by way of a preparatory school with its own kitchen and dining rooms.

The full extent of the area built upon is nearly a mile long from east to west and members of many of the scattered hostels will have some distance to go to the main block of buildings. In a Naval school this is no disadvantage where everything is done "at the double" and where familiarity with every climatic condition is an excellent training for the future hardihood of the race.

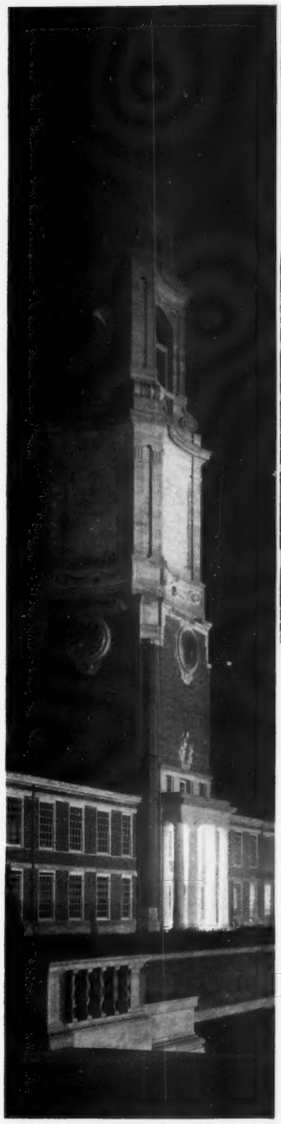
There are three axial points round which the low brick buildings are grouped; the tall steeple, somewhat reminiscient of that on Wren's Church, St. Vedast, Foster Lane, London, which presides over the block containing the classrooms and the assembly hall, the rigged mast at the southern end of the vast parade ground before the class rooms and the octagonal courtyard at the back of these which is flanked by staff residences.

Some idea of how this assemblage for nautical education stands out in the flat Suffolk scenery may be gathered from the opposite Plate.

PLATE IV

A general view across the Parade Ground at the Royal Hospital School, Holbrook, Suffolk. The view is taken from the western end, looking East. In the centre of the picture is a group of the hostel buildings that flank the Parade Ground. The Rigged Mast is on the right and beyond it, near the edge of the picture, the rifle range may be seen.

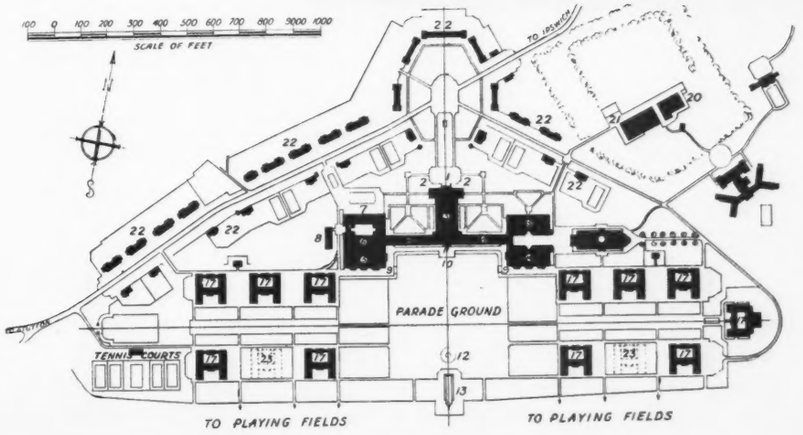
March 1933



A general view of the Assembly Hall seen from one of the Staff Residences.

THE ROYAL HOSPITAL SCHOOL HOLBROOK

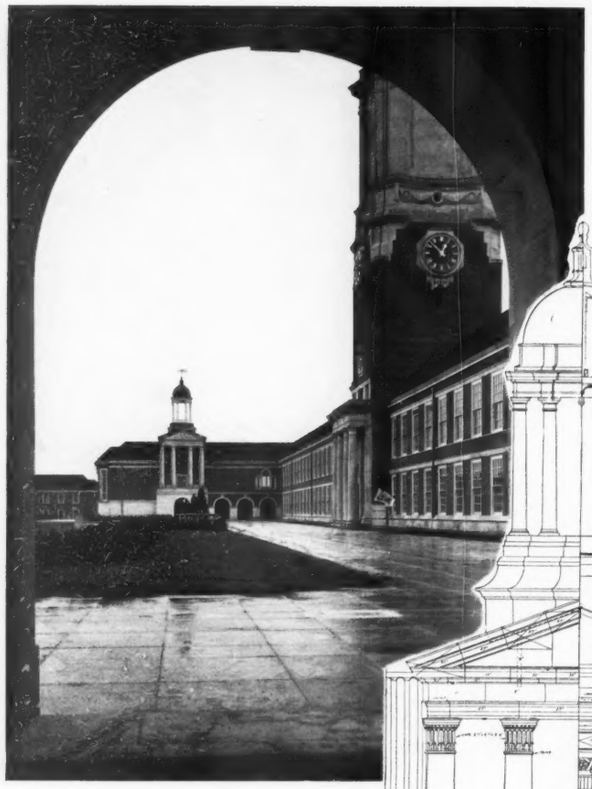
A night view of the steeple at the junction of the Assembly Hall and the main block of classrooms taken from the parade ground. The picture was taken from Fig. 9 on the plan.

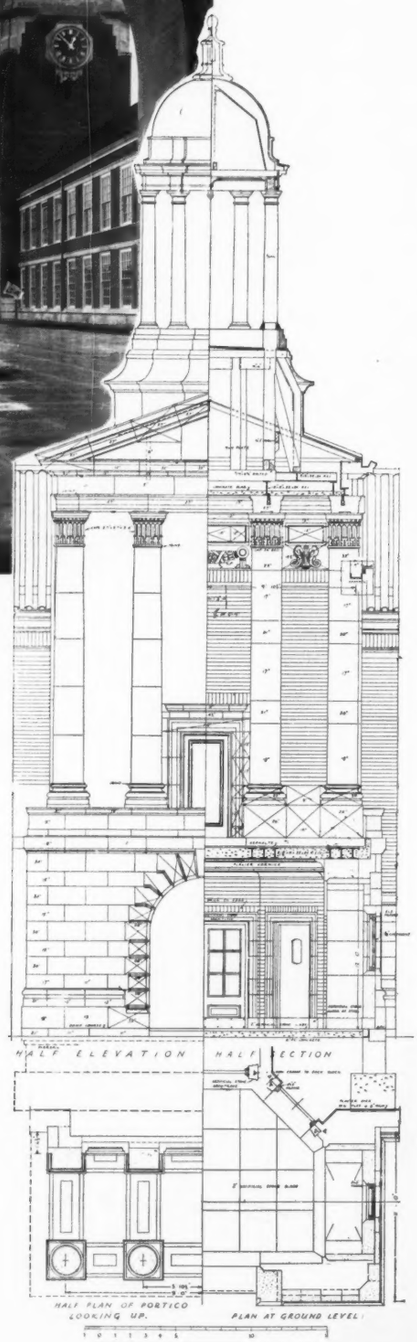


Above is a model of the general layout and to the left, *below*, the corresponding plan. The figures indicate the functions of the various buildings :—

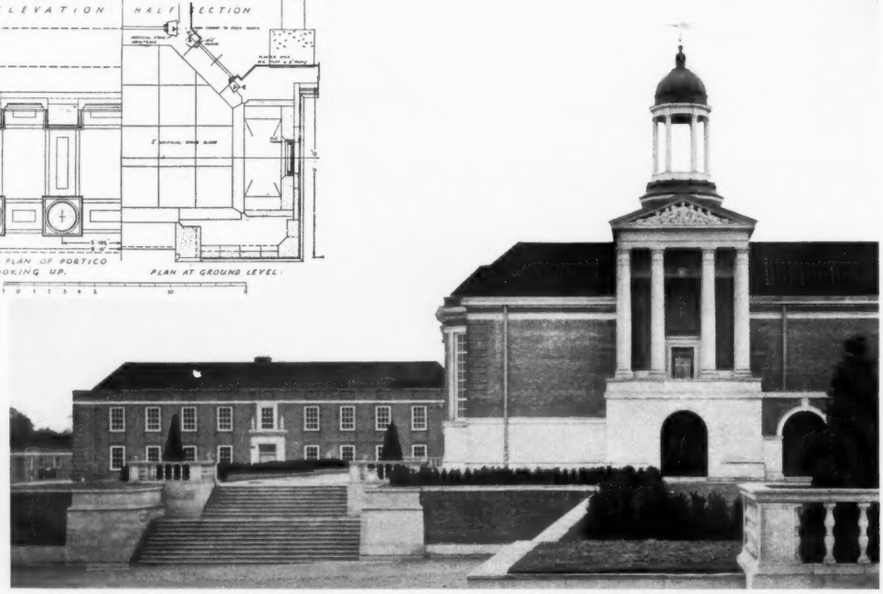
1. Entrance
2. Administration
3. Assembly Hall
4. Classrooms
5. Dining Hall
6. Kitchens
7. Stores and Bakery
8. Manual instruction
9. Terrace
10. Saluting Base
11. Tower
12. Rigged Mast
13. Rifle Range
14. Gymnasium
15. Swimming Bath
16. Chapel
17. Hostels
18. Infirmary
19. Superintendent's House
20. Laundry
21. Engineering Block
22. Residences
23. Future Hostels

ROYAL HOSPITAL SCHOOL HOLBROOK





Top: looking South-west from the Gymnasium along the terrace to the Dining Hall and Kitchen block. *Middle:* a cross-section and elevation of one of the central motif over the Kitchen and Dining Hall block. This is repeated over the gymnasium. *Below:* a closer view of the Dining Hall showing one of the Hostels beyond and the arrangement of the terracing.



The Book of the Month

The Plan of Rome

By Lionel Glynne

PIANO REGOLATORE DI ROMA, 1931. Treves—Treccani—Tumminelli, publishers, Milano, Roma.

THE replanning of Rome constitutes a problem unique amongst world-cities—unique in regard to the dual needs for the preservation of a historic past which is a heritage of all European culture ; and for the necessity of the development of a revivified national centre.

Since the unification of Italy in 1870, several city plans have been inaugurated, leaving the major problems unsolved.

It has remained for Mussolini to confront these problems in a drastic fashion.

The problem, he says, of harmonizing at least four different co-existent cities in Rome, and preserving their character, prevents Rome from ever assuming the modernist aspect of an American city. The liberation of the essential first Rome of the Cæsars from the surrounding débris of ages—"to give back the plastic vision of the Seven Hills"—provides the first principle—that civic improvements must be co-ordinated with a policy of "isolation" of the ancient monuments of Classic Rome, removing the agglomerations of buildings tacked on to them, whether these are of mediæval or renaissance origin. Thence follows a drastic cutting through or widening of arteries north and south, east and west, leading to the exterior "consular" roads. The "foolish contamination of the tramways" is to be eliminated from the main streets. Further, a zoned development around the existing city, particularly to the east and southwards, provides for an extension of twice the existing population, planned in detail showing centres of suburban development, and various categories of dwellings, industrial areas, public and private open spaces, and "reserved zone." Lastly, a "systematization" of the railways is proposed.

With regard to the interior, it is observed that there can be no one great civic centre in Rome, but that a linking together of diverse centres, old and new, corresponds to the functioning of the city, and gives variety of character.

As regards exterior development, to divide the zones of expansion into large sections destined to one type of development is not considered either practical or æsthetic ; and the detailed zoning aims at an organic proportioning of various types of development, graded around the zones of intenser development outwards through more open development, parks and market gardens, according to the suitability of the ground plan and the contours.

The most drastic interior improvements are concerned with the fundamental "trident" motive of the three roads issuing from the Piazza del Popolo, the northern entrance to Rome (which has been the motive of so many imitations in city planning). This it is proposed to retain, but to supplement by three parallel or by-passing arteries.

Complementary to these three north-south improvements are four east-west connections or road widenings—the whole forming a new "framework" of roads superimposed upon the old meshwork, capable of carrying through traffic, and leaving local traffic to the old arteries.

Two new arteries are to be made from the Piazza Venezia, one to the hills, the other to the sea.

The outer great radial ways are to be radically widened through the periphery of the city, and to be adorned with national monuments.

A great zone of open space is disposed "sicklewise" around the city on the N.W. hills, where the more aristocratic quarters are located, the denser "popular" development spreading to the east and south, among which are distributed parks and sports grounds, bounded by allotments and market gardens.

The "Reserved Zone" totally prohibited from buildings, extends south-eastwards over the greater part of the Aventine and Celian Hills, including the principal area of archæological excavations.

The "systematization" of the railways involves the separation of passenger from goods traffic. The passenger traffic will have two new termini, north and south stations, connected by an underground line with a central exchange station, under the site of the present terminal station. The goods traffic will be provided with a special terminus, and will be distributed from thence by a circular railway system. The "metropolitan" line—a kind of Inner Circle—is proposed to connect the surrounding suburbs.

Of the area of 9,000 *hectares* to be added to the city by extension (including open spaces), 4,000 *hectares* are reserved for habitations—giving a density of 200 inhabitants per *hectare*, as compared with the existing high density of 600 inhabitants per *hectare* in the densest areas.

For the complete execution of the scheme, providing for the expansion of the city to 2,000,000 inhabitants, a period of at least 15 years is envisaged, and for this purpose a Royal Decree authorized the assignation of 30,000,000 lire.

The whole conception is comparable to and linked up with national wide developments throughout the whole of the country, including such schemes as the development of arterial roads throughout Central Italy, the development of electric power through large water-power plants in the Alps, main transmission lines and railway electrification, opening up of the Campagna, land irrigation, and draining of marshes, and generally the more effective utilization of the national economic resources in agriculture. Its success is therefore dependent upon national economic improvement and growth. In detail it has not been without criticism : the Pantheon and the Colosseum are indeed avenged ; but much of less antiquity that was characteristic of Rome must be swept away.

Each world-city, however, must provide its own solution for development—in which, for Europe, the historic basis is inextricably interwoven. Much that has been suggested for Rome applies to London.

A DEBT TO

1

2

In the newly created slums of Essex and Middlesex there still stand examples of timber construction as fortunately neglected by English speculative builders as their counterparts in New England are religiously conserved. These matchboard buildings, with their oak constructional beams, differ little either in ornamentation, when such exists, or in construction from similar puritan dwellings in America. From the plain Georgian buildings (**1** and **2**) and the earlier pattern (**7** and **8**) to the grouping of farms and outbuildings (**3** and **4**) the American examples are almost identical with the English. Even the Dutch influence in brick construction at Woodham Walter, in Essex, was repeated at Salem, Mass. (**5** and **6**) Nor is this surprising, for a glance at the map of England in Mr. Briggs's book will show that most English Puritans who migrated to the New Continent came from East Anglia where, even now, the voice of a sturdy nonconformity is loud and fervent in many a plain conventicle. Topsfield, Ipswich, Maldon, Braintree, Sudbury and Epping are among the place names to be found in both continents.

