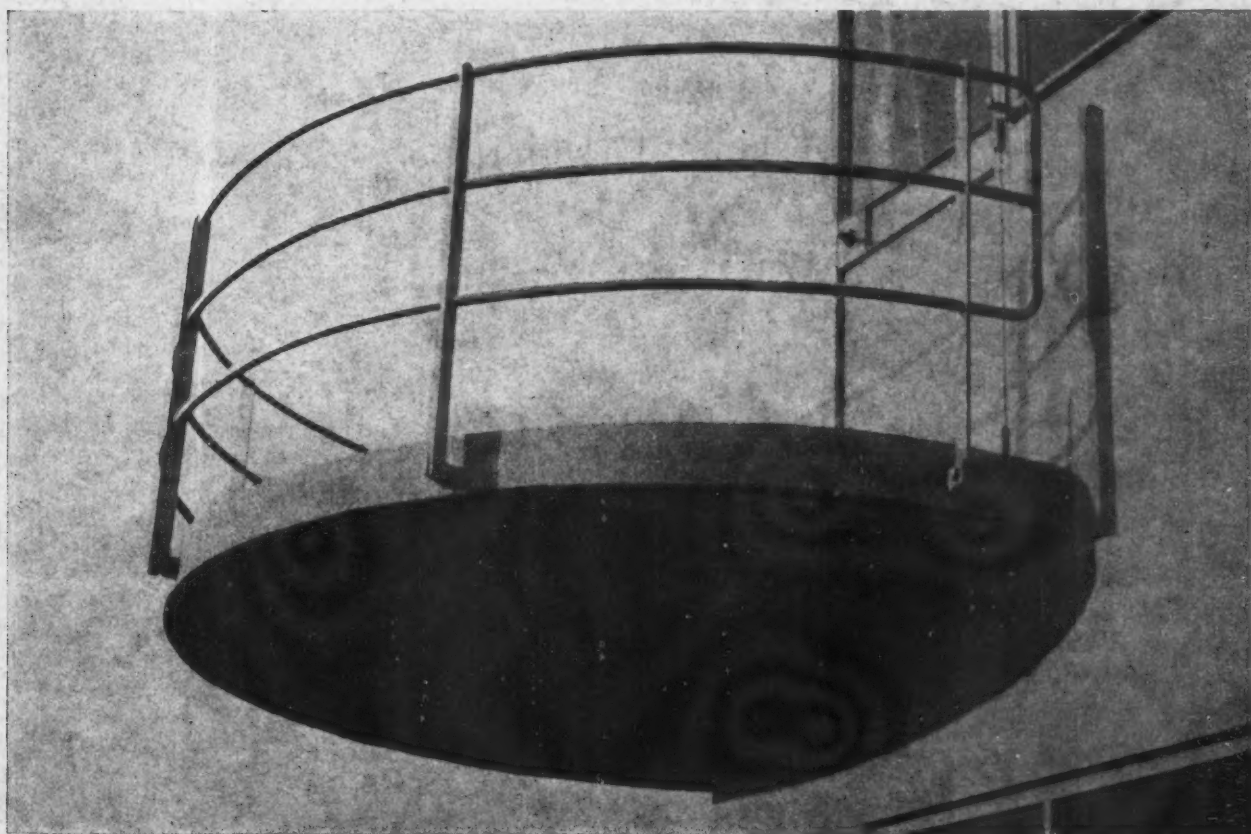


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A Magazine of Architecture & Decoration



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June 1934

No. 451

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MERSEY TUNNEL VENTILATION BUILDING

This photograph shows the steelwork in one of the Mersey Tunnel Ventilation Buildings. This building is 85 ft. from the pavement level to main roof and 170 ft. to the top of tower. There are 1,150 tons of steelwork in the structure

Architect :
Herbert J. Rowse, F.R.I.B.A.
Martins Bank Building
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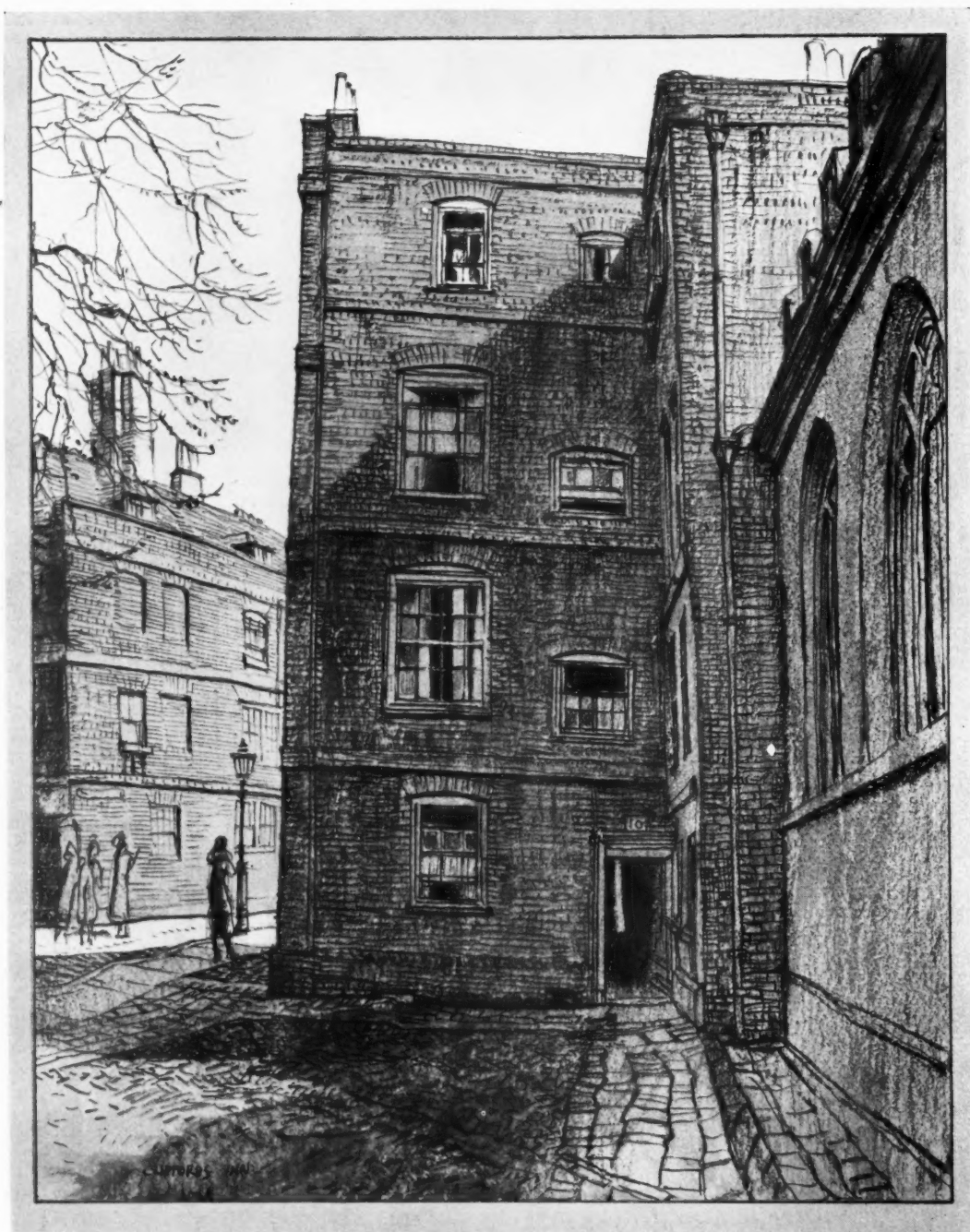
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A CORNER OF CLIFFORD'S INN

Drawn by Robert Austin

PLATE I June 1934

On the left is a part of the old buildings in which Samuel Butler lived and wrote, and on the right the Hall in which Sir Matthew Hale and other judges sat to hear claims for compensation arising out of the destruction of property in the Great Fire. This Hall was erected on the site of an earlier one in 1766, and exhibits the pseudo-Gothic convention of that period. Some of the original brickwork is incorporated in the later structure.