BAPTISTS, QUAKERS, INDEPENDENTS

MR. BRIGGS'S book* shows the author's utmost painstaking and thoroughly patient research into his subject. And he has written in an easy style, perfectly adapted to the lay reader. Though dealing with many technical matters, unfamiliar technical terms are cleverly explained. Many other authors such as Nathaniel Lloyd and Basil Oliver are referred to and quoted so that the reader can follow the enquiry into other branches of the subject than those specially dealt with by the author.

Though the conclusion is not stressed it cannot be denied that religious earnestness was the strength and mainstay of the Puritan.

Mr. Briggs, page 147, says—"But we must remember that their religious leaders were not mere uneducated fanatics with no background of culture. They were without exception graduates of Cambridge or Oxford, they were born into the splendid Age of Shakespeare, and they had all vacated their livings in the Church of England for the sake of their convictions. Their occasionally rigid and uncharitable outlook was the result of the hard treatment which drove them across The Atlantic."

How invariably will the persecuted develop into persecutors. On page 146, we read—"The treatment meted out Baptists and Quakers included scourging, boring of tongues, cutting of ears, and in rare cases, capital punishment . . . . such was New England up to the end of our period (1685): a colony containing a high proportion of educated, earnest and well-meaning people, who, unfortunately, chose sometimes to combine with many virtues and their tenacious character, an appalling lack of common tolerance."

Our author traces the Puritan simplicity which he says they carried to the point of crudity, to lack of tools and rigours of the time and severity of Puritan taste, rather than the deficiencies on the part of craftsmen.

But it might have been supposed that the Spirit of *protest* was mainly responsible. While consistently conforming to practical constructional conventions, they protested against architectural æsthetic dogmas. The protestant mind naturally loving sincerity and truthfulness more than conformity to formalism and ritual.

Throughout this book the great number of charming illustrations show picturesqueness rather than Architectural pattern and orderly arrangement. It is interesting to note how little the Puritan Character in their buildings was affected by the variations in climatic, geographical and geological nature of the places in which they built. Ruskin said: "Tell me what you love, and I will tell you what you are." So was it not the earnest love of the Puritan for his religion that made it show in all his Work? Put into one word was it not *sincerity?* To him religion was a life rather than a creed. Forms and ceremonies and ritual had little attraction for him. Fitness to the common requirements of life, and fit use of materials and conditions are the marked characteristics of all his buildings. Our author is to be thanked for giving us a vivid insight into the Puritan character, as well as that promised by the title of his book.

C. F. ANNESLEY VOYSEY

**The Homes of the Pilgrim Fathers in England and America (1620–1685).* By Martin S. Briggs, F.R.I.B.A. London and New York: Oxford University Press. Price 18s. net.

ENGLAND FROM AMERICA

3

4

to build in the unadorned and serviceable tradition which has made the earlier domestic architecture of their home country justly famous. The very style which Mr. Voysey, the reviewer of the book from which these comparative examples are taken, carried on and which expressed so well his own personality, was the style of a sincere and indomitable nonconformity. Imitations of the smaller English houses of this style of the seventeenth and eighteenth centuries have lately become numerous. Their universality makes them fit both for a Garden City with all the latest equipment in Holland, England or America, and for a remote farmhouse in the Essex flats. From these illustrations it will be seen that English puritanism has made familiar a style of domestic architecture which, in northern climates, has not yet been improved upon and which has influenced the planning and construction of all thinking architects. In America a concrete building decorated with sham "olde-worlde" beams, is said to be built on the English style. How are the mighty fallen! Nonconformity and not catholicism produced the modern and indeed the truly "English" house.

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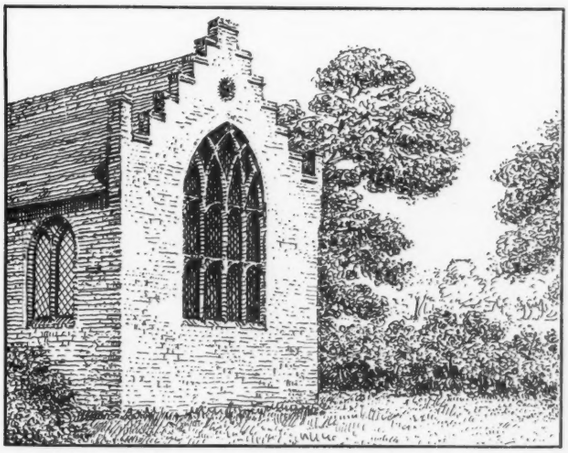

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1. A House near Epping, ESSEX, England. **2.** Stone House, Guilford, CONNECTICUT, America (18th Cent.) **3.** A Farm at Mill Hill, MIDDLESEX, England. **4.** Fairbanks House, Dedham, MASS., America (1636). **5.** Woodham Walter Church, ESSEX, England (1563-4). **6.** St. Luke's Church, VIRGINIA, America (1632). **7.** Parson Capen House, Topsfield, MASS., America (1683). **8.** A Cottage at Kingsbury Green, MIDDLESEX, England.

Furniture and Furnishings

FURNITURE & FURNISHINGS. By John C. Rogers, A.R.I.B.A. Oxford University Press. Price 6s. net.

In the preface of this one of the excellent series of little craft books, the editor, F. M. Burridge, states his *raison d'être* for their publication, viz., in response to the revival of the crafts, which is one of the most marked elements of the present social development of this country. Each book, he tells us, comes from an author who is skilled in the practice of his craft, and embodies a philosophy gained from life-long experience.

Mr. Rogers has given us a lucid and lively account of the progress and retrogression of English crafts, and his concern is to assist in a revival of interest in living tradition and a regard for good construction, design and fitness of purpose which have little value in the eyes of those who have controlled the output of furniture in this country since the Industrial era.

The invention of new tools and techniques and the flooding of the trade with technical experiments, has created in its turn the fashion for the collection of antiques and a false romanticism in relation to things of the past. Mr. Rogers urges a more intelligent study of modern house furnishing in relation to modern environment, equipped for every-day needs, and feels the great necessity lies in the discovery of means by which the public could be made to realize the folly of investing in jerry-built houses and furniture, and become instructed in the true economy and efficiency of sound construction and design.

Design he formulates as fitness for purpose—a combination of practical and æsthetic resulting in the utmost convenience in use and beauty of form. He enumerates various achievements of the past, including the Parthenon, the Baths of Caraculla and Gothic vaulting to provide excellent lessons in good design based on sound principles which implies knowledge of the nature of the material and the best ways of employing it, while style itself evolved gracefully from preferences and needs influenced by improved methods of construction.

We are provided with explicit details in relation to the methods of utilizing woods with an eye to durability and an instructive account of the use of oak in this country before the possibility of exploiting other woods, when joinery gained an ascendancy over carpentry, a new form of construction had to be adopted to permit full scope for veneering. Mr. Rogers here draws a distinction between the genuine veneer work of the historical period from 1660 to 1760 and that of the later era when botched work of poor quality was produced for the sake of cheapness.

Following this, there is an account of the influence of constructional methods on design, and due appreciation of the circumstances of production is invited. We are reminded of the close association of the architect and interior decorator.

The importance of geometry in relation to design with structure is emphasized, and a suggestion offered that architectural methods be part of the education of the contemporary craftsman.

Chapter 5 touches on the records of various designers such as Chippendale, Hepplewhite and Sheraton, following which is an account of the degradation of craft by the machine age, and the rise of the factory system which suppressed the human element, obscuring the living tradition, until the spirit of William Morris was roused to awaken the nation to the sense of its lost arts.

The latter part of the book gives the case for modern furniture, the design of which requires well-trained, clear-thinking brains, with a knowledge of factory procedure, evolving new types without affection for technique belonging to the hand-made article.

GRACE E. ROGERS.

The Architect's Encyclopaedia

SPECIFICATION 1933. For Architects, Surveyors, Civil Engineers, and for all interested in Building. Edited by Frederick Chatterton, F.R.I.B.A. London: The Architectural Press. Price 12s. 6d. net.

Not without reason is it stated on the title page of *Specification* that the book "is as necessary to the architect as an encyclopædia is to the man of letters"; for these words are as true now as they were thirty-five years ago, when *Specification* first made its bow to the profession. And although we all know and rely upon this reference book as we do on *Whitaker's Almanack*, there is always a sense of pleasurable expectation regarding the titles and authorship of the new Special articles with which each issue begins.

In this year's edition we are given five such articles, all illustrated. Mr. C. W. Glover writes on "Factory Design and Lay-out"; Mr. A. Ewart Aston on "Wallboards and their Uses"; Mr. F. R. S. Yorke on "The Equipment of the Modern Cinema"; Mr. S. W. Ackroyd on "Modern Bakeries"; and Mr. Edwin Gunn on "Inside and Outside Blinds."

When one considers the magnitude of this standard reference book and the labour involved in revising and overhauling the technical sections every year, the Editor may well express his "sincere obligations to the experts responsible for this exacting work." The reviewer rather feels that the experts deserve an acknowledgment couched in terms of even greater thankfulness.

L. F.

Sense and Sentiment in Sardinia

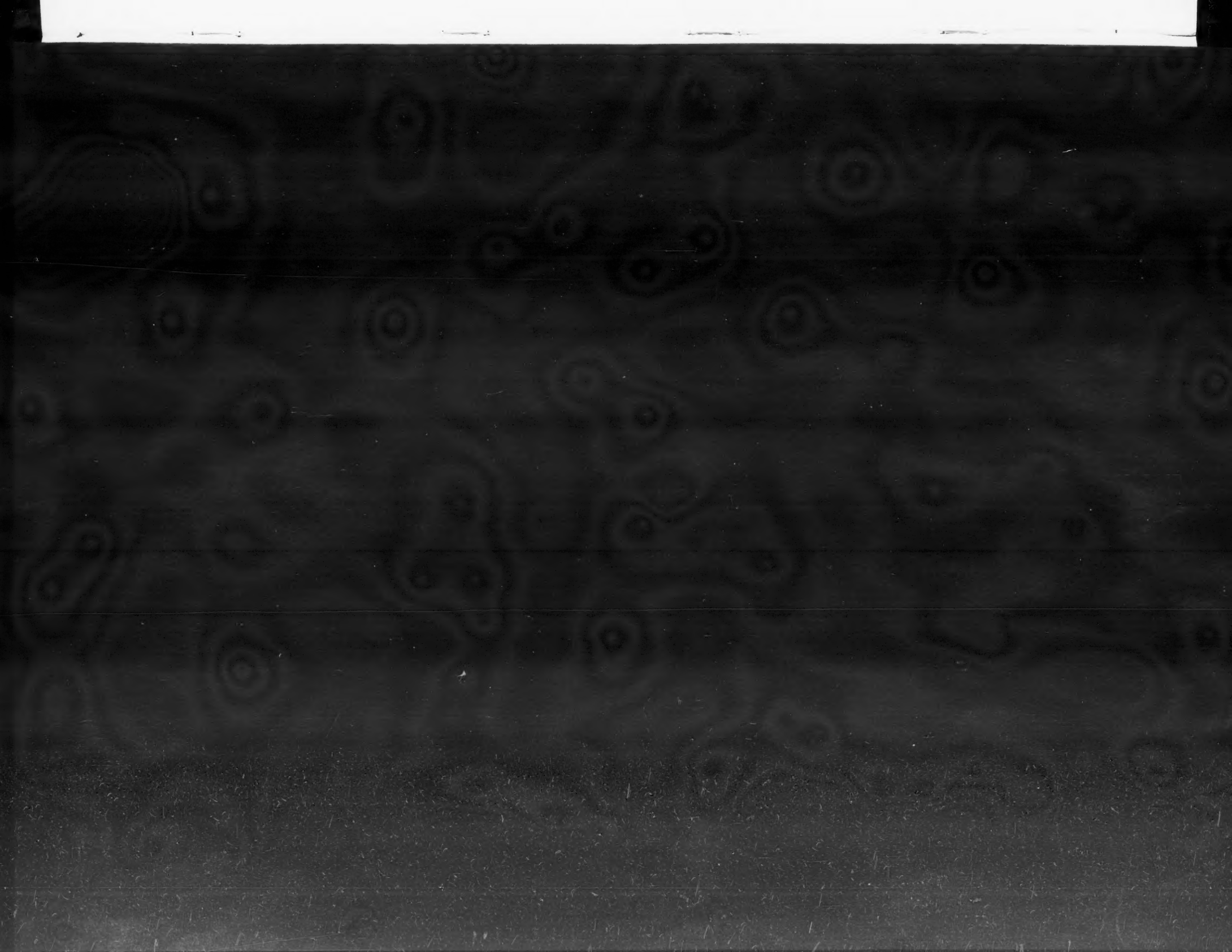
SARDINIAN SIDESHOW. By Amelia Posse-Bráxdová. London: George Routledge and Sons. Price 7s. 6d. net.

In Italy, as in most other cultured countries, there are a number of associations whose well-meaning and useful aim is the preservation, or what is harder still, the revival of home industries in the various provinces. But, unfortunately, what actually happens is just the reverse, and in the very places where these meddlesome but honourable associations flourish, the true and living creative spirit dies out the faster, if, indeed, it is not already dead long ago . . . The members of folk-dancing and arts and crafts clubs in the towns have taken to dolling themselves up in the national costumes for charity bazaars and royal princes' weddings, but these are luxury versions with silk stockings and patent-leather shoes.

In 1919 I travelled over a great part of Italy collecting specimens of peasant arts and crafts for an exhibition in Stockholm. Although, in the end, they fobbed us off with a lot of ugly, useless rubbish, I did get a very good impression of what beautiful things were still being produced; and I can safely say that nowhere did I find anything that even approached, in vitality and originality, the work I had seen in Sardinia. No doubt the reason for this is that life on the island is still so very primitive. Peasant art invariably dies out with the passing of illiteracy.

We went round to all the best basket-workers in Sorso, and watched them working. Though we ordered a whole lot of baskets, we could never make them do any fixed pattern. They had to compose as the spirit moved them, and they disliked being tied down. "If you want deer," they would say, "then go to Ciccia Nieddhu, they do deer in their family. We mostly do birds here, and next door they do zigzag without any figures." They thought it extremely ugly and contemptible to steal each other's designs, and they were averse from copying even their own. There was always some little difference, some variation in the motif. "Or else you get like a factory," they explained, "without any *anima*, and then the spirit dies out."

BAIRD DENNISON.



AT CLOSE RANGE

THE ROYAL BOROUGH OF KENSINGTON

Overleaf is a view of the window of the living room of a family of five. It is the only means of light and air for this room. There are three children in the family. 5,600 people in Kensington live in similar basements, whose windows are below the level of the street.

This is the interior of the basement living-room, lighted by the grating illustrated overleaf.

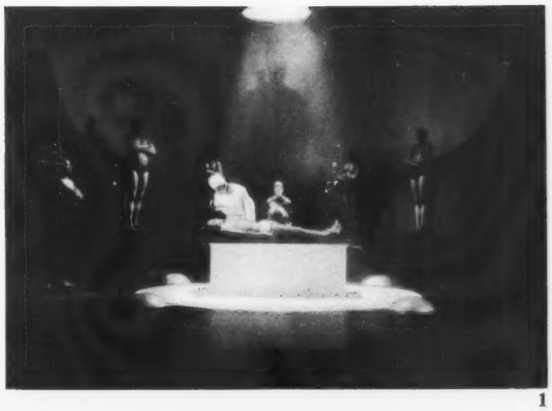
The Films in Pictorial Review

THE stills, reproduced on this page, are chosen from the latest films, and the selection has been made to present the newest and most satisfactory examples of decoration in the world of the movie art-director.

The captions are shaped to stress architectural and decorative qualities, or to suggest possibilities in future decorative work. Occasionally a successful composition is accidentally achieved by cameraman, director and art-director. In this case comment may appear strained, but the aim of the critic is then to show how successful composition can be made a pre-determined factor and removed from the realm of chance.

1. A scene from *The Mask of Doctor Fu Manchu* (Metro-Goldwyn-Mayer). The four metal discs, arranged against the base of the operating table, imply resistance to movement and cleverly suggest the patient's floating sensations. The four negroes, placed on the black pedestals, are a less happy idea, as they recall the stage revue : but the director has justification symbolically, because the dark attendants show the outer orbit of resistance—the patient cannot float away from the power of the satanic doctor. In creating what is, in spite of faults, an exciting scene of horror, the director selected a pattern of plain lines and straight lighting, hoping, by contrast, to make more sinister the wild emotions of his characters. **2.** A figure from a somewhat older film, *The Mysterious Island* (Metro-Goldwyn-Mayer). In sequence, this pictorial reminder shows some of the drama and fun that can be extracted from " human architecture " on the movies. For the serious cinema student it should evoke possibilities of the time when costumes are part of the scenery, so that light surfaces and pictorial outlines can be changed by the movement of supers, etc., etc. **3.** A scene from *Farewell To Arms* (Paramount). Here the director has arranged for his set to carry on the sensations of the players. The two methods afford instructive comparison. In the second case, the curve of the foreground arch and the tilt of the pillar convey, in distinctive composition, the story's symbolism. **4.** A shot from a publicity film showing the Metro-Goldwyn-Mayer star, Ramon Novarro, in his home. The house was designed by Mr. Novarro himself. The photograph of the staircase shows a nice sense of balance and austerity of mass. **5.** A scene from *Sinners in the Sun* (Paramount) Although this is one of the more restrained and pleasing examples of modern decoration in the film, it just over-reaches dignity in the flutings at the foot of the vase and the bead-work round the light-fixture on the wall. The set, though, is not without a feeling of space, and well carries out the designer's purpose of creating a background to frame chic costumes. **6.** A Hollywood still-cameraman going Bruguière ! The attempt to make a different publicity photograph was executed on the last Four Marx Brothers' film. Fan magazines scorned these experiments ; probably this picture is reproduced here for the first time. It has a marching rhythm which boldly introduces the comical nature of the film, while the expressions of the artistes are given altered meaning by multiplication.

OSWELL BLAKESTON



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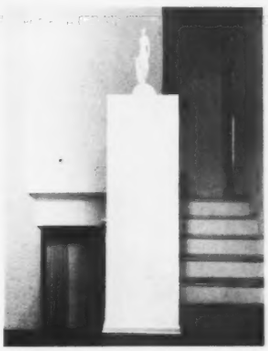

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A Free Commentary

By Junius

It may occasionally happen to readers of this journal, as to the writer of these notes, to be consulted by their working-class friends or dependants (if any) on the difficult and to them vital problem of insurance. The privilege of advising is in the writer's case always exercised by proxy, insurance policies (together with balance sheets and income-tax forms) appearing to him in the light of scarcely fathomable mysteries. His experience has, however, taught him that such help is needed, and this would seem to be the implied opinion of the Industrial Insurance Commissioner.

* * *

For reasons which may not be apparent at a first reading (and which I do not propose to underline for reasons which should be obvious) I transcribe the substance of what seem to be exceedingly significant paragraphs from a notice in a well-informed and rightly respected newspaper: "An increasing tendency on the part of industrial assurance companies to allocate a larger part of the surpluses for the benefit of their policy-holders is noted by the Industrial Commissioner in his report for the year ended December 31, 1931. Wholesale disregard of the rights of their policyholders by many companies is referred to in the report. . . . The Commissioner recalls that in his report for 1930 he mentioned that he had ordered certain inspection because he had reason to suppose that this had continued in spite of the warning that had been issued. 'Reports of the inspector' (these words are from the Commissioner's report) 'state that the supposition is well founded in the particular cases dealt with. Since the inspection began it has come to light that the mischief was far more widespread than was at first supposed.'"

* * *

"The Commissioner quotes the cases of three offices and states that difficulties were encountered by the inspector in securing a complete restitution to policyholders of benefits which had been withheld. 'During the year 1931 it became apparent that the same position probably existed in nearly all, if not all, the offices, and, to avoid inspections in every case, a general circular was issued giving them the opportunity of setting the matter right. Certain offices decided to grant free policies or surrender values in all cases of forfeiture since January 1, 1924 (whether or not there has been a re-entry) as though the policy had been substituted. This, of course, means that many policyholders have received benefits to which they would not have been entitled.'"

* * *

"So far as can be ascertained, it is stated, 1,312,000 free policies, assuring £1,710,000, have been granted to date, and 45,000 surrender values, amounting to £80,000. The report goes on to say that these inspections are likely to have an even greater effect in the future because as a direct result of them most of the industrial assurance offices have announced that their existing and future policies will automatically become paid-up on lapse after two years' (and in the case of two offices one year's) premiums have been paid. Instances are given in which one society returned £60,905 in respect of policies, and another £42,150."

* * *

I do not propose to make a comment, free or otherwise, on this, except this—that it is well worth reading over carefully once again.

* * *

The B.B.C. takes with a becoming seriousness its responsibilities as trustee in the matter of the authentic pronunciation of English. Might we beg it to display on the walls of its elegant cabinets for speakers and lecturers that the superfluous "r" introduced by so many Englishmen (in unconscious adoption of one of the least engaging vagaries of the Cockney tongue) between a word ending and a word beginning with a vowel will cause (by arrangement with the controlling engineers) a harsh protesting buzz from the microphone. This should "l'arn" the offending speakers and instruct the listeners. This note is written as the result of pain inflicted on the writer by a lecturer of obvious culture and authority who was contrasting the "idear" of this with the "idear" of that for a whole half-hour.

* * *

This slovenliness is not confined to a class. Blue blood and Eton and Oxford all combined do not confer immunity. It afflicts also the stage, to which institution we ought to be able to look as upholder of true elegance of speech.

* * *

Idea and law are two words that specially tempt to this ugly indulgence and no dramatic author can safely give a character a name ending in a vowel or somebody will be telling the audience that "Silviaris a loreunto herself." Curiously enough an opposite tendency begins to show itself in current speech, especially of women—"Paw him out a glass of wine"—a sham elegance which is as disastrous as the other slovenliness.

* * *

"Have you seen the Tudor village?" I read in an advertisement in an omnibus. You may like to know that you can get a Tudor residence in same for £995. That should be some consolation to us all as an offset to this Carlton House Terrace business. . . . . It only remains for the commuters to sprint for the 9.20 in trunk hose, slashed doublets and feathered bonnets.

* * *

Apropos C.H.T. I couldn't help liking the G.O.M.'s little bit about the cast-iron pillars in his spirited defence by attack.

* * *

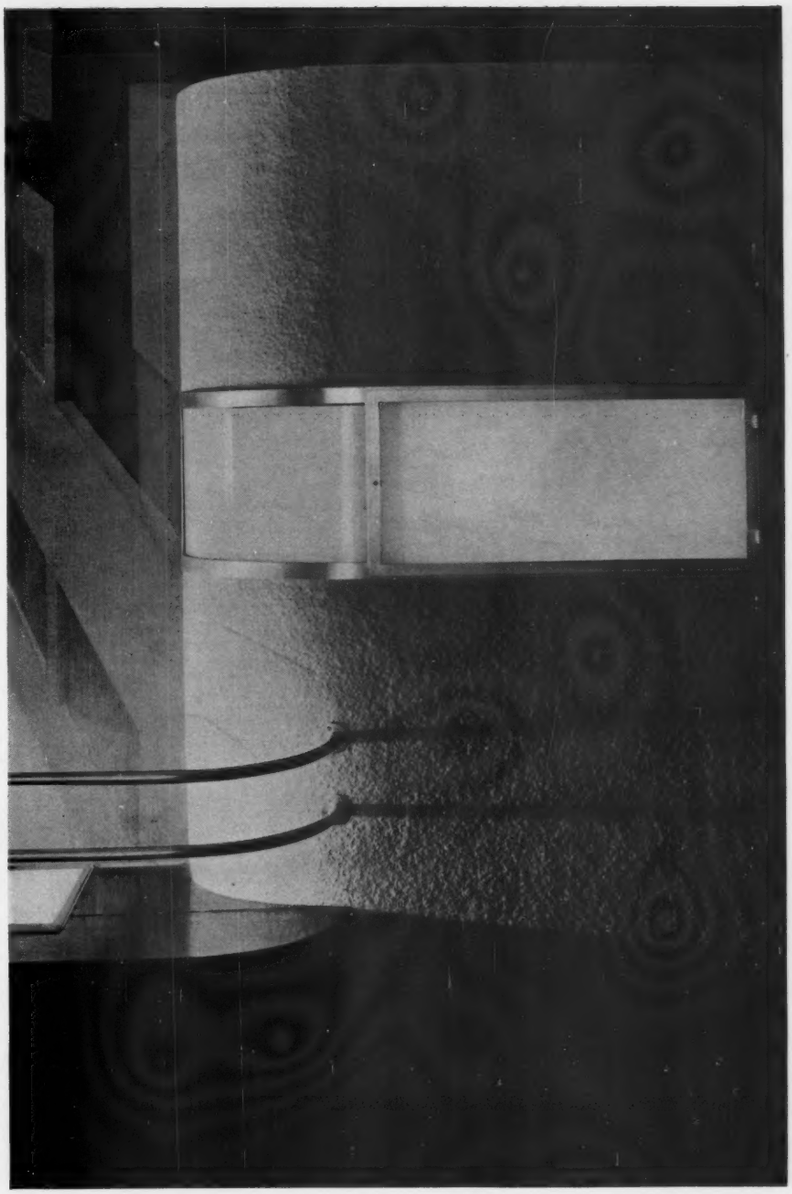
The immediate practical result of the whole imbroglio, as expressed in the Crookshank motion and the Government rider promising an independent committee of five to prevent the same sort of thing happening again, may be disappointing. The enemy remains in his fortress, but he is definitely shaken, his banners are tattered and the ranks of the attackers are swelled by what is in effect a first-rate recruiting campaign. The original rebels have reason to congratulate themselves on their energy and persistence.

* * *

One consoling thing did, indeed, emerge from the discussion. There was no great force behind the opinion that mistakes like this do not matter. Some of us might perhaps have preferred that the energies mobilized could have been used to prevent the erection of a thousand terraces of ignoble aspect which have been in the last decade, and will be again when building is set going again "erected" up and down this harassed land. But that perhaps is crying for the moon.

* * *

It is to be hoped that by the time these words appear the fatuous cricket quarrel may not have resulted in the withdrawal of Australia from the British Commonwealth. Our preoccupation with this tremendous trifle, as reflected (the images duly distorted and enlarged) in our Press, at this time of all times in the world's history, must surely have created in our continental friends and critics a widespread feeling of amused contempt. The temper of many of the comments in the popular Press was as mischievous and irresponsible as could well be imagined, the reports of the affair more voluminous than could possibly have been imagined in advance by the most caustic critic of our incurable flippancy. It is as well to remind ourselves that we are a good deal better than our Press—and that this applies as well to our antagonists, in this and more serious fields. . . . But it was a sad affair.



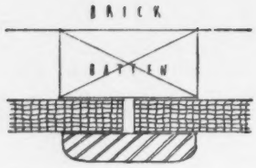
Buildingboard with a rough texture and a warm buff colour employed, without any applied decorative finish, on a curved wall face in the Press Listening Hall at Broadcasting House.

BUILDING-BOARD AND ITS USES

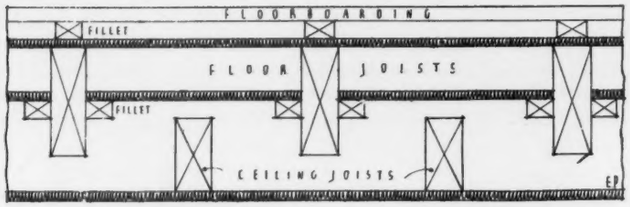
The Architectural Review Supplement

Decoration and Craftsmanship

March 1933



NAILED TO BATTENS ON BRICK **A**



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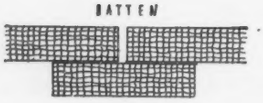

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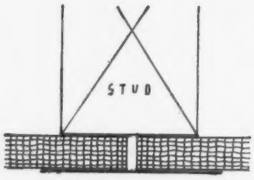

C

NAILED TO STUD PARTITION

D

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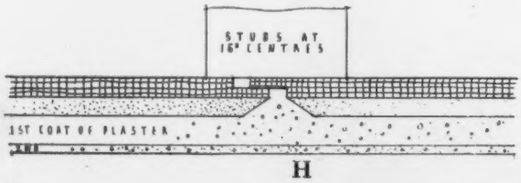
NAILED DIRECT TO BREEZE **F**

A PAPER COVERED GYPSUM BOARD **G**



H

2 FIXING BUILDINGBOARD

Half full-size.

A Buildingboard nailed to battens on brickwork. The joint is covered by a wood strip nailed through the boards to the battens, and the surface is painted or distempered.

B The cover-strip is of the same material as the general wall covering.

C Buildingboard nailed to stud partition. The joint is covered by a $2\frac{1}{2}$ in. wide paper-faced linen strip, stuck on, and the surface provides a base for paint or distemper.

D Standard $2\frac{1}{2}$ in. wide anaglypta strip employed as a covering to flush butt joints.

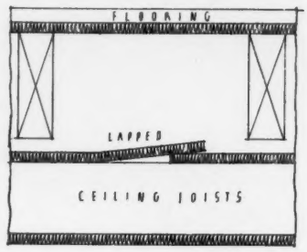
E Boards, with softened edges, butted in moderate contact.

F Buildingboard, employed as a base for plaster or paper, nailed direct to breeze or pumice concrete. The joint is covered by a 4 in. strip of fine wire mesh, bedded in cement and glue size.