Clifford's Inn is Coming Down

By E. Beresford Chancellor

"Would you turn aside into this place—I think it is called Clifford's Inn—where we can hear one another better than in the roaring street?"

DICKENS [*OUR MUTUAL FRIEND*]

"They are no ordinary houses, those. There is not a panel in the old wainscotting but what, if it were endowed with the power of speech and memory, could start from the wall and tell its tale—the romance of Life."

DICKENS [*PICKWICK*]

ONE is not surprised to learn that a storm of protest has been aroused by the news that the tenants of Clifford's Inn have received notice to quit, and still more by the further announcement that it is intended to demolish the old houses of which the "Inn" consists, and to rebuild what is now one of the few remaining bits of old London. In these days we ought, I suppose, to have become innured to the destruction of what is old and picturesque and the erection of what is frankly often vulgar and ostentatious. In certain cases such changes are inevitable and there is, of course, no reason why a structure should be preserved solely because it happens to be old. But when a building has historic annals and associations with notable people of the past, it cries aloud for preservation, and Clifford's Inn is a case in point.

In the first place it is the oldest of those Inns of Chancery which were at one time a feature of London's legal life. It is so long ago as 1310 that Edward II granted to Robert, fifth Lord Clifford, a "messuage and appurtenances next to the Church of St. Dunstan's-in-the-West, in the Suburb of London," the rent to be paid for this being one penny at Michaelmas. Subsequently the widow of the sixth Lord Clifford let the property to certain students of law, at the annual rent of £10; and from that time onwards the place was used as an Inn of Chancery, although, of course, the property still remained in the hands of the Clifford family. Down to the time of Henry V, the Inn had as its sign the "Black Lion," and appears till then to have been self-governing and was not connected with the Temple; but it later became a recognized headquarters of the law, there being, in the days of Elizabeth, no fewer than a hundred students in term time, and twenty resident ones during the vacations.

Among the famous men associated with Clifford's Inn in those days was Sir Edward Coke, the great legist, who, on leaving the University, took up his residence there. He must have been subject to some of the quaint rules which obtained in those days, among which was the payment of a farthing for every offensive word uttered by a student; a fine of a shilling for anyone striking another "without effusion of blood," and six shillings and eightpence "should blood be drawn"—a suggestive sum in view of later legal fees! No student was permitted to play at dice or cards, "or any ridiculous amusements in metals," nor was he allowed to lend money on usury, to keep dogs, to break into the buttery, or to go out after closing time, and, it is needless to say, was not permitted to introduce or conceal in the sacred precincts "any common woman." Some of these restrictions sound strange to us now, but they are not very different from those which are to be found today in the Statutes of our Universities. It was from one of these, Oxford, that the great John Selden came to Clifford's Inn, in 1602; while another seventeenth-century occupant was Harrison, un-

favourably remembered as one of those who were responsible for the execution of Charles I.

Before his time, however, the property had been purchased from the Clifford family by the members of the Society of Clifford's Inn. The sum paid was £600 subject to a rent charge of £4 per annum and the reservation of a small piece of land adjoining Serjeant's Inn, and a set of chambers to be kept for the use of the Cliffords. In 1880, the rent charge was compounded and the "Inn" purchased outright.

In more recent times, the various sets of chambers have been occupied by several notable people. Thus at No. 13 lived George Dyer, the friend of Charles Lamb, who once, it will be remembered, fell into the New River and thus gave rise to one of Elia's most delightful essays—*Amicus Redivivus*. He continued to reside there from 1792 till 1841 when he died at the age of eighty-five. Lamb, who loved to tilt at the Law, as Dickens did later, likened his friend to "a dove in an asp's nest," but Dyer was quite happy in the "Inn," and when age brought loneliness and he needed a companion, he married the laundress attached to the establishment. One fears that apart from, as her husband acknowledged, not being literate, she was hardly a successful housekeeper as once, when Leigh Hunt breakfasted there, he found "no butter, no knife, and the teapot without a spout"; while Crabb Robinson, calling on the lady after Dyer's death, remarks that "if cleanliness be next to godliness, it must be acknowledged that she is far from being a good woman."

Yet another notable resident of Clifford's Inn was Robert Paltock, remembered, if he be remembered at all, as the author of *Peter Wilkins*. In our own day, however, a far more famous man lived there, at No. 15. This was Samuel Butler, whose remarkable *Way of All Flesh* was written in those rooms; a fact which alone ought to preserve them from desecration.

It was in the old Hall of Clifford's Inn that Sir Matthew Hale and other judges sat to settle the innumerable disputes arising about property destroyed in the great Fire of London; and the portraits of those eminent ones, ordered to be painted as a memorial of the efficient way they carried out their task, can still be seen in the Guildhall Art Gallery. In 1766, a new Hall was found to be necessary, and this was erected at a cost of £600. Some of the old brickwork was incorporated in the new pseudo-Gothic building, and this gives it an interest which its architectural features would hardly justify.

It is this Hall, with its beautiful old red-brick adjoining houses associated with so many memories, that it is now proposed to demolish. Can it be wondered at that the project is arousing resentment in the minds of the tenants, and regret in those of all who care for the landmarks of a great, but gradually transformed, city?

From the
Ridiculous
to the
Sublime

Two Rockefeller
Creations

By Anson Bailey Cutts



The Governor's Palace

LESS than three years have elapsed since the architectural profession in America was shaken to its foundations by the first published announcements of those to whom John D. Rockefeller had entrusted the designing of the most audacious single building enterprise of modern times, New York's *Radio City*.

Advance renderings depicted a clutch of white obloids with cubistic tendencies careening, nay skyrocketing, above their neighbours in the immediate vicinity of St. Patrick's, which was shown to have shrunk suddenly from a vast cathedral to a kind of Lilliputian chapel without significance.

The average citizen who still retained memories of a pleasanter, less terrifying New York, cried out in protest only to have his "still small voice" drowned by the riveters. Vehement challenges, not unmixed with condescension, were flung Lucifer-like from on high at the few remaining Traditionalists, Purists, and Idealists who, with the able championship of Ralph Adams Cram and that arch-innovator, Frank Lloyd Wright, replied eloquently in kind. For months the battle has raged in the press, gathering strength as construction revealed the awful truth.