G Paper-covered gypsum boards, butt jointed. The paper covering is tucked over the edges during manufacture.

H Plaster-faced wood fibre board employed as a base for two coats of plaster: first coat $\frac{3}{8}$ in., second coat $\frac{1}{8}$ in.

The use of fibre board as a lathing eliminates the risk of shrinkage cracks.



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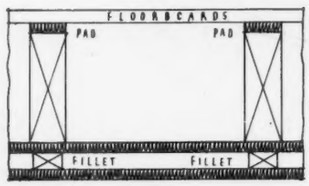

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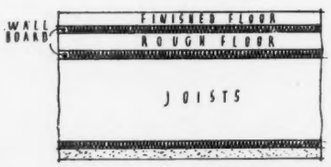

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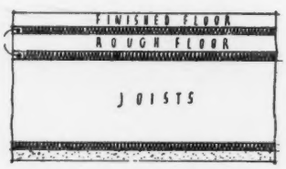


E

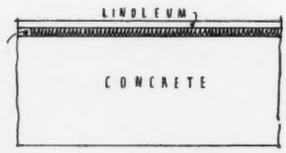
3 PREVENTING SOUND TRANSMISSION THROUGH FLOORS.

One-eighth full-size.

A & B Buildingboard applied to independent ceiling and floor joists.

C, D & E Fixed above and below single floor joists.

F & G Laid over concrete floors.



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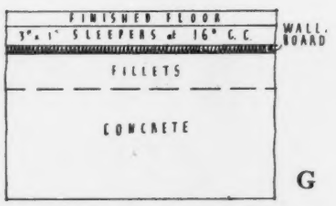

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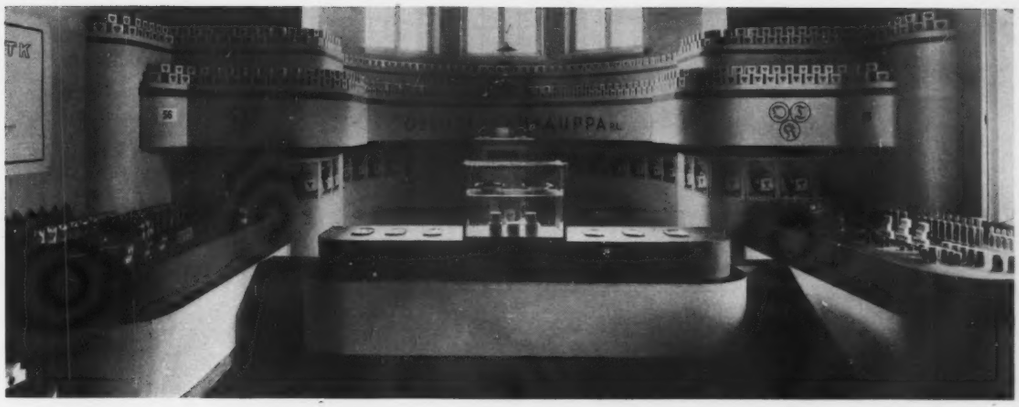


4. In this showroom at Helsingfors, where there are a number of curved surfaces, buildingboard with a hard, smooth face, jointed with decorator's tape, is employed as a basis for two coats of paint.

Buildingboard and Its Uses

By F. R. S. Yorke

WHEN buildingboard was first placed on the market, some twenty years or more ago, there was little likelihood of its being immediately accepted by the architect as a building material; it was not particularly pleasing in appearance, and had not the quality of permanence that the architect demands.

But, as the result of research and experiment, keen competition between the several manufacturers, and the increasing importance of a convenient medium for acoustic correction and thermal insulation, buildingboard is today at a stage of development in which it can fulfil practical and æsthetic requirements, and it is deserving of recognition, indeed is recognized in certain spheres, as an indispensable building material.

Yet many architects, even at the present time, continue to regard buildingboard as an inferior, somewhat shoddy product; a type of stoutish cardboard, invaluable to the jobbing builder as a cheap substitute for plaster in repair work.

For this erroneous conception the architect is himself to some extent responsible. Deriving a satisfying feeling of security from the employment of a familiar medium, he is slow to discover the portent of the new synthetic materials, and only when the exigencies of a particular case drive him to adopt a material with which he is not well acquainted, does he discover inherent possibilities that have hitherto escaped his notice, or that he has failed to visualize.

But a factor quite as important from the æsthetic point of view as the disinterestedness of the architect, is the apathy of the manufacturer concerning the manner in which his product is employed. Such disregard for progress in architectural usage is the more remarkable as it goes side by side with tireless efforts and considerable expenditure in perfecting the actual material and the accumulating technical data.

Instead of attracting attention to features calculated to lead towards better building, the manufacturer tells of the incomparable virtues, unexcelled appearance, and unparalleled advantages of the particular brand of material in which he is interested, and then proceeds to illustrate his points by examples of executed work that belie his every statement, excepting, of course, the popular "particularly suitable for panelling in period styles."

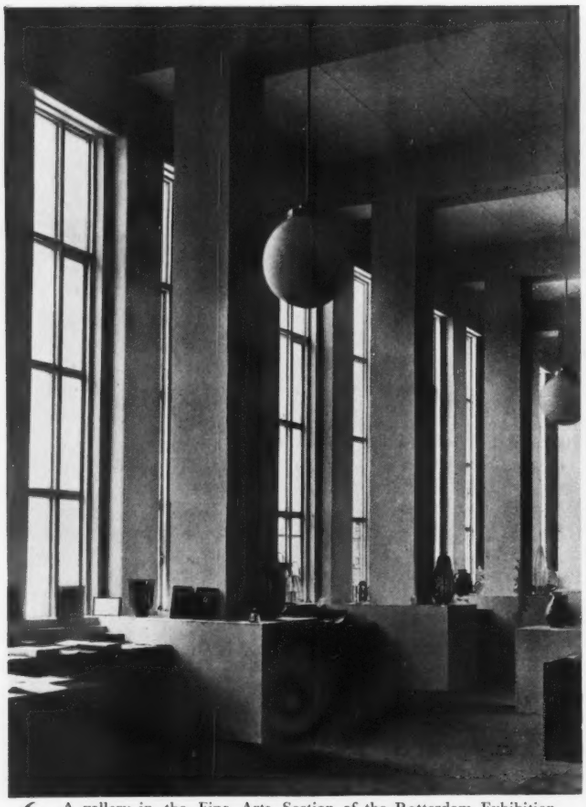
Such is the order of these illustrations that to whomsoever they are familiar the very mention of the word "wallboard" is sufficient to invoke visions of Tudoresque-panelled café interiors, and shapeless panelled cinema ceilings.

BUILDINGBOARD is a new material, the product of a scientific age: a synthetic material evolved and developed for special purposes. Its appearance, the size in which sheets are obtainable and conveniently handled and worked, weight, methods of fixing, and so on, suggest new methods of treatment.

Until recently the manufacturer and the architect have neglected the problem of fixing and jointing. The manufacturer, who continues to advocate nailing to studding and covering joints with 2 in. wide wood strips, apparently ignoring the fact that to the architect a homogeneity of surface seems desirable, declares that alternative suggestions "in accordance with modern taste and feeling" are invariably ruled out by the architect on the ground of cost.

I think that buildingboard does not

5. The interior of a Continental lecture hall, where standard sheets of buildingboard are laid horizontally and jointed without resort to cover strip. Vertical joints are butted, and the horizontal edges of the boards are bevelled.



6. A gallery in the Fine Arts Section of the Rotterdam Exhibition, where walls, ceiling, pillars and bases are lined with butt-jointed buildingboard.

7. The reception corridor in the apartment of B. G. Dahlberg, Esq., on the 31st floor of the Palmolive Building, Chicago, where a scenic design is carved on textured buildingboard with a razor blade.

receive the recognition that is its due because the manufacturer has not sufficiently concerned himself in abolishing the cover-strip.

PLASTER

Plaster, pleasant in itself and an excellent basis for a number of applied treatments, has for a long time been the accepted medium for covering the structural wall and giving it a clean unbroken surface. It is being displaced only very slowly by the new synthetic wall-coverings that science in industry has put at the disposal of the architect. There is no other material that has quite the same simplicity, fulfils all its functions, yet embodies none of its disadvantages.

8. Buildingboard laid over temporary shuttering and forming the permanent shuttering for a reinforced concrete flat roof. When the temporary shuttering is removed, the board, which adheres to the underside of the concrete, becomes the permanent ceiling covering.

SYNTHETIC BUILDINGBOARDS

Synthetic buildingboards eliminate most of these disadvantages, but present one great difficulty. The handling of sheets in sizes of greater dimension than the standard supplied by the maker, which rarely exceeds 16 ft. by 4 ft., would be impracticable, and some form of jointing between the sheets must be devised. It is on this point in particular, as I have already implied, that I imagine the architect would welcome the advice and co-operation of the manufacturer.

The thickness of the sheet is, in the case of the majority of boards, relatively little compared with the overall size, and sufficient support must be provided at the back of the board to counteract any tendency in the material, which is liable to expand and contract with the changing temperature and moisture content of the atmosphere, to warp and bulge, either inwards or outwards. The popular practice is to employ timber studding.

ELEMENTARY METHODS OF FIXING

For boards of normal thickness, it is necessary to fix vertical 2 in. by 1 in. rough battens at 12 in. to 24 in. centres, and similar battens horizontally at 3 ft. to 4 ft. centres, and around all openings, at skirting level, and so on. In the case of certain boards, fixed vertically, horizontal battens are necessary only at horizontal joints.

As a rule nailing is begun at the centre of the board and is continued towards the edges at intervals of 12 in. to 15 in., and the edges of the board are nailed at intervals of 6 in. to 8 in. The cover strip, fixed to the battens by nails or screws, which pass between adjacent edges of the boards, is sufficiently wide to cover the joint, and the nail heads along the edges. As a rule, following the line of least resistance, the architect employs 2 in. by 1 in. deal or $2\frac{1}{2}$ in. wide anagylpta strips for this purpose.

If, however, adequate nailing can be obtained at the centre of the board, there appears no reason why the edges of the board should not be free to move and a cover strip of smaller dimensions employed. There are opportunities for the manufacture of cover strips in bakelite, rubber or stainless metal. Metal cover strips were in fact used in the fibre board covering of the band studio at Broadcasting House, but I understand there is not at present a standard section in any material made for this specific purpose.

When boards are to be papered the

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9. Exhibition buildings at Helsingfors built almost entirely from hard, smooth-faced buildingboard on timber framing.

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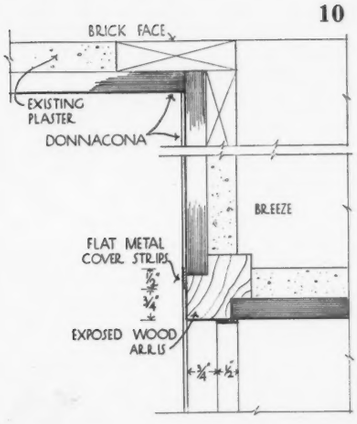

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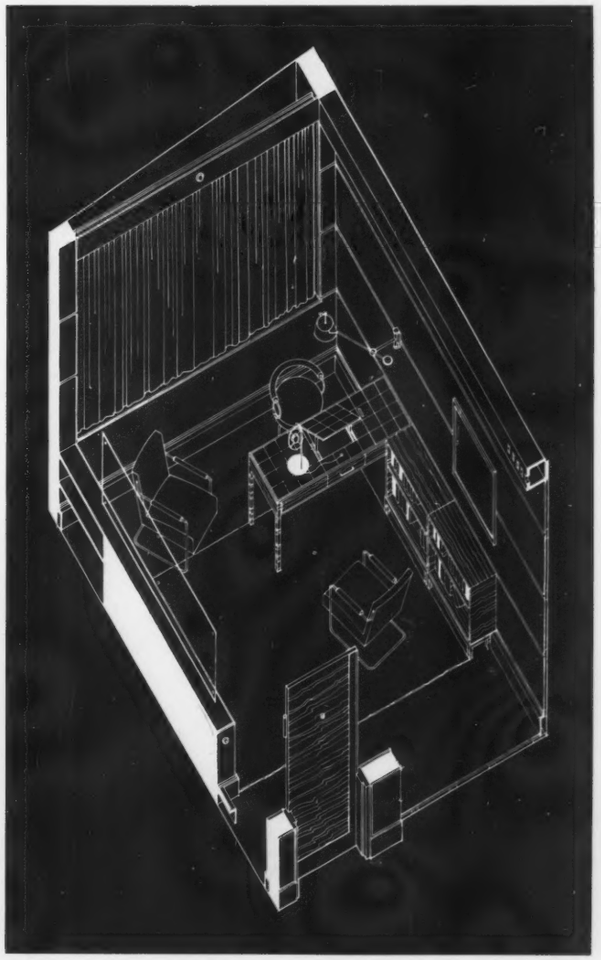

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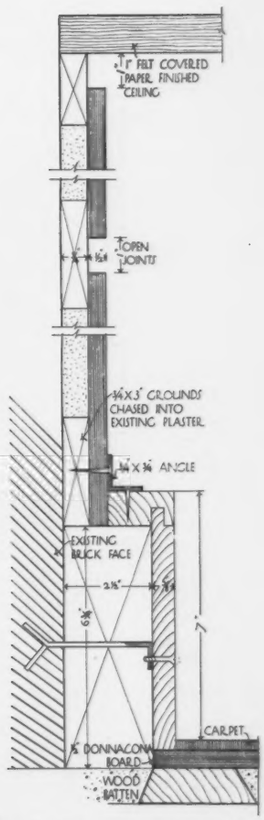
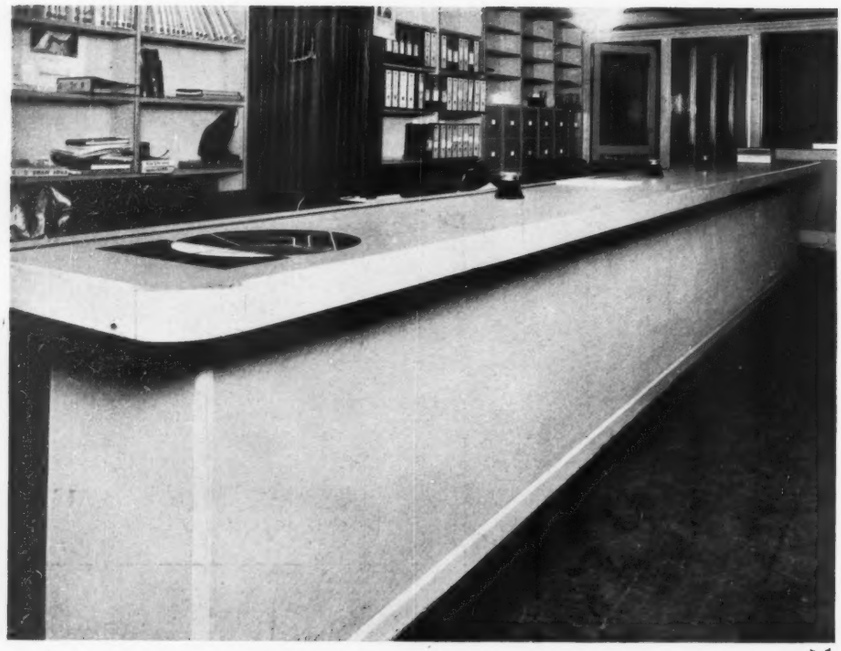


10. Studio 3B, at Broadcasting House. A plan through the electric fire breast, showing the exposed wood angle post, and ¼ in. wide polished aluminium strips that cover the joint between the wood and the buildingboard. 11 and 12. Studio 3B, at Broadcasting House, where ¼ in. thick buildingboard, with a rough texture and warm buff colour, is laid horizontally, with open horizontal joints and vertical joints close butted.

13. A section through the wall facing showing the open joints and the duct behind the skirting that accommodates standard microphone troughing. Buildingboard is fixed to walls, floor and ceiling.

Architect: **Serge Chermayeff.**



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14. A counter at the Building Centre, Bond Street, built up from rough textured buildingboard on timber framing.

15

15. A staircase at the Building Centre, Bond Street. The walls and ceiling are lined with buildingboard

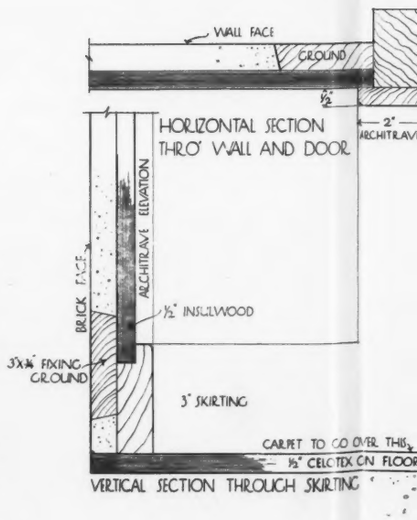
Architect: J. C. Shepherd

16. The Listening Room off Studio 8 A, at Broadcasting House, where textured buildingboard is laid horizontally with open horizontal joints that form continuous bands around the room. Vertical joints are close butted. The boards are $\frac{1}{2}$ in. thick and the space between them 1 in. wide.

Architect: Serge Chermayeff.

17. A plan and section through the wall covering in the Listening Room off Studio 8A, at Broadcasting House. Buildingboard extends from skirting level to the full height of the wall and across the ceiling. It is also laid over the concrete floor to form a pad for the carpet.

Architect: Serge Chermayeff.



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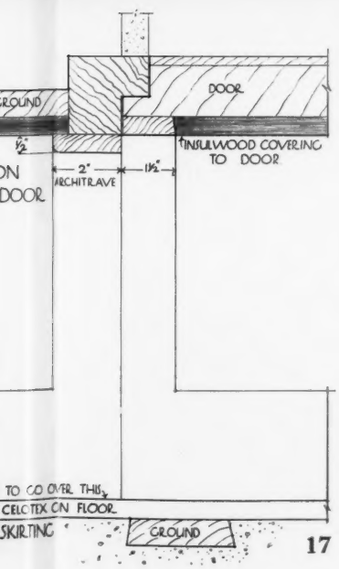

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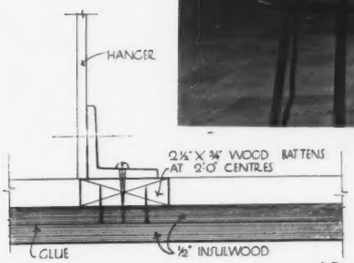
18. Studio 8A at Broadcasting House. A protective dado rises to a height of 5 ft. and above this the walls are lined with untreated buildingboard jointed and protected at angles by polished aluminium strips. The board is held by linoleum cement to soft plaster that is applied over the structural brickwork, and by pinning to battens chased into the plaster.

Architect: Serge Chermayeff.



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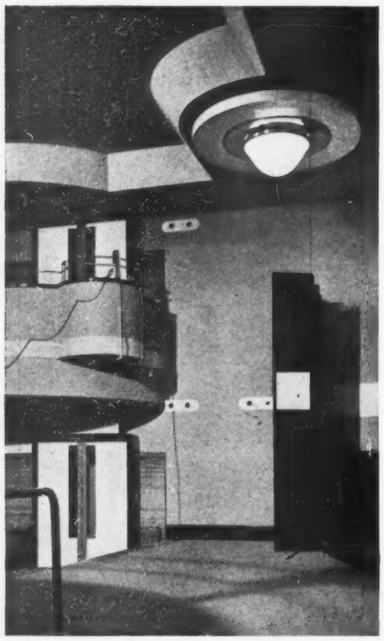
19. The suspended ceiling in Studio 8A, formed from two ½ in. thick layers of buildingboard. The upper sheets are nailed to wood battens, suspended at 2 ft. centres, and the two layers are held together by cement glue.

Architect: Serge Chermayeff.

20

20. The sitting-room in a bungalow at Bourne End, Bucks, where buildingboard was employed as permanent internal shuttering for the 4 in. thickness of poured concrete that forms the structural walls, and distempered to provide the final internal wall treatment. Buildingboard, similarly fixed and finished, forms the ceiling.

Architects: Lucas, Lloyd & Co.



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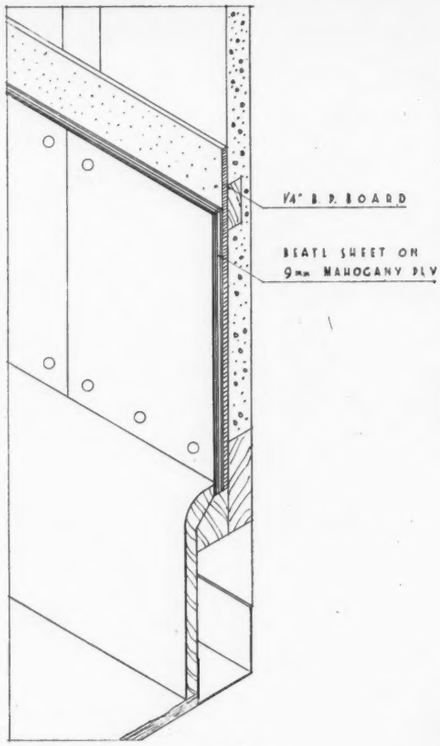

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21. Vaudeville Studio B.A., at Broadcasting House. The main body of the walls is covered with untreated buildingboard, excepting the black dado of the stage, the black and yellow screen and the yellow doors, which are veneered with resin sheets.

Architect: Raymond McGrath.

22. Similar board employed in the construction of the suspended ceiling beneath the gallery in the same studio.

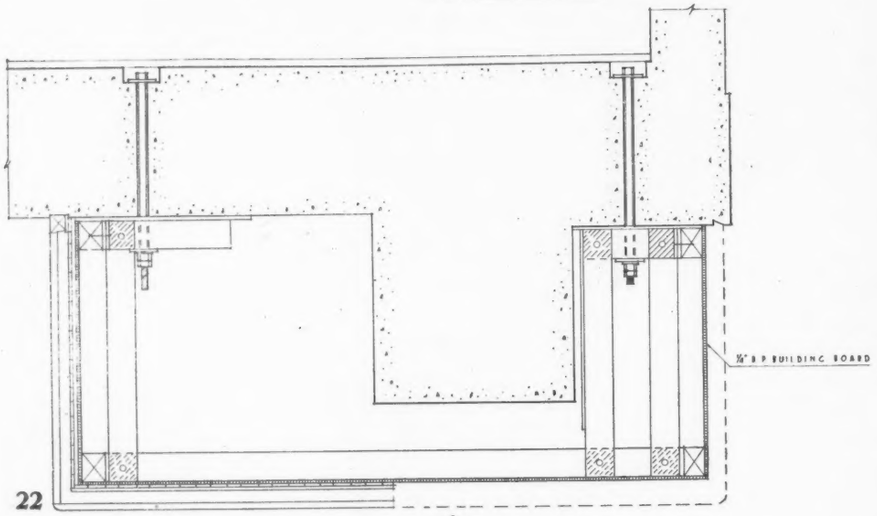
23. An isometric view showing, in detail, the construction of the same ceiling.

24. Insulating buildingboard with bitumen laminations employed as a backing to synthetic resin sheets, to eliminate vibration, in Studio B.A.

Architect: Raymond McGrath.

25. Studio 3E (Religious Broadcasts). The walls are lined with acoustic buildingboard in 4 ft. wide sheets, fixed vertically with 4 in. breaks at each joint. In each break an electric light fitting is fixed. The ventilation inlet pan is faced with wallboard, to which the numerals of the clock dial are directly applied.

Architect: Edward Maufe.



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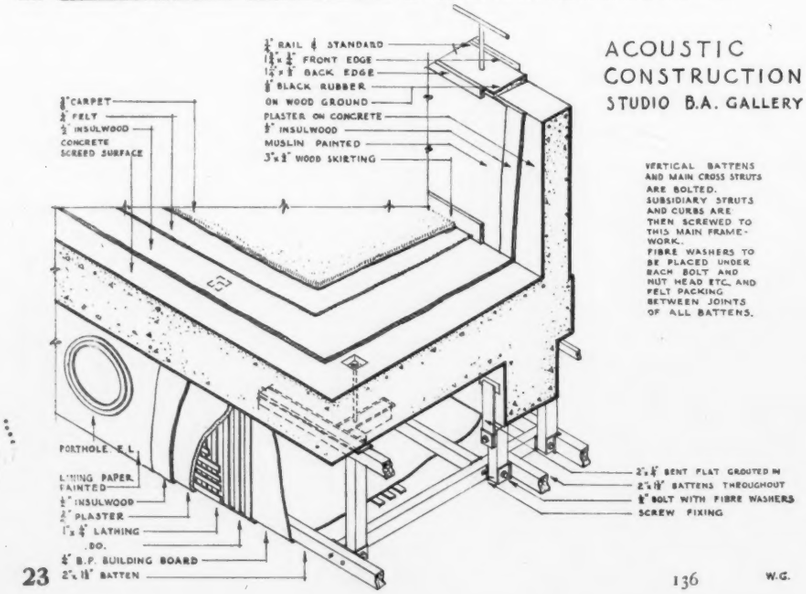

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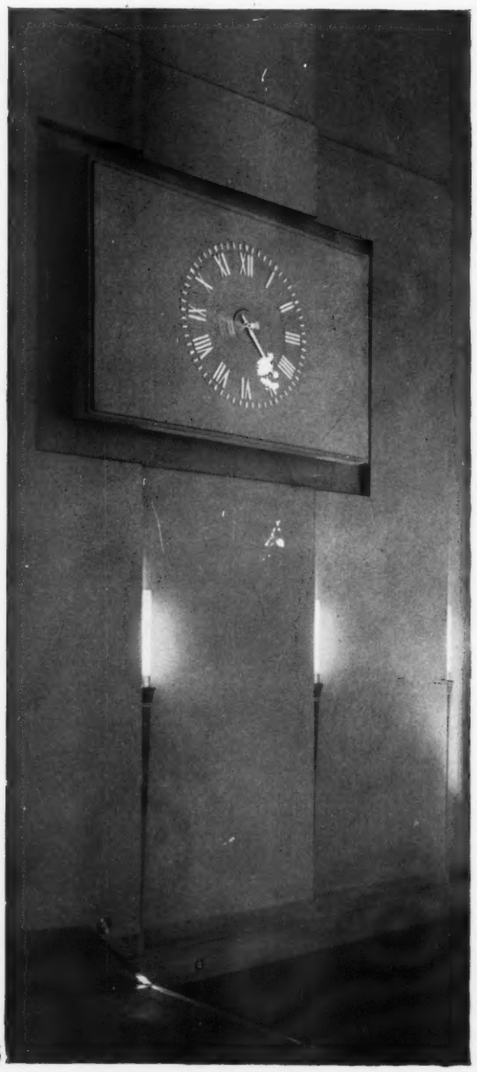

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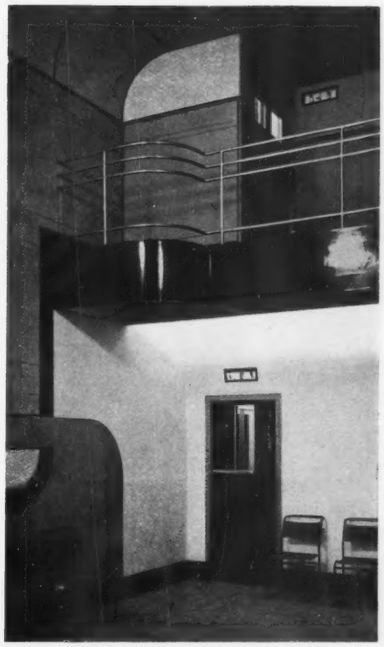
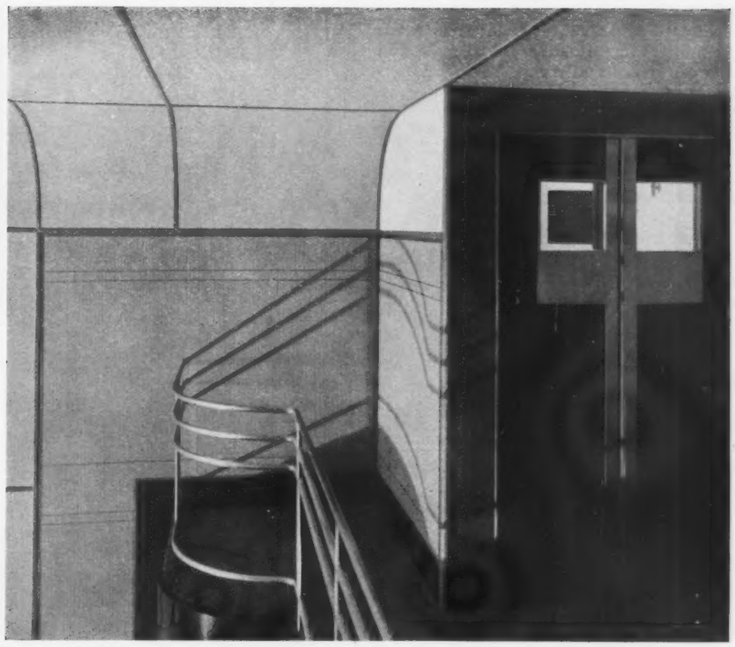




26. The Dance Band Studio B.B., where the ceiling is lined with compressed fibre board. **27.** A close-up of the ceiling in the same studio. **28.** A diagram showing the construction of the cove to the ceiling in Studio B.B. Both studios in Broadcasting House, London. *Architect:* Raymond McGrath.

joints may be covered by a strip of decorator's tape, fixed with glue size. After the paper has been applied the joint is barely apparent.