Rockefeller's undoubtedly well-intentioned conception of a great popular amusement centre, embracing office buildings, shops, opera-house, theatres, the headquarters of the Radio Corporation of America, as well as separate



The plan of John D. Rockefeller's Radio City, New York, is revealed in this drawing. The tallest building is the headquarters of the Radio Corporation of America; at its feet is the Sunken Plaza, before which is the British Empire Building on the right and the Maison Française on the left.

buildings to house allied British and French interests, has been called everything from "a monument to a culture divorced from the control of reason" to "an unprincipled combine of high finance and architectural racketeering." Yet, despite such epithets and advancing depression, the sponsors gained support. At least the sixty-six storey central shaft (larger than

the Empire State Building), and three of its satellites, the R.K.O. Building, the British Empire Building and La Maison Française, came into being, while celebrated painters, including Brangwyn, sculptors and decorators from various parts of the globe have been administering to the artistic needs of an undertaking destined to be unloved from its inception.



Not England, but America. Right. A corner of the reconstructed Market Square in Williamsburg.

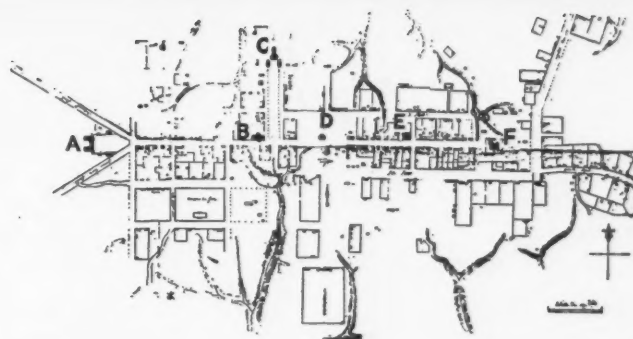
Raymond Hood, one of the architects, explains that the open spaces at various levels among the towers provide "an extraordinary opportunity to show what can be done with roof-landscaping on a scale hitherto impracticable, and in a part of town where neither the success nor the failure of the enterprise can possibly be concealed!"

I do not wish to undervalue either the rational development or the conspicuous merits of many "setback" designs retaining the human scale, nor to overlook the definite aesthetic advance they signify over their immediate forbears. Whatever merits Rockefeller Centre in its finished or unfinished state may possess, there is, nevertheless, unanimity of critical opinion on one score. Its ridiculously pretentious Music Hall, from the rear seats of which people on the stage are scarcely visible, is America's most ill-timed expression of the impractical perpetuated in colossal form.

Those inclined to agree with Mr. Cram that Radio City represents "the frayed end of a style as the Baroque bespoke the decay of Renaissance Art" should turn their attentions southward to another Rockefeller enterprise—one of almost equal scope and of infinitely greater significance—the restoration of Williamsburg, Virginia's Colonial capital.

Simultaneously, and in a manner differing as profoundly from the impetuous construction of Manhattan's white elephant as the traditional Southern temperament and culture differ from that of the Yankee, the sleepy little Tidewater community has been reverting to its eighteenth-century pattern.

It was at Williamsburg during the last decade of the seventeenth century that the college of William and Mary, the first in the southern colonies, was erected from designs by Sir Christopher Wren. Throughout the following century sons of the landed gentry who did not come over to Oxford or Cambridge, were educated there. Washington, Jefferson and Marshall among these, and many a famous Royalist. Before the War for Independence the city served as the social and intellectual hub of the gayest and most aristocratic of the colonies. Many of the events which led to the birth of the States and to the ultimate termination of hostilities at nearby Yorktown, took place at Williamsburg, and it is safe to say that no other city in America and few on this side retain such a preponderance of eighteenth



The "Frenchman's Map," drawn by a French engineer in 1786, to show the arrangement of the buildings and streets of Williamsburg at the close of the American Revolution. The key letters refer to A, the College of William and Mary; B, Church; C, Palace; D, Court House; E, Tavern; and F, Capitol.

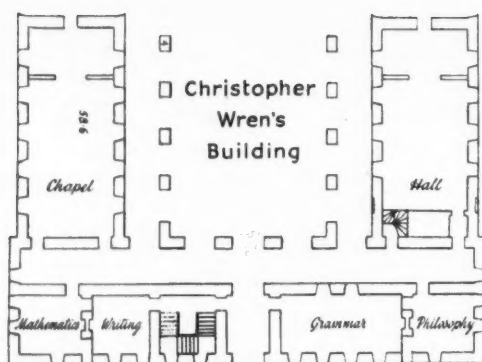


Duke of Gloucester Street, showing the rebuilt Raleigh Tavern, dating from 1735. This was the centre of Williamsburg's social life, and here the House of Burgesses reassembled after being dissolved by Governor Dunmore in 1775.

FROM THE RIDICULOUS TO THE SUBLIME



Left. Perhaps Wren's loveliest building, built not in England but in Williamsburg, Virginia. The College of William and Mary from the grounds, showing the Chapel and Hall wings. Originally it was intended that these should be extended to form a quadrangle. The College was built at the same time as St. Catherine's College, Cambridge (circa 1695), which it somewhat resembles. Centre. The plan of the College. This shows the ground floor as it was at that time. The original plan is in the Henry E. Huntington



Library, San Gabriel, California, to whom its copyright belongs.

Bottom. An engraving, circa 1740, discovered in the Bodleian Library, Oxford, showing the original College buildings (1, 2, 3 and 5), the Capitol (4), and the Palace of the Royal Governors (6), also illustrated on page 198.



century buildings. Architecturally as well as historically, therefore, it deserves to be restored and preserved as a pilgrimage centre for posterity long after Radio City and its breed will have turned to dust.

The realization of such a dream has been the life-long ambition of the Rev. Dr. W. A. R. Goodwin, a native Virginian who, in 1902, went to Williamsburg as rector of Bruton Parish Church, the oldest Anglican church in continuous use in America. One of his first acts was to undertake the restoration of the edifice, and thanks to him one finds it today furnished as in the days of the Royal Governors—dais, canopied throne, royal insignia, and all. But the far greater plan to restore the town itself, including the College, Royal Capitol, Governor's Palace and countless other homes and buildings could not be undertaken without adequate financial backing. For twenty years the project waited; then in 1926 John D. Rockefeller, Jr., was induced to visit Williamsburg. He recognized its potentialities and from that moment the Rev. Goodwin's vision became his own.

Before beginning the restoration of buildings still standing, or the reconstruction of the others, it was necessary to acquire property to the value of £500,000. Every building erected on the site after 1840—321 in all—had to come down or be removed to another part of the town, which today numbers about 2,500 inhabitants.

That was the simplest aspect of the undertaking. The research necessary for the restoration occupied years and sent workers over all of America and much of Europe. Upwards of £400,000 was spent in this way alone, and 52 Libraries of the world were combed for every particle of information that would throw light on Colonial Williamsburg.