In the case of built-up boards, i.e., thin plies of compressed wood pulp cemented and compressed together, a layer may be removed from adjacent edges of the boards and a cover strip fixed flush with the board surfaces.

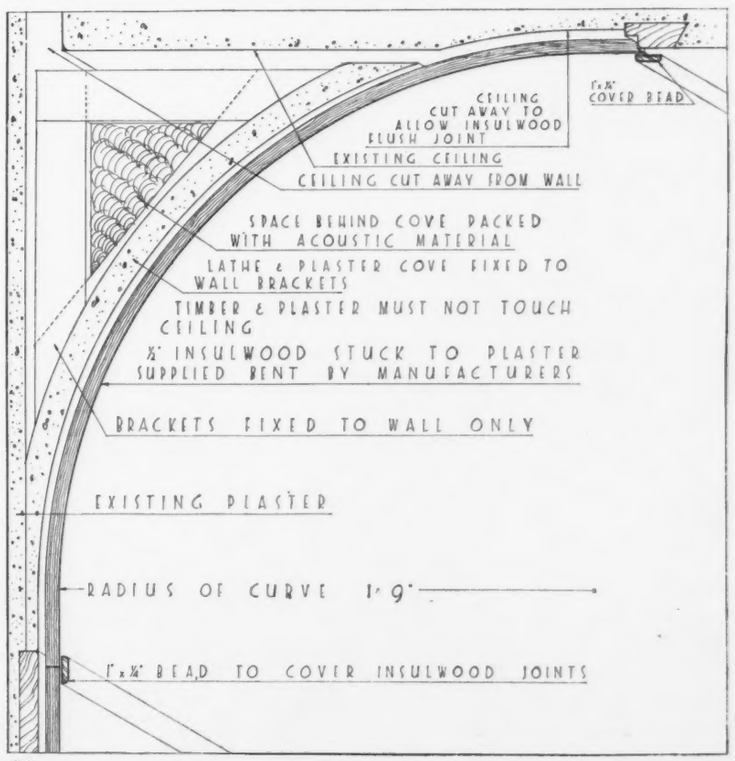
This method also applies to certain homogeneous compressed fibre boards, the joints between which may be covered by a wire mesh strip.

MODERN METHODS OF FIXING

It is unlikely, however, that the future of wallboard depends upon these elementary methods of fixing, which, though on the whole quite economical and still indispensable in certain cases, offer little scope for design, and are, it appears, slowly becoming obsolete. Other and better methods have been evolved. In modern usage the board is cement glued to a rigid backing, or employed as shuttering to poured concrete, to which it serves, either in its natural state, or as a basis for some applied treatment, as a permanent facing.

PERMANENT SHUTTERING

At a bungalow at Bourne End (20) where the construction throughout is 4 in. reinforced concrete, buildingboard was used as permanent shuttering, ordinary timber shuttering was used for the external wall faces, and the concrete finished with a rendering of cement, but for the internal wall faces and soffits a textured board, supported by shuttering, with a 2 in. space



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between boards, was strong enough to take an 8 ft. pour without bulging. The wallboard remained in position when the shuttering was removed, and adhesion between board and concrete was found to be satisfactory, in fact it was shown in tests that the board must be torn away in fragments in order to reach the concrete.

The board provides an internal finish that acts as an efficient heat and sound insulator. The form of construction is weatherproof and it has been shown that the cost per yard super of such walling, including rendering, is slightly lower than that of 9 in. Fletton brickwork, to which of course it would be necessary to provide an internal finish.

In certain studios at Broadcasting House ½ in. thick wallboard is held by linoleum cement to soft plaster that is applied over the structural brickwork. Additional security is provided by pinning to 3 in. by ¾ in. wood grounds chased into the plaster.

Vertical joints are butted, but horizontal joints are open and the wood grounds form the vertical faces of shallow grooves that run continuously around the room.

The boards have a rough texture and a buff colour, and are sufficiently pleasant in appearance to require no covering of paint or distemper. This is fortunate, for were the natural surface not exposed the efficiency of the material as an acoustic corrective medium would be to some extent impaired. In some rooms, however, where the general coefficient of absorption is on the high side, a single coat of distemper is used to colour the wallboard on the ceilings.

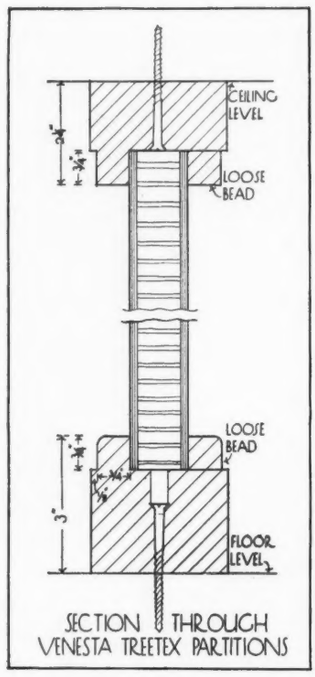
On the floors close carpeting is laid over ½ in. compressed fibre board on concrete.

The sheets of fibre board that cover the walls of Studio 8A, above dado level, are butt jointed vertically, but the horizontal joints and angles are covered by narrow strips of stainless polished aluminium.

The suspended ceiling is formed from two ½ in. thick layers of wallboard, the upper sheets being nailed to wood battens at 2 ft. centres, whilst the two layers are held together by cement glue.

PARTITIONING

Composite boards formed from compressed fibre board with a covering of veneered or metal faced plywood on one or both faces are sufficiently rigid, even in large sheets, to be employed for partitioning work with no other support than a base and capping to hold them in position. The material can be employed without risk of drumming, splitting, or shrinkage, and the panels may safely be butted together (29).



29. A partition formed from a single thickness of composite building-board, held only at floor and ceiling. The sheet is formed from a thickness of compressed fibre board faced on both sides with veneered or metal-faced plywood. *Architect:* Serge Chermayeff.

CEILINGS

At the recently constructed offices of a London newspaper, $\frac{7}{16}$ in. wallboard in sheets 8 ft. and 9 ft. long by 4 ft. wide forms the permanent covering to the ceilings. The board was laid on paper, which served to protect the underside of the material from dirt and damage during building operations, above temporary shuttering. Water was applied freely to the upper face of the board and allowed to remain for some ten minutes before the board was brushed, an operation which raised the fibres, thus ensuring a thorough grip or key for the cement slurry, which was later applied as a medium for securing absolute adhesion between the board and the underside of the structural floor. Hollow floor tiles were bedded in the slurry and reinforcing bars placed. Concrete was then poured, followed by screeding to receive the floor finish. The shuttering and the paper were removed, and the wallboard, permanently bonded to the underside of the floor, forms a ceiling that is fire-resisting, insulates sound and temperature, prevents condensation, withstands vibration, and permits immediate decoration. Similar methods may, of course, be employed in the case of solid reinforced concrete or filler joist floors.

FORM BOARD LININGS

In recent practice compressed fibre board has been used with considerable success as temporary shuttering.

Special grades of wallboard, of high density and perfectly smooth surface, are manufactured for use as lining to form boards. On account of the hardness, durability, and smoothness of surface, the board strips cleanly from the concrete, and, providing normal care be exercised, remains intact and can be used ten times or more. The material is obtainable in large sheets, and consequently its use entails none of the unsightly joint marks that occur when timber shuttering is employed. It is claimed that the surface imparted to the concrete by this material is so smooth that rendering and rubbing down operations are practically eliminated.

30. Curved surfaces in wallboard at Seamills Wesleyan Church, Bristol. The groined ceiling above the high string course, is lined with sheets of compressed fibre board, fixed to timber studding, and butt jointed. No use is made of cover strips or applied decoration. *Architects:* Sir G. Oatley and Lawrence.

ANTHOLOGY

The Decline of the Country Gentleman

THE decay of the country-gentleman tradition is not merely due to smashing taxation. In old days an heir probably inherited soon after he was thirty, after having been brought up to be squire as a matter of course. But now, life is lengthened, and old age comes later, and knowing that his father will quite likely reach his eightieth birthday, the son naturally takes to a profession. When he comes into his property, say, between fifty and sixty, he has the settled interests of a barrister, broker, soldier or banker. The death duties fall on him like an avalanche. He is probably urban in his habits, with perhaps a love of sport, but not so exigent that it cannot be satisfied by a few days' hunting and shooting a year; at any rate the difference between such pleasures and an afternoon's golf is not very great to him. His children don't know how to talk to a keeper or the old woman at the lodge. To them the family home has just been a place for Christmas—and now they have to live in it. They are always either taking aimless spins in the car, or two-stepping in the hall to the strains of the gramophone, or sprawling in chairs and slamming down magazines with a yawn. It may be a sentimental wrench to the new squire (boyish memories, ancestors) to sell, but his family are not going to help inch and pinch to hang on. They pull in the direction of more cash and variety. Then some man with a long pocket, but no more idea of how to be a country gentleman than a head waiter, makes an offer; tempted commercially by the thought that though he may have to pay a solid price for the acres, the fine old house itself (unless it is so situated as to be a "week-end place") is thrown in like a paper-weight to keep the acres from flying away, tempted also by a vague notion of the prestige and dignity of squires. Down he comes, puts in six tiled bathrooms and a lift, paints a lot of things white, abolishes the laundry, never inquires after the soundness of fence or tree, but treats such matters and the garden on a Napoleonic scale. He appears utterly indifferent to expense, yet sacks a man because the cucumbers haven't paid; builds a much more comfortable cottage for the carpenter, but earns the latter's undying dislike by suppressing his dog, which strayed into the hall one morning; loses his temper with the keeper because the pheasants didn't come over the important guest; shocks the village by sending £10 out to the carol-singers, without listening to them or offering them supper in the servants' hall, let alone looking in to see if they are enjoying themselves—down he comes, in short, spreading everywhere bewilderment and discontent. Then there is a slump in something; off he goes again to make room for another like him. Meanwhile the idea that the lift and those bathrooms will be thrown in with the paper-weight rankles. He'll get that money back, anyhow, and since he had no longer the gratification of being a squire on the spot, everybody on the estate endures the unfamiliar and unpleasant experience of being run on strict business lines.

The moral is that our old land-owning system is incompatible with the new longevity. Only when the new squire inherits young or has spent his life partly in sporting idleness, partly as his father's agent, is the result likely to be different. Such a one has a horror of events following the course just described. In spite of death duties he will do anything to avoid that. He will live like a weevil in a biscuit in his huge house. He will try to avoid marrying a woman who does not see eye to eye with him. His friends may wish they had taken up their great coats with them when, changed for dinner, they hurry along icy passages, meals may be served in the study, landings and wings shut up, the pheasants in the covers may change from hand-fed birds to wild, the kitchen garden into a market garden, and flower beds to turf. Sticking on may mean economy to the bone in some respects, and dismissing many indoors and out of doors. Still, these changes will not be conducted on business lines. There will be matters in which indifference and generosity on the squire's part are obligatory, and stinting or fuss inadmissible. What is more, the people about him will know all this as clearly as he himself. This common understanding is the best side of the system, but without proper squires it tumbles to bits. Now a man is not going to hang about as his father's son till he is sixty to qualify; increasing longevity will complete the extinction of the country gentleman.

From CRITICISMS

by DESMOND MACCARTHY

MARGINALIA

THE ROYAL SOCIETY OF ARTS

The Royal Society for the Encouragement of Arts, Manufactures, and Commerce had a paper read at its ordinary meeting last month on "Modern Whaling in the Antarctic."

MORE BEAUTY IN DEATH

As a result of the illustration of a large Gothic tomb in Glasnevin Cemetery, Dublin, which appeared in these pages last month, the Marble Memorial Development Committee has sent in a brochure on the care of British Churchyards. The illustration below is of a churchyard in Cambridgeshire, and the quotations beneath it come from the pungently written brochure which is a plea for marble memorials.

"'De gustibus non est disputandum'—but there are those who even admire the old brick chest tombs!" "Nothing in England is so dismal as a churchyard filled with old crumbling headstones of native stone." "And did not Sir Thomas Brock use marble for the Memorial to Queen Victoria?"

A BELATED ACKNOWLEDGMENT

The working class flats in Kensington, illustrated in the February issue of THE ARCHITECTURAL REVIEW, pages 67, 68 and 69, were wrongly ascribed entirely to Mr. S. Cameron Kirby. The Editor wishes to apologize to Mr. T. Smith Shearer, who designed them in partnership with Mr. Cameron Kirby.

THE SLUM PROPERTY OF THE CHURCH OF ENGLAND

The campaign inside the Church of England against her continued holding of slum ground rents is spreading from London to the country. Mr. G. W. Currie, Chairman of the Chelsea Housing Association, in an open letter to the National Assembly, draws attention to the action of the church council of Lymington, in the Diocese of Winchester, in petitioning the Ecclesiastical Commissioners even at the risk of diminished revenue "to relieve the Church of England from this reproach," and the Bishop of London's Housing Committee has repeatedly protested against the antiquated arrangements affecting London ground rents belonging to the Church.

ARE HER HANDS CLEAN?

Mr. Currie's letter points out that the Archbishop of Canterbury recently warned the Assembly that "if the Church is to have any kind of effective moral witness, it must at least keep its own hands clean," and raises the question whether they really are clean so long as grants for Church work all over the country and the stipends of numerous dignitaries come from such a source. A housing bill is now passing through Parliament and the responsible authorities of the Church have thus the opportunity to act on the Bishop of London's advice to get rid of ancient shackles and secure power to enforce reasonable conditions on ground-rented property.

PADDINGTON

The area under discussion is in the West End of London, in the borough of Paddington, where sanitary conditions are open to very serious challenge but where the recent expansion of Church revenues has been phenomenal. Mr. Currie appeals to Lord Hugh Cecil, M.P., to take the matter up in the Church Assembly, and concludes by asking whether "in face of conditions which disintegrate and rot human life at every turn," decency is not "a first charge on Church property, ranking ahead of cash collections." Tenants directly under the Commissioners are well treated and the whole difficulty arises out of antiquated ground leases which may have been reasonable enough a hundred years ago. The Church's modern leases are in modern terms. Grantee parishes might suffer if there were a temporary reduction of revenue, but Mr. Currie argues that the Church would not be the loser in the long run by acting on the Bishop of London's advice.

CORRESPONDENCE

THE BRITISH PUBLIC ANSWERS THE PUBLISHER

The Editor,
The Architectural Review.

Sir,

Mr. Gordon Craig's valuable review, in a long published issue, of what appears to be a most attractive volume—*The Villages of England*, by A. K. Wickham, which the author had hoped, when he prepared it, would find a public as one of a series at 5s., and which was finally published six years later by itself at 12s. 6d., by B. T. Batsford—and this reviewer's questioning whether it is really true that there is no such sale in England, as for instance there would be in Germany, for books of the kind for about 5s.—together with Mr. Batsford's equally valuable letter in your December issue giving expression to book-trade beliefs that the British pub ic does not buy books because, in effect, mainly boor or ass, seem to demand in all fairness that a member of that public as distinguished and representative as these two protagonists should appear on its behalf, since the book trade in general is dealt with by Mr. Batsford.

But in regard to the special question raised by Mr. Gordon Craig—whether there is a five-shilling public for such matter—somewhat summarily dismissed with a negative by Mr. Batsford—may it not be considered that a member of the public who is an undistinguished, obscure and extremely ordinary person has another kind of representative value, that of being "X," the unknown and possible 5s. purchaser? And if so, might not such an obscure individual contribute something to this subject which would not occur to a publisher writing from a Mayfair address?

MR. BATSFORD'S UPPER-CLASS ATTITUDE

My reason for thinking it possible a great gulf is fixed between the "X" I postulate and Mayfair is that Mr. Batsford proposes, quite seriously, as a test for book sales, "to select any good, cheap series on art and architecture and peddle it from door to door in a good class neighbourhood."

Now any housewife of the class Mr. Batsford has in mind could tell him that that is no test at all. If the lady of the house opened the door herself, she would close it, as quickly as possible, with "No, thank you." The maids would have instructions never to buy at the door or admit to the mistress for interview anyone suspected of wishing to sell. If down in the area a sale were effected in kitchen regions it would be in direct contravention of the strict universal rule against buying such things at the door. This may not be so in Mayfair: it certainly is in the homes of the five-shilling purchasers contemplated, of whose habits and customs the suggested test shows complete ignorance.

MORE UPPER CLASS STILL

At the other end of the scale where Mr. Batsford states that £6 volumes sold by French publishers would find no public here, it is best for "X" to confess ignorance. He had hoped that book sale prices reported in the papers, the existence of such bodies as the First Edition Club, and the publication of expensive volumes, indicated there existed here, as it is hoped there always will exist, a certain number of persons ready to give good prices for fine books from motives not entirely based on speculative money values. When Mr. Batsford says "Let us contrast present conditions with the 18th century," "X" would like to ask whether the 18th century method of obtaining subscribers beforehand, whose names appeared in the published volumes, to our very great edification to-day—as testimony to very great labour then—has been tried and found wanting. But "X" accepts it that that is not his affair and confines himself to the subject of Mr. Gordon Craig's letter, the five-shilling (or thereabouts) purchaser.

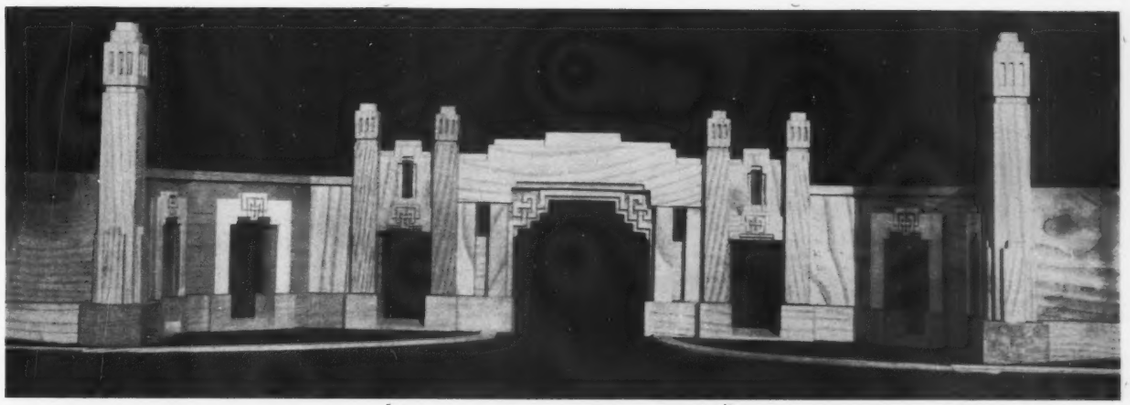
In that character "X" would like to submit, now that the Christmas present-giving season is over, that having wished to give books for presents he was frustrated by finding exactly what Mr. Batsford's letter should have led him to expect: a great dearth of the kind of books Mr. Craig describes, at the price he suggests.

THE WRITER SHOCKED

His fruitless search brought to light certain other impressions painful to a person ordinarily attracted by books, whether on his own shelves or in libraries: (1) He found the book-shop windows filled with vulgar discordant colouring more repelling than the most repulsive hoarding; (2) inside the shop he found himself not only repelled but confused by rows of this same uniform discordant colouring which robbed separate volumes of all individuality and made the effect of the whole hideous.

"X" made another discovery. If, by straining a point, by self-sacrifice, or sacrificing a scruple, he decided he would at all costs make the effort and rise to the price of a "book of the day," 12s. 6d., 16s., 21s., and so forth, he could never reckon upon going into a bookshop and buying it. His request to see it was almost invariably met with: "We haven't a copy, but will order one for you." Busy people gave up the idea of buying books.

Now, apart from the Christmas sales, it is being very generally complained by "X" and his kind that, as a correspondent of this present "X" wrote only yesterday: "We are always lamenting the flood of unpleasant literature that comes into the libraries and the difficulty of getting clean and wholesome writing."



A GRAECO-HIBERNICO DESIGN

The Entrance to Fitzgerald Park, Killarney, Ireland, by Micail O. Riada

NEGLECTED AUTHORS

Mr. Batsford thinks books are not discussed today. Can it be that he is as out of touch with what is thus being customarily said as he is with what is customary in door to door selling?

NEGLECTED BOOKSELLERS

The public *is* discussing the parlous condition of the book trade disclosed by Mr. Batsford and other publishers, and, restive under blame, is in its ignorance seeking round for reasons why it cannot find books to buy. It is asking: "Are we to conclude that this particular trade has an understanding among its members that prices of 'books of the day' shall be kept up beyond the purse of the average reader? Is this policy pursued in the interests of library circulation? Has there been, since 'the Crisis,' an undertaking that in order to keep up prices output of such books shall be restricted?"

AMERICA AGAIN

A further question is being asked by the British public belaboured as boor and ass, and that is: "For whom is the British publisher really publishing? Is it for the British public?"

In the rejection of "intelligent" matter, the explanation that "as a commercial speculation" it offers no prospects is nowadays apt to be amplified by the addition, "our sales depending largely on the American market."

"X" reads the papers. He has noted that in the case of a business built up by a Nottingham chemist to prosperity, control of its shares was secured in America, with results recently recorded in the press for his enlightenment; from the same source he knows that the film business here is under American control to a preponderating degree, and he is asking what has American control and the American market to do with our book trade?

"INTELLIGENT MATTER"

He is weighing up statements that "the Crisis" has made it necessary to restrict the output of intelligent matter "as a commercial speculation" against others about the outpouring of "trash." When told that labour costs and the public's lack of interest in "intelligent" matter make publication of the latter unremunerative, he watches the sales, the thousands going up weekly, of a book costing less than ten shillings for nearly a thousand pages, with numerous excellent illustrations, which even its enemies do not characterise as anything but scientific or intelligent matter. And he asks: Is it the publisher, or the public over here, who has decided that "intelligent" matter shall have a restricted chance?

The proposal that sale figures and methods should be examined and discussed, Mr. Batsford considers pathetic. "X" considers it businesslike. He thinks it might even help to discover what lies at the root of the failure to reach certain classes of reader with books they would like to buy, or to publish them even. He considers there may be failure of method as well as of public; that the public consists of many classes, and that his own has been repelled of late.

Can other methods produce happier results?

Before concluding "X" would like to express admiration for the way in which Mr. Gordon Craig has posed this truly important question, and a sense of obligation to the ARCHITECTURAL REVIEW for ventilating this subject on the public's behalf.—I am, Sir,

Your obedient servant,

LONDON, S.W.10. X.

NOTE.—Mr. Batsford's reply to this will appear next month.

ERRATA

The Editor,
THE ARCHITECTURAL REVIEW.

DEAR SIR,—May we call your attention to a mistake in the price of our book, *The Appreciation of Architecture*, reviewed on page 76 of your February number. The price of this book is 5s., not 15s., and it is very important from our point of view that possible purchasers should know that this is not an expensive volume. We hope, therefore, you will be able to find space for a correction in your next number.

May we, at the same time, thank you sincerely for the very interesting review which you have published.—Your obedient servants, WISHART & COMPANY.

The Editor,
THE ARCHITECTURAL REVIEW.

DEAR SIR,—I desire to draw your attention to an inaccuracy on page 205 of the November issue of THE ARCHITECTURAL REVIEW. You state that the new Church of Christ the King, Cork, was designed by an American architect, J. R. Boyd Barrett. This is not correct. The Church was designed by Mr. Barry Byrne, of Chicago, and his plans were carried out under my supervision.—Your obedient servant, J. R. BOYD BARRETT.

BORDERING ON LIBEL

The Editor,
THE ARCHITECTURAL REVIEW.

DEAR SIR,—Our attention has been called to an article appearing in the current issue of THE ARCHITECTURAL REVIEW, by Lord Clonmore, under the heading "A Partner with the Enemy," in which reference is made to our property, "Terminal House, Victoria," which, it is stated, "has had a single let," a statement which, if uncontradicted, might create an entirely erroneous impression and prejudicially affect our property.

We beg to inform you that there are already over twenty tenants in occupation on various floors, including prominent Firms and Associations in London. We shall be glad, therefore, if you will see that attention is called to this in a prominent position in your next issue.—Your obedient servant,

GEO. FREEMAN,
For GROSVENOR GARDENS ESTATES LTD.

NOTE: The Editor apologizes to the Grosvenor Gardens Estates Limited, and in defence of Lord Clonmore must add that his article was written when Terminal House had only just been completed.

A FOURSQUARE AFFAIR

The Square at Castleton in Derbyshire

The Square and War Memorial.

The Square, looking South –

The Square, looking East—

The Square, looking West.

THE VALE

in whose bosom the picnickers meet

Looking West in the Castleton Valley—

and looking East.

Notes on Building-boards

By F. R. S. Yorke

CLASSIFICATION OF TYPES

THE group of materials commonly known as wallboards, but more correctly termed buildingboards, may, if we exclude asbestos products, and plywoods, and the development of plywoods in laminated boards with a wood veneer, be conveniently classified in five categories :—

(1) Fibre boards, made from compressed wood, cane, or root fibre, of (*a*) high density, usually less than $\frac{7}{16}$ in. thick, (*b*) low density, usually $\frac{7}{16}$ in. or more in thickness, up to 1 in. for special purposes.

(2) Laminated boards, i.e., boards built up from thin plies derived from wood pulp and wood fibre, cemented and compressed together, often with interposed waterproof—bituminous—layers.

(3) Wood pulp boards.

(4) Plaster boards.

(5) Composite boards, i.e., boards with a core of compressed fibre, and one or both sides faced with veneered or metal-faced plywood.

ADVANTAGES

Employed as an acoustic corrective medium buildingboard will prevent reverberation and sound transmission.

Low density board acts as a thermal insulator. It is claimed that $\frac{1}{2}$ in. thick board will increase the thermal resistance of a 9 in. brick in cement wall by two and a half times its ordinary resistance at normal living-room temperature.

Fibre board, which is really synthetic wood, has an advantage over natural wood in that it will not, if properly fixed, behave in unexpected and undesired ways.

Used in place of plaster it is immune from crazing and cracking, and is unaffected by vibration in conditions under which plaster might lose its key. It permits speedy erection and eliminates subsequent mess. It makes possible the application of permanent decoration immediately after fixing, without waiting for "drying-out." It does not encourage condensation.

FIBRE BOARDS

In the manufacture of fibre boards, wood, cane, or root fibres are disintegrated by chemical or mechanical means, subjected to superheated steam and exploded from guns, or, in a moist condition, shredded in such a manner that the length of the fibres, essential to the strength of the ultimate product, is retained. Sawdust is sometimes added, but is, in excess, obviously deleterious, being granular rather than fibrous.

In the best practice no waste matter or foreign substance is introduced, only carefully selected logs, barked and reduced to a fibrous state, and sterilized liquorice root, or sugar cane, being used.

The raw material is sterilized by the "cooking" process employed in the extraction of the natural juices.

Whilst the material is still in a mobile condition the fibres are waterproofed,

liquids calculated to discourage moisture absorption being added, and subjected to processes rendering them fireproof, rot proof, and vermin proof, and the material is ready to be converted, or " felted " into board form.

Varying methods are adopted by the several manufacturers, and it is not necessary to deal with each in detail, but it may be as well to quote a particular case :— " Throughout the process nothing is done that could in any way adversely affect the insulating properties of the finished product, or impair the natural strength and binding qualities of the fibres. Thus no pressure is used which tends to destroy the air cells from which insulating efficiency is obtained, nor is excessive heat employed which would weaken the fibres and bake out the natural sap binders. On the contrary, the felting process ensures that countless dead air cells are formed in the board, in addition to those already contained in each individual fibre. Again, the fact that the fibres are knitted together, or interlaced, makes it impossible for the board to split in any direction, and renders it immune from warping.

" The felting machine consists of a large single roller on to which the fibres, in solution, are sucked by means of a vacuum set up inside the roller. This process ensures that the fibres cling to the roller in all directions, and thus there is no distinct grain in the board, and, as previously stated, the interlacing of fibres creates innumerable dead air cells. The board goes from the rollers to a conveyor as a continuous sheet 12 ft. wide, and, whilst actually moving, is cut by a travelling knife into suitable lengths. The conveyor carries the large boards into the dry kiln through which they slowly pass. The temperature of the kiln is maintained at a low level so that the board shall be subjected to none of the resultant evils of quick drying.

" From the kiln the boards are conveyed through saws which cut them to their finished size, and thence to the packing and despatching departments."

Alternatively the material, in a liquid state, is run into a shallow tank or tray, in sufficient quantity to give the required thickness to the finished board ; excess water is drained off, and the material compressed to form a thickish, moist mat, which is dried and trimmed, and treated to produce the desired surface texture.

In other cases the liquid is partially dried and then extruded through an aperture, the size of which governs the standard width of the sheet. Cutting to standard length is automatic.

A low density " insulation " fibre board weighs from 13 to 20 lbs. per cu. ft. whilst a high density compressed fibre board weighs from 50 to 60 lbs. per cu. ft.

PLASTER BOARD

Plaster boards are formed from a thickness of gypsum plaster sandwiched between two layers of tough paper. Adhesion between plaster and paper is effected in the process of manufacture, without resort to cement.

Plaster of Paris is run out on a wide conveyor belt, and paper is automatically applied, and turned over and sealed at the edges. The boards are made up to 4 ft. wide $\times$ 10 ft. long and from $\frac{3}{16}$ in. to $\frac{3}{4}$ in. thick.