The most spectacular discovery was made by Miss Mary Goodwin, who located in the Bodleian at Oxford an uncatalogued engraving showing the original College buildings, the Royal Capitol and the palace of the Royal Governors.

Research provided the foundations upon which the architects worked. Painstaking attention has been given to every detail. No important decision has been made without consulting an advisory committee of eminent architects or similar groups of landscape architects, furniture experts and historians.

Even the problem of accurate paints was solved by a careful perusal of advertisements in colonial newspapers in which painters listed the pigments they used. Modern chemists reproduced these mixtures.

Today, the venerable capital of the Old Dominion has taken a new lease on life. All of the toil and unflagging zeal that went into its re-birth are forgotten as one wanders down the Duke of Gloucester Street under its triple canopy of ancient elms in the warm fragrance of a Virginian morning. The asbestos shingles on the roofs of prim white Georgian cottages for all the world resemble the moss-covered wood they have supplanted, and the Old World gardens with dark alleys of boxwood might have been growing undisturbed for centuries.

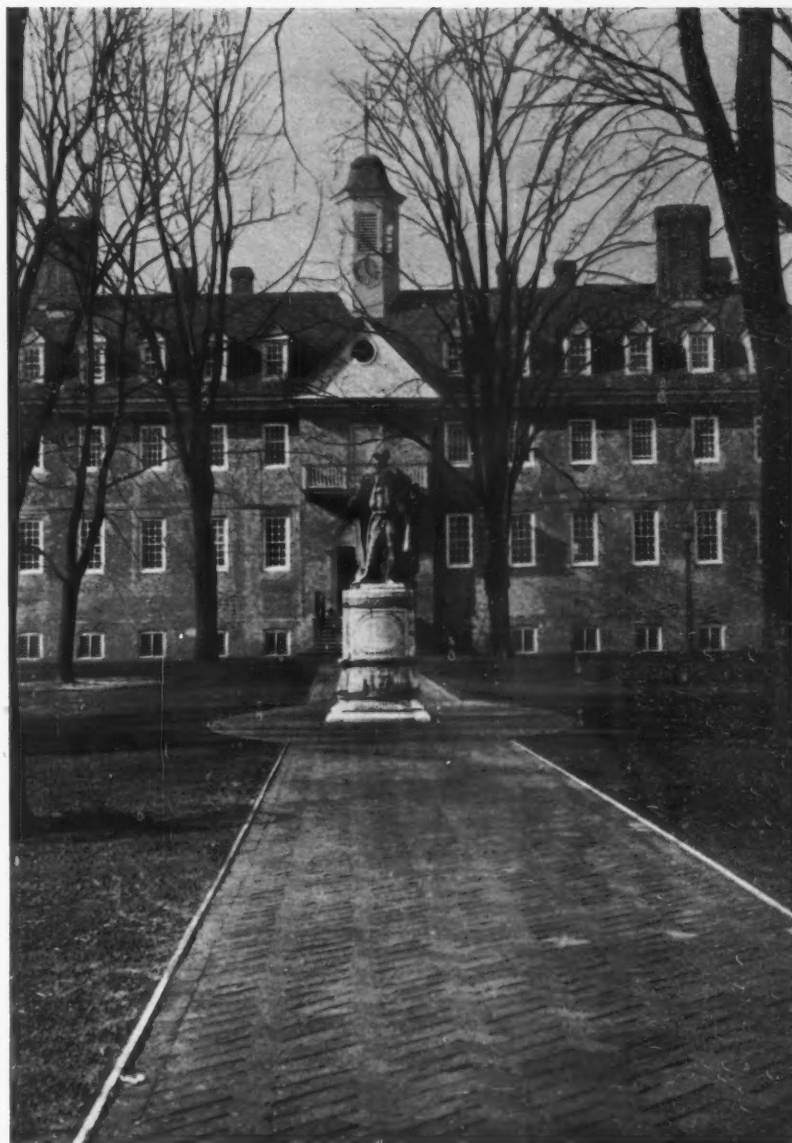
Over the governor's palace floats the Royal Ensign—the flag that preceded the Union Jack—and above the entrance of the Capitol (to which that young fire-eater, Patrick Henry, once rode down from the hills on his mangy mare to shout sedition and help change the course of a continent's history), is inscribed in bold letters "Queen Anne Her Royall Capitall." Pompeii, too, is a museum piece, perfectly embalmed, but Williamsburg is a city of the past living uniquely in the present.

At the other end of the Avenue, almost a mile from the Capitol, rises the imposing red brick college flanked by a master's lodge and the grammar school—Wren's only contributions to American academic architecture. Before it stands the slightly ridiculous marble statue of Governor Spotswood, noseless but serene. What a lot of rain has fallen on that proud head since it was placed there, "Out of gratitude for his many kind acts by his loyal subjects of Virginia!"

In 1724 Professor Hugh Jones published in London his *Present State of Virginia*. In it he describes the College as "beautiful and commodious" within and without "being adjusted to the nature of the country by gentlemen there, and is not altogether unlike Chelsea Hospital. The front, which looks due east, is double and is 135 ft. long. It is a lofty pile of brick building, adorned by a cupola. At the north end runs back a large wing which is a handsome hall corresponding to which the chapel is to be built, and there is a spacious piazza on the west side from one wing to the other."

The curious stiling of the foundations must have been for defence in case of Indian attack, and although both Wren and Jefferson planned that it should be a quadrangle, the square was never completed.

In such a setting one should ruminate on the past. That morning in 1697, for instance, when the scholars held their first public exercises in the presence of the Royal Governor and his Council, both Houses of Assembly and the parents and faculty, Williamsburg was only a village and the seat of Government had not been moved from Jamestown; yet on that occasion one of the scholars made a speech which was little short of prophetic. "I think it will not be amiss," says he, "to add that here is great security from Land Forces; no army can be marched into so narrow a space of ground to attack a town built here but to great disadvantage." No, hardly amiss! and if Lord Cornwallis could only have heard the advice—but that is another story.



Above. The College from the Duke of Gloucester Street, showing the statue of Governor Spotswood. Below, on the left, is Bruton Parish Church, the oldest Anglican Church with a record of continuous service in America. All the Royal Governors and many Presidents have worshipped there. On the right is a typical seventeenth-century dwelling on Duke of Gloucester Street.





The illustration shows the cleared site in the Old Haymarket, Liverpool, for the Mersey Tunnel. In the background can be seen St. George's Hall, and on the left of the Wellington Monument is the Picton Reading Room and the Public Museum. The scheme for the tunnel was begun some eight years ago and it was intended that it should cost about £5,000,000. It is, however, estimated that £7,500,000 will have been spent before the tunnel is opened by the King on July 18.

Mersey Tunnel

By E. H. W. Atkinson

THE Mersey Tunnel, one of the greatest engineering undertakings in the world, is to be opened by His Majesty the King on July 18. The Mersey Tunnel Joint Committee and Sir Basil Mott, the engineer who conceived the tunnel, commissioned Mr. Herbert J. Rowse, F.R.I.B.A., as their consultant not only for the six great ventilation stations, disposed on either side of the river and forming with their towers some of the finest and most prominent of Merseyside's architectural features, but also to design and advise upon everything "that shows," in the tunnel and in the formation, equipment and colour of the four great entrances in Liverpool and Birkenhead.

A highway across or under the Mersey was for long recognized as necessary not only for Merseyside's domestic purposes but also as part of the north-western highway system for the linking up of the great industrial areas of Lancashire, Cheshire, Wales and the Midlands. Sir Basil Mott's conception of the tunnel was taken up by the late Sir Archibald Salvidge. In 1922 a committee was set up to examine the problem of cross-river traffic and in 1925 Sir Archibald secured the passing of the necessary Act through Parliament.

Since then the cost has reached about £7,500,000. For the money—which is being paid by tolls to be levied for a limited period,

by rates in Liverpool and Birkenhead, and by a Government grant of £2,500,000—the nation has the largest under-water highway in the world. The traffic-way is 36 ft. wide, with 4 ft. pathways for supervision, and capable of four lines of traffic. The length from one main entrance to the other—Old Haymarket, Liverpool, to Chester Street, Birkenhead—is 2.13 miles, and the total length, including the branches which serve the docks, is 2.87 miles. The ruling gradient is one in thirty, and there is all but a mile of one in three-hundred gradient under the river.

Mechanically-propelled transport called for the tunnel and mechanically-propelled transport has at the same time given its designers their biggest problem and its architect his biggest opportunity. A vehicle travelling at 20 miles an hour can pass from Liverpool to Birkenhead in 6½ minutes, and at that speed the capacity of the tunnel is 4,150 cars an hour, 100 ft. apart and in four lines. Their discharge of noxious gases would make it a lethal adventure to enter the tunnel if it were not for a system of ventilation whose aggregate capacity at maximum output is two and a half million cubic feet of fresh air per minute delivered to the tunnel and an equal volume of vitiated air removed. This will ensure that under normal conditions the proportion of carbon monoxide

will not exceed 2½ parts in 10,000 parts of air and that under extreme peak load conditions the proportion will not exceed four parts in 10,000.

The architect was faced with the major problem of housing the ventilation plant which so much motor traffic made necessary and with it the controlling apparatus, and he had to set the buildings housing all this vast machinery in the architecturally sophisticated environment of a great modern city.

The George's Dock station, sited behind the offices of the Mersey Docks and Harbour Board on the river front, provides an outstanding illustration of the problems with which he had to deal. Here he was given the condition of a ventilation shaft with no definite relation to any fixed plan completed to the point of emergence from the ground, and the requirement of housing a great bulk of engineering plant to which a 200 ft. tower must be added, in a building placed centrally among some of the most notable, if strongly individual and somewhat unneighbourly buildings in Liverpool. Mr. Rowse has so set out the huge fans, the continuation of the shaft and the administrative and control rooms as to produce a symmetrical mass axially disposed with the dome of the Dock Board building.

Each of the ventilation stations has three main elements—the blowing fan chamber, the

exhaust fan chamber, and the switchgear room. Fresh air taken into the blowing chambers from inlets in the roofs of the buildings is drawn into the eyes of the fans—the largest of which has a capacity of 641,000 cu. ft. of air a minute and an impellor diameter of 28 ft.—and is expelled into the shafts which connect with the fresh air supply ducts beneath the pavements in the tunnel. The exhaust outlets in the tunnel are connected to ducts which end in the exhaust chambers and so the tunnel air is drawn into the exhaust fans and expelled at least 50 ft. higher than the inlets, so that short-circuiting of air currents is avoided. The electrical switch gear machinery is located alongside each fan, and the switchgear and transformers appertaining to that equipment are accommodated on a mezzanine floor between the two fan chambers or in an adjacent room.

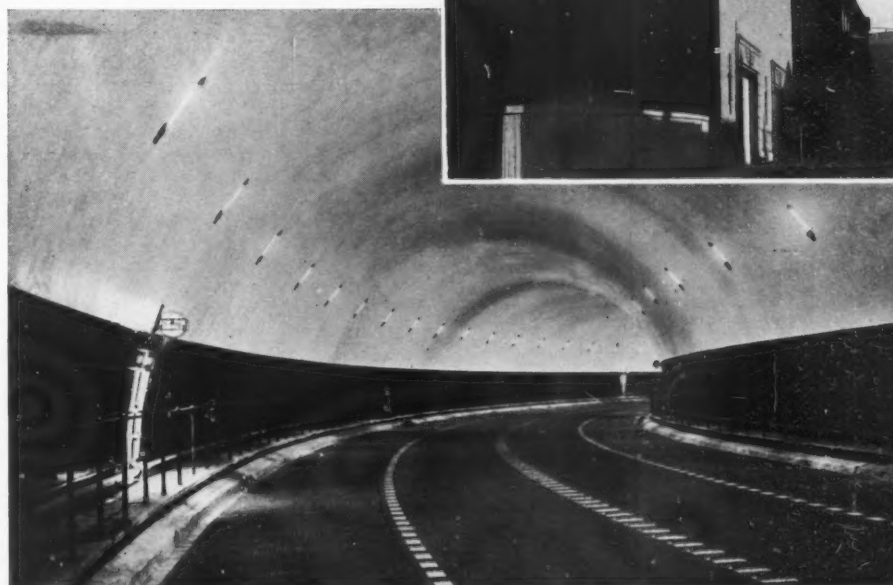
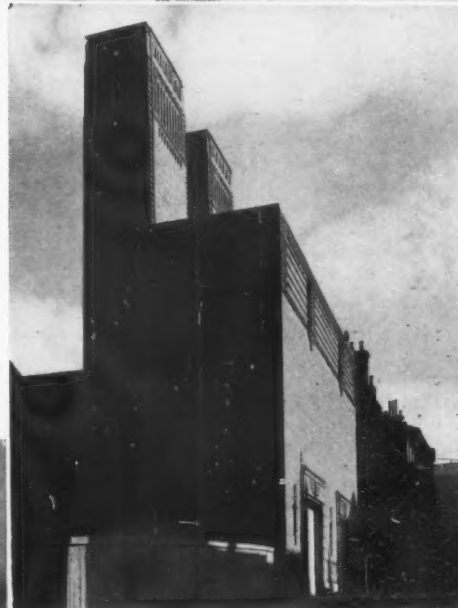
Conditions quite unlike those met with in normal building construction have been produced by the unprecedented nature of the requirements. The fan casings, of which there are four or six in each station, are of reinforced concrete 9 in. thick and they vary in overall diameter up to a maximum of 50 ft. The width of these casings varies between 8 and 10 ft. and the minimum clearance of at least 5 ft. had to be provided between the top of the fan casings and the underside of the chamber ceiling so as to permit the even distribution of the incoming air.

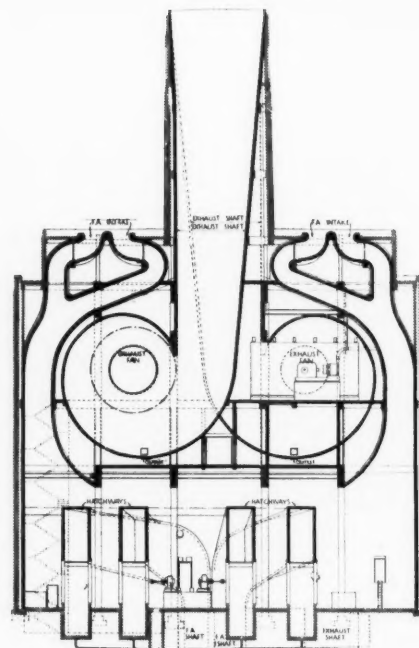
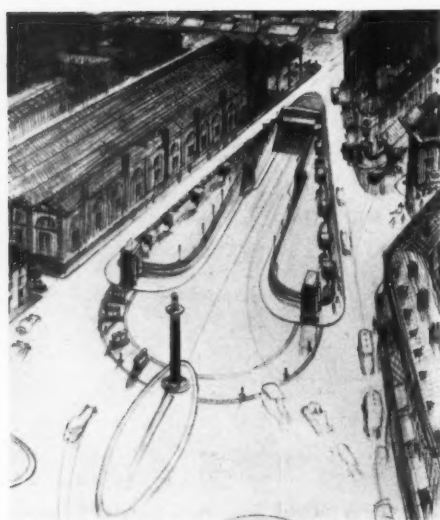
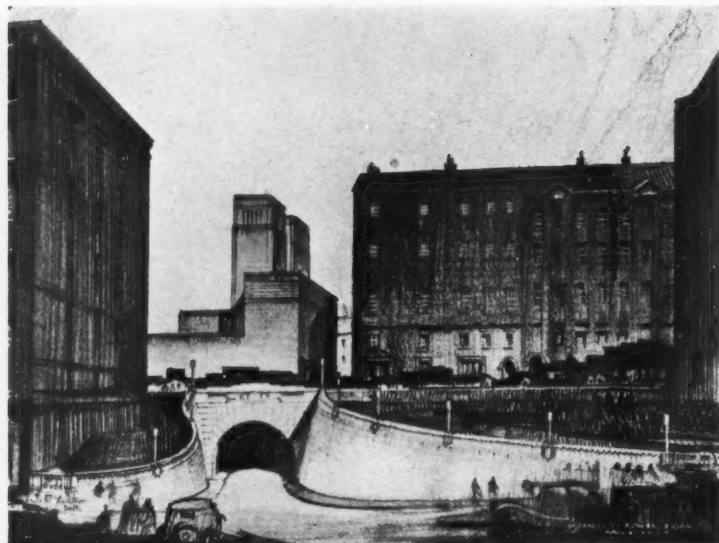
Fine craftsmanship on a large scale was called for in the construction of these units. To suit the mechanical requirements the whole of the inner surfaces of the fan casings is finished perfectly smooth to within a maximum margin of error of one quarter of an inch. The air ducts which pass through the buildings and the connections to the tunnel shaft are also constructed of reinforced concrete. Some of the most interesting of the constructional features arise from the fact that the operation of the plant must not be allowed to disturb the businesses in the vicinity. Elaborate precautions have therefore been taken. The driving units are mounted on concrete blocks which are completely insulated from the main structure of the buildings by a layer of absorbent material and this insulation is extended to all supports for electrical cables within a certain distance of each motor. In such localities as those of North John Street, Liverpool, where the neighbours are the head office of the Royal Insurance Co., Ltd., an hotel, a restaurant, and blocks of offices chiefly occupied by the quiet workers of the law and of George's Dock, the external walls have been constructed in two thicknesses, the outer shell being practically independent of the main structure, with an insulating air space between. All the buildings are of steel frame construction with solid reinforced concrete floors and roofs, and brick or stone-faced external walls. The walls of the fan chambers and switchgear rooms are faced with white glazed bricks and all exposed concrete surfaces are treated with a glazed stippled impervious finish.

The fact that the whole of the plant will be controlled electrically from the main control room in the George's Dock station has had an important influence on the architectural exteriors of the buildings. No operating staff will be employed permanently in the ventilation buildings and all windows have therefore been dispensed with so as to avoid the possibility of the transmission of noise and vibration externally. Each building's height has been determined by the volume necessary to house the plant, every item of which is duplicated to guard against any risk of failure; the fresh



Top. A drawing showing the lay-out of the Tunnel across the river Mersey from Liverpool to Birkenhead, and the system of ventilation. Centre. The New Quay Ventilation Station, Liverpool. A large garage is attached to the building to accommodate the motor cleaning machine for the Tunnel, break-down and repair wagons. Bottom. A view inside the Tunnel, the lining of which is black glass.





Top, left. A drawing of the New Quay entrance to the Tunnel. Right. Behind the façade. These enormous buildings, which look like town halls, are just gigantic lungs. The total height of this building from the ground to the top of the shaft is about 188 feet. There are three main elements in each of the Ventilation Stations, the Blowing Fan Chamber, the Exhaust Fan Chamber and the Switchgear Room. Fresh air is conveyed into the Blowing Chambers from inlets located in the roofs of the buildings, and is drawn by suction into the eyes of the fans and expelled into the shafts which connect with the fresh air supply ducts beneath the pavements in the Tunnel. The exhaust outlets in the Tunnel are connected to ducts which terminate in the Exhaust Chambers, and by this means the Tunnel air is drawn into the exhaust fans and expelled through the towers at the highest points of the buildings. The electrical driving machinery is located alongside each fan and the switchgear and transformers appertaining to that equipment are housed on a mezzanine floor between the two fan chambers or in an adjacent room. Bottom, left. The Chester Street entrance to the Tunnel at Birkenhead.

air inlets are on the roofs in order to be away from possible contamination and to eliminate the possible effect on adjoining buildings of air pulsations. And the height of the towers has been fixed by the necessity not only of the exhaust being away from the inlet, but also of considering possible future building development in the localities concerned.

The volumes and heights of the ventilating buildings, including the exhaust towers, are:—

STATION	VOLUME	HEIGHT
	cu. ft.	ft.
Liverpool—		
New Quay ..	321,710	93
North John Street ..	1,130,890	170
George's Dock ..	1,592,955	200
Birkenhead—		
Woodside ..	887,700	210
Sidney Street ..	1,190,017	122
Taylor Street ..	327,470	102

The extremely restricted site of the Woodside station, which lies only 19 ft. from the quay wall, has necessitated such a high building and this will be one of the most striking to behold of the whole series, besides being one of the most interesting structurally. There is no intermediate steelwork in the building and its loads are carried on stanchions running the full height.

The George's Dock and North John Street stations have been faced with Portland stone in consideration of the amenities of the im-

portant business districts in which they stand, and the other four buildings are faced with two and a quarter inch thick multi-coloured wire-cut bricks which provide an agreeable texture, highly resistant to atmospheric influences. Interest has been achieved by contrasting fine plain wall surfaces with decorative bands of the same brick used in different ways and the general expression is contemporary in character. The designs of the brick ventilation buildings are indeed of very notable contemporary interest. Mr. Rowse has tried to reconcile the demands of functional expression with the requirements of a sophisticated site. He is thus in the Battersea power station tradition. As in the case of the brick buildings the stone buildings are rather an expression within the growth of a tradition than of any direct break with what has been done in the past. The modelled forms clearly show the origin of their inspiration in the engineering elements with which the architect had to deal. The rhythmic movements of machinery, the conception of tremendous forces held in control, the inclusion of elements relating to transport, to speed and to travel, have all obviously given a strong individual character to Mr. Rowse's designs. Yet the element of compromise cannot be absent from designs which try to show the "humanization" of function.

Besides the major architectural works, a hundred other details, all important, have been

designed by Mr. Rowse. He has been responsible for the treatment of the four entrance approaches and portals and all the accessory equipment such as toll-booths, wall and parapet lamps, internal glass lining to the tunnel, the lofty junction chambers where the dock branches leave the main tunnel, fire station features—fire stations are placed at intervals of 150 ft. spacing, staggered on each side of the tunnel, and they break very effectively with their points of colour the smooth line of the black glass lining—the Liverpool and Birkenhead boundary mark at the mid-river point, and the signals for traffic control which are operated by the responsible official in the control room in the George's Dock building, where a remarkable set of instruments keeps him informed of the number of vehicles in the tunnel, the state of its atmosphere, the visibility, and of every fact necessary for its safe operation.

And as final flourishes, but useful flourishes, the most prominent features at the main entrances in Liverpool and Birkenhead are the central lighting columns standing 60-ft. high in polished black granite and topped by gilded bronze lamps in the form of glazed bowls crowned by decorative pinnacles. These features serve the practical purpose of lighting the areas immediately around the entrances and at the same time the symbolic one of commemorating the great engineering achievement which Merseyside can now boast.

The height of each Ventilation Station has been determined by the volume necessary to accommodate the plant, every item of which is in duplicate in each Station; the fresh air inlets are located on the roof in order to be away from possible contamination and to eliminate the possible effect on adjoining buildings of air pulsations which might have arisen had these inlets been placed vertically in the external walls. The height of the termination of the exhaust shafts above street level has been fixed by the necessity for preserving a minimum dimension of about 50 ft. between the outlet and the fresh air inlets on the roof to avoid the short circuiting of air currents, and also by consideration of the possible future building development in the various localities where the Ventilation Stations are situated. The shaft to the George's Dock Station, top, which is adjacent to the Headquarters of the Mersey Docks and Harbour Board at the Pier Head is 200 ft. in height; that in North John Street Station, Plate iii, is 170 ft. high, whilst the extremely restricted site of the Woodside Ventilation Station, which will be erected only 19 ft. from the Quay wall on the Birkenhead side of the river, has necessitated a building of a total height of 210 ft. The total volume of the six Ventilation Stations is approximately five and half million cubic feet.

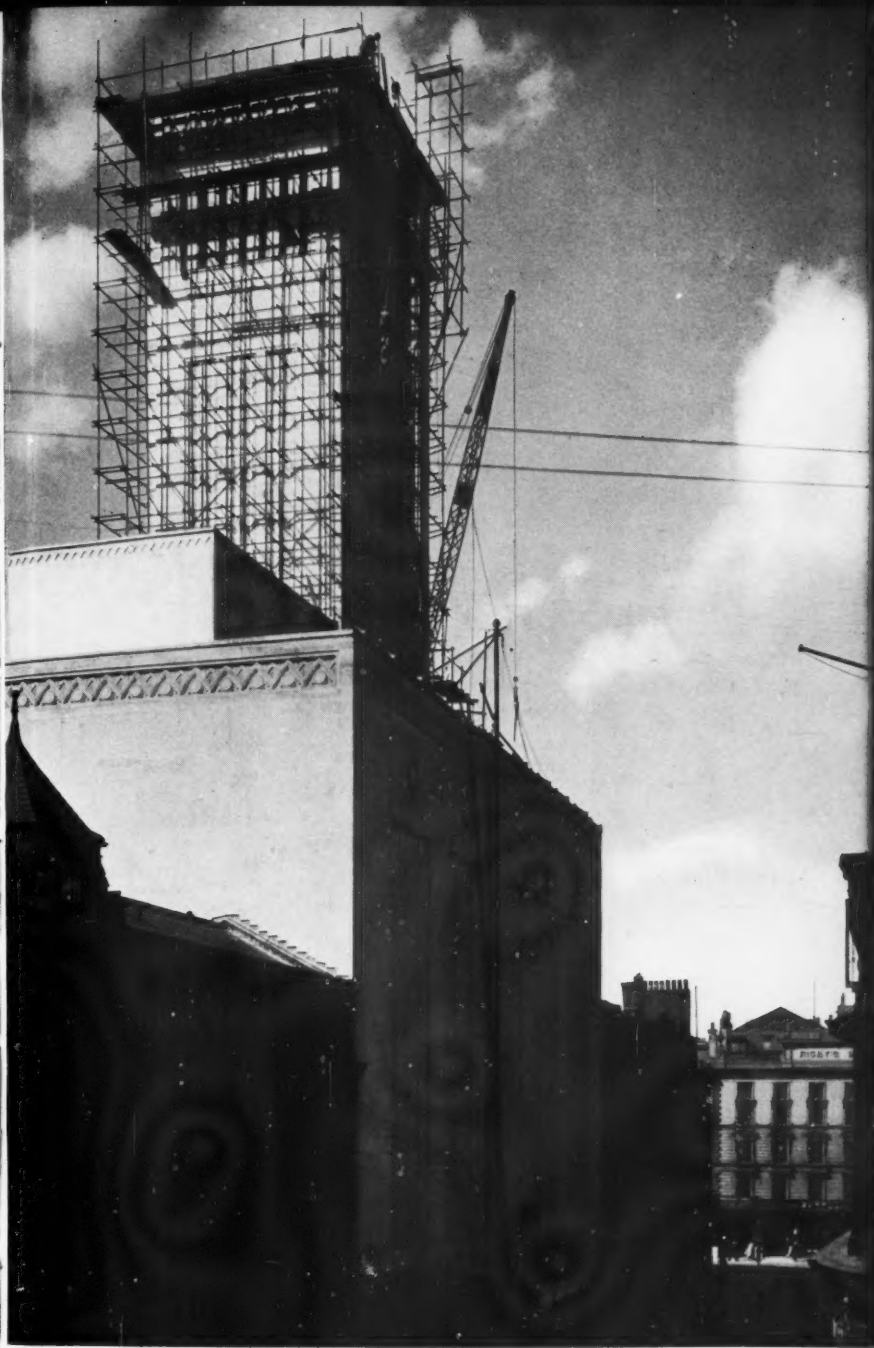
The bottom illustration on this plate is a drawing of the Station at Sidney Street, Birkenhead.

The architect for the complete Mersey Tunnel Scheme is Herbert J. Rowse, and the associated engineers are Sir Basil Mott and John A. Brodie.

PLATE II

June 1934





Left : The North John Street Station, Liverpool. Right : A worm's eye view of an exhaust shaft at the Sidney Street Station, Liverpool. All the six Stations are of steel frame construction with solid reinforced concrete floors and roofs and brick or stone faced external walls. The walls of the fan chambers and switchgear rooms are faced with white glazed bricks and all exposed concrete surfaces are treated with a glazed stippled impervious finish. As the whole of the plant will be controlled electrically from the main control room in the George's Dock Station, and no operating staff will be employed permanently in the Ventilation Stations, all windows have been dispensed with in order to obviate the possibility of the transmission of noise and vibration externally. The absence of windows created an unusual problem of design in the treatment of the elevations. The architect has tried to solve it by creating contrast between large areas of plain wall surfaces and decorative bands of brickwork in relief.

PLATE iii

June 1934





The fans are of incredible grandeur and beauty. No effort at "humanization" here. The fan casings, of which there are four or six in each Station, are constructed of reinforced concrete 9 in. in thickness and vary in overall diameter up to a maximum of 50 ft.; the width of these casings varies between 10 ft. and 18 ft., and the minimum clearance of at least 5 ft. had to be provided between the top of the fan casings and the underside of the chamber ceiling in order to permit the even distribution of the incoming air to either side of every fan; some idea of the sizes and heights of the fan chambers will be gathered from these dimensions. To suit the mechanical requirements the whole of the inner surface of the fan casings is finished perfectly smooth to within a maximum margin of error of one quarter of an inch. The air ducts which pass through the buildings and the connections to the Tunnel shaft are also constructed of reinforced concrete.

PLATE IV

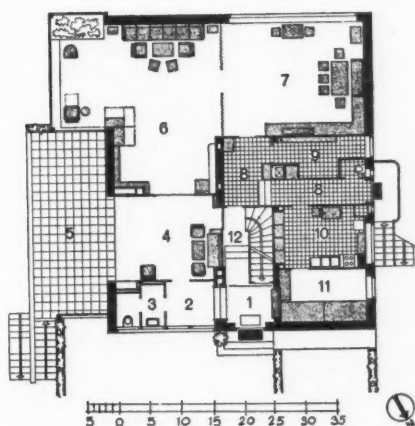
June 1934



Two Hungarian Houses by Ludwig Kozma of Budapest

Described by
Raymond McGrath

I. HOUSE ROSENHÜGEL

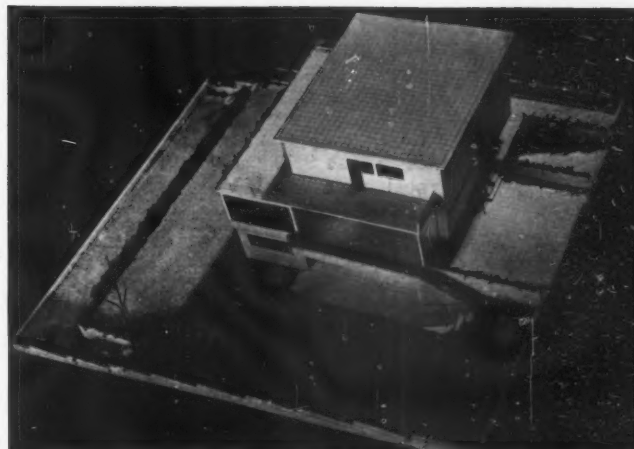


The ground floor plan. The key to the numbers is 1 and 2. Entrance hall. 3. Cloak room. 4. Lounge hall. 5. Garden terrace. 6. Living room. 7. Dining room. 8. Service entrance. 9. Pantry. 10. Kitchen. 11. Maids' room.

THOSE who remember the rich Bohemian interiors which Ludwig Kozma was producing in 1928-29 may not perhaps have anticipated the simple, very livable houses which he has designed recently. His interests have shifted, with the economics of these times, from gesso and embroidery to concrete, glass and plywood, and, being a true creative artist, he has risen to these barren occasions with a confidence which makes his work outstanding.

The rich and rare period, to which other Continental architects were making elegant contributions five or six years ago—Emil Fahrenkamp, Paul László, Fritz Gross, Professor Josef Hoffmann—has been swept away by the great tide of building units, lighting units, furniture units, units of all shapes and kinds, which advance with the tenacity of locusts. It is fairly obvious that the simple, and now as often elegant, shapes of these units owe a great deal to the experiments in modern baroque which characterized that period. We could, no doubt, explain this ingratiating simplicity in terms of function or "fitness for purpose," that magnificent sales formula, but this would hardly explain the organic growth of the design.

Here are two houses by Ludwig Kozma—



1



2



3



4

TWO HUNGARIAN HOUSES

House Rosenhügel, built 1931-32; House Forgács, built 1932-33—which combine the virtues of standardized materials with a sensitive personal expression; result—two fine pieces of domestic architecture.

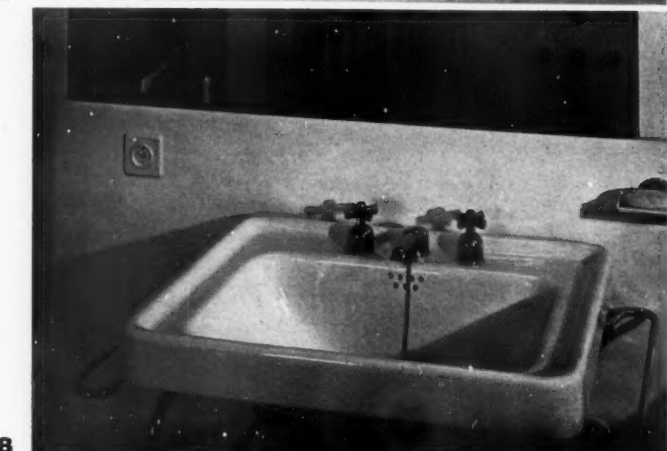
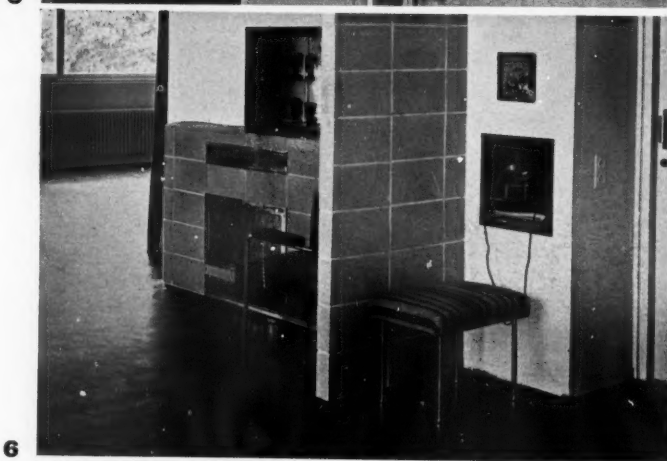
The cost of the House Rosenhügel was £2,520; or 63,000 cubic feet at 9½d. per cubic foot. It is situated on a flat hill top in the residential part of Rosenhügel, Budapest, amongst other villas and gardens overlooking the old part of Ofen and the Schwabenberg chain of hills. Experience since building has proved the house suitable to the Hungarian climate with its serene