There are two varieties of plaster board, the difference being in the composition of the plaster core. One is composed of gypsum, chemically treated in such a manner that, in setting, numerous tiny air cells are formed. This board is lighter, more sound proof, more flexible, and consequently less liable to fracture, than the second type which is made from a composition of gypsum and sawdust, an ingredient which, like aeration, reduces weight. In practice, however, the difference is barely appreciable, and both types of board have excellent fireproof qualities, for gypsum gives off its water of crystallization when subjected to heat, and, in some cases, additional safety is ensured by impregnating the paper covering. In fact, of all boards, the plaster type have the highest fire-resisting qualities. I understand that the fireproofing treatment to which other types are subjected has not yet reached a state of perfection, though manufacturers consider that they are near to the production of a fire-resisting fibrous board.

USES OF BUILDINGBOARD

Buildingboard may be used as a wall or ceiling covering, in place of plaster, with joints butted, open, or covered, and the natural texture and colour of the material allowed to provide the decorative finish.

Similarly employed, but as a base for some applied treatment ; paint, paper, distemper, etc.

As a base for plaster.

For the thermal insulation of wood or concrete flat roofs, and slated or tiled pitched roofs. Insulation of floors and partitions.

Acoustic correction and sound deadening.

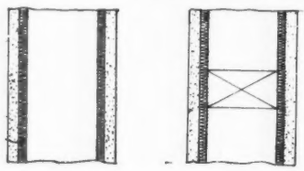
As temporary or permanent centering for poured concrete work.

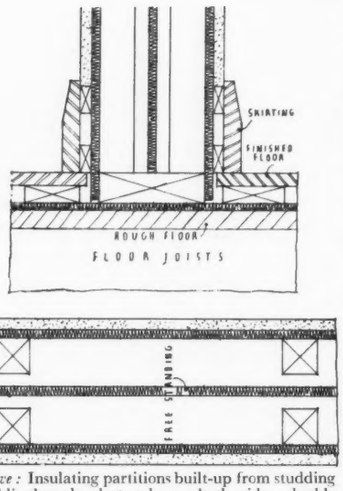
Certain boards have been used, with varying degrees of success, for external work, and for motor bodies, railway coaches, tramway-car linings, and the hulls of small boats.

WALL AND CEILING LININGS

In plaster board there is no appreciable movement due to changes in the moisture content and temperature of the atmosphere, and joints may be butted closely.

Boards of a pulp nature are particularly liable to expand and contract, and where they are used it is advisable to employ some form of visible cover, or to show frankly the space between the edges of the sheets. It is usual to leave a gap of $\frac{1}{8}$ in.





Above : Insulating partitions built-up from studding buildingboard plastered on both sides, double studs ; 16 in. centres.
Left, below : Single studs ; 16 in. centres.
Right, below : Stoppered studs ; 8 in. centres.

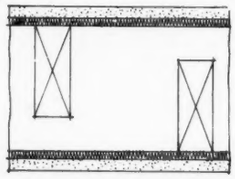
to $\frac{3}{16}$ in. between adjacent edges of the boards. This gap is indispensable if boards of the thinner type be used. Thick cellular boards may, however, be butted in moderate contact, but should on no account be "whipped" together, as it is essential that there be at least a slight margin to allow for possible movement.

Some manufacturers specialize in boards having surface texture and colour that in themselves provide a pleasing finish, and require no decoration. Others make boards with hard, smooth surfaces, especially prepared for the reception of applied treatments. A white glazed, perfectly smooth surface will take cellulose. Hard gloss paints, enamels, and flat paints can be applied to it in two coats without priming.

AS A PLASTER BASE

Special types of low-density fibre board, in comparatively small sheets, 4 ft. by 2 ft., with rebated edges, are manufactured as a ground for plaster. The adhesion between wallboard and ordinary lime plaster is not considered satisfactory, and it is advisable that gypsum plaster be used. Manufacturers recommend the employment of metal lathing at re-entrant and salient angles.

It is not necessary or even desirable to use a full $\frac{3}{4}$ in. of plaster, but the total thickness should not be less than $\frac{1}{2}$ in. A mixture of two parts, by weight, of dry, sharp, clean sand, and one part of plaster is found to give satisfactory results. The first coat should be at least $\frac{3}{8}$ in., and the finishing coat, in any usual composition, about $\frac{1}{8}$ in.



NOTES and ANNOUNCEMENTS

The Sewage Treatment Plant at the New Royal Hospital School, Holbrook, of which an illustration is show below, designed and constructed by Tuke and Bell, Ltd. is for dealing with the sewage from 1,632 persons, and has a storm overflow chamber on the sewers to pass all over six times the dry weather flow to the main outfall. At the works there is a storm overflow to pass all over three times to storm tanks. The installation proper comprises detritus chambers in duplicate,storm overflow tanks in duplicate, two main continuous flow settlement tanks, 15 ft. liquid depth, constructed in ferro-concrete. There are two primary covered and ventilated roughing filters, two primary humus chambers, also two main bacterial filters, each 65 ft. diameter, and humus chambers in duplicate. Adjoining the continuous flow settlement tanks are four sludge lagoons with brick outer walls, concrete bases, entrance doors, etc. All the several chambers mentioned are provided with the necessary valves, pipes, screens, etc. The filters are of the downward percolating type, each having its automatic, self-dosing "Ideal" pattern revolving sewage distributor.

* * *

Mr. Waldo Maitland, A.R.I.B.A., architectural adviser to the E.L.M.A. Lighting Service Bureau, has set up under the style of Waldo Maitland and Partners, at 32 Bloomsbury Street, W.C.1 (Telephone : Museum 0355). He is undertaking consulting and other work in connection with modern electric lighting schemes for private and public buildings of all types. Mr. Maitland will continue to advise the Lighting Service Bureau on all architectural matters.

The Editor, THE ARCHITECTURAL REVIEW.

SIR,—Still fresh in the mind of everyone is the fire disaster which happened to the *Atlantique*, and this increases the tragic number of fine liners which have been destroyed, or badly burned, during the past year or two.

Without any doubt, there will be many reasons put forward for these outbreaks, and we shall be told that wooden panels, plywood panels, veneered panels, and so on, and in fact any woodwork, is chiefly responsible for fire disasters of this description.

I would like to mention one or two points in connection with the use of wood for constructive and decorative work.

Your readers may be reminded that in the past history of this country, the use of wood has played a most important part, and in fact the principal part, in construction work, and has in many instances proved itself to be most effective against attack by fire. In quite a few cases it is recorded that when fire has occurred, the heavy oak beams have been charred by the fire, which has resulted in a thick exterior coat of carbon being formed, and thus has protected the beam from any further destruction. It is well known that heavy timber, when it becomes charred, offers a tremendous resistance against fire.

It may also be mentioned that only two hundred years ago, our ships of war were constructed of stout British oak, and these vessels met in conflict, when often the missiles hurled from one to the other were

ROYAL NAVAL HOSPITAL SCHOOL, HOLBROOK, SUFFOLK

red-hot shot, purposely fired to burn the enemy ship, and it is a very debatable point whether in the throes of such awful sea conflict, more vessels were destroyed by fire in the days of the old wooden walls of England than would be at the present time with our gigantic steel warships, where every attention has been paid to this point, and every modern fire appliance that scientific skill can invent is made ready to deal with an outbreak of fire.

During the past few years, the construction of modern liners has involved the use of plywood for bulkhead partitions, decorative panels, etc., and it cannot be argued that bulkhead partitions made with plywood are any more susceptible to fire than the method which was employed for this construction before plywood came into being, when the use of tongued and grooved coniferous woods was constantly employed.

It may be mentioned also that there are employed many effective methods by which wood can be rendered fire resisting, and it is a fact that all the Gaboon plywood used by the Admiralty for the interior of ships of war undergoes a process which renders it fire resisting.

No one could claim that any method had been found by which wood could be made absolutely fireproof, but it is an established fact that plywood panels can be rendered fire resisting to such a degree that any ordinary fire would have little effect, and panels so treated would certainly not burn with the rapidity which is reported to be the case in the destruction of the *Atlantique*.

A thick coating of cellulose, varnish, shellac polish, or inflammable paint may cause the surface of the panel to burn if attacked by fire, but this could be very largely got over by finishing the decorative wood in a method by which there is no excess of such inflammable substances on the surface of the panel, a treatment which is very largely employed by our own shipbuilders, and which, in the opinion of many, gives the best tone and beauty to the work.

It is hoped that these few remarks may help to counteract the many statements which will be broadcast by letters in the Press during the next few weeks, and which may mislead the public.

Your obedient servant,

LESLIE C. W. JENKINS, F.C.S.

* * *

An inaugural luncheon of the Natural Asphalt Mine-Owners and Manufacturers' Council was recently held at the Café Royal, Regent Street, Mr. F. M. Bond, who presided, said that the Council was a body representative of the principal asphalt companies in the United Kingdom and had been formed for the purpose of co-ordinating and standardizing the manufacture and application of mastic asphalt for building construction in regard to raw materials, technical equipment, research and executive practice. The Council's primary object had been achieved and standard specifications had been drawn up governing the three main classes of mastic asphalt ; roofing, damp-course and basement work and flooring. In future the joint resources of raw materials, which included many of the best known asphalt mines in the world, would be at the disposal of all members of the Council, and the standardizing of manufacture, according to the findings of the experts, had thus been made practicable.

To ensure that the asphalt shall be carefully applied on the contract, a Standard Code of executive practice had also been drawn up which all companies represented would undertake to observe.

The council has published an illustrated pamphlet showing methods of construction in buildings embodying the uses of asphalt. Copies may be obtained from the Offices of the Council, Terminal House, Westminster, S.W.1.

* * *

Messrs. Chance Brothers & Co., Ltd., have moved their offices to larger premises at Clutha House, Princes Street, Westminster, S.W.1. The telephone numbers are Whitehall 1846 and Whitehall 5768.

* * *

The general contractors for "Grayswood," near Haslemere, Surrey, were Messrs. Pitchers, Ltd., who were also responsible for the glass. Among the artists, craftsmen and sub-contractors were the following : Ragusa Asphalt Paving Co., Ltd. (asphalt), Helical Bar Engineering

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Co. (steel reinforcement), Vita Glass Marketing Board (glass), Joseph F. Ebner (patent flooring), A. A. Byrdd (Tricosal), Cement Marketing Co., Ltd. (external finish of Tintocrete), White Bays and White (central heating), Bell's Heating Appliances, Ltd., and the Glow-Worm Boiler and Fire Co., Ltd. (stoves), Well Fire and Foundry Co., Ltd. (grates), Cecil Cooper & Co. (electric wiring), John Matlow and Ascog, Ltd. (electric light fixtures), Leeds Fireclay Co. (sanitary fittings), Parkinsons, Ltd. (terrazzo finishings), Adrian Stokes & Co. (door furniture), Crittall Manufacturing Co., Ltd. (casements).

The general contractors for the Royal Hospital School at Holbrook, near Ipswich, were Messrs. J. Gerrard and Sons, Ltd., who were also responsible for the roads, excavation, foundations and damp courses, concrete blocks, reinforced concrete, partitions, wood-block flooring, gasfitting, plumbing, joinery, stonework, furniture, school fittings. Among the artists, craftsmen and sub-contractors were the following: William Blaze, Allan Howes, Herman Cawthra, J. A. Stevenson, sculptors, The Birmingham Guild, craftsmen for metalwork, Henry Lea and Sons, consultant engineers for the heating and lighting, Mr. Vaux Graham, consultant engineer for water supply, and Mr. Hope Bagenal, consultant for acoustics. C. Isler & Co. (well boring), Christiani and Nielsen (piling), Tuke and Bell (sewage disposal), Worthington Simpson, Ltd. (water pumping), Paterson Engineering Co. (water aeration and filtration plant to swimming bath), Barford and Perkins, Ltd. (kitchen equipment), Baker Perkins, Ltd. (bakery and laundry equipment), James Slater & Co. (Engineers), Ltd. (hospital equipment), Constable Hart & Co., Ltd. (road surfacing), Reve Electric Co., Ltd. (outside lamp standards and brackets), Ragusa Asphalt Paving Co. (asphalt), British Reinforced Concrete Engineering Co. (reinforced concrete), Blockley, Ltd. (facing bricks), Herbert Alexander & Co., Ltd. (sand lime bricks), Bath and Portland Stone Firms (stone), Emerson and Morris, Ltd. (artificial stone), S. Williams and Sons, Ltd. (artificial stone margins, steppings and paving), Rubery Owen & Co. (structural steel), Ames and Finnis (roof tiling), Henry Hope and Sons, Ltd. (patent glazing, door furniture, steel casements, window furniture), Brightside Foundry and Engineering Co., Ltd. (central heating and ventilation), Samuel Smith and Sons, Ltd. (stoves), Griffin Foundry, Ltd., Bratt Colbran and Geo. Wright (London), Ltd. (grates and mantels), Aerogen Co., Ltd. (gas plant), Edwin Danks, Ltd. (boilers), J. Clarke & Co., Ltd. (electric light wiring, electric light fixtures, electric bells, telephones), Synchronome Co., Ltd. (electric wiring for clocks), Smith and Ansell, Ltd. (electric light fixtures), Richard Crittall & Co., Ltd. (panel heating), Shanks & Co., Ltd., Leeds Fireclay Co., Ltd., Dent and Hellyer, Ltd., and Adamsez, Ltd. (sanitary fittings), Gillett and Johnstone, Ltd. (tower chimes and clocks), Walter Macfarlane & Co. (east iron grilles), J. and E. Hall, Ltd. (refrigerating plant), Haywards, Ltd. (iron staircases), Doulton & Co. (drain pipes, etc.), Adams Brothers (Liverpool), Ltd. (plaster and decorative plaster in dining hall), Gilbert Seale and Sons (decorative plaster in assembly and entrance halls), John Tanner and Son, Ltd. (decorative plaster in chapel), John Stubbs and Sons (marble), Craven Dunnhill & Co., Ltd. (wall tiling), F. Brown and Son, Ltd. (plain roof tiling), The Bennett Furnishing Co., Ltd. (school fittings), Herbert Morris, Ltd. (lifts), United Water Softeners, Ltd. (water-softening plant), London Brick Co. and Forders, Ltd. (bricks for structural brickwork).

The general contractors for St. Mary's Church, Liss, were Messrs. Mussellwhite and Son. Among the artists, craftsmen and sub-contractors were the following: Wainwright and Waring, Ltd. (casements, iron balconies, door furniture and weather vane), John Grundy, Ltd. (heating installation), Thomas Elsley, Ltd. (rainwater heads), Stevens and Adams (oak flooring), Wm. Sugg & Co., Ltd. (gas fittings), J. W. Gray and Son, Ltd. (lightning conductor), Eric Gill (carving), Eric Munday, Ltd. (incising inscription on porch, historical tablet and notice board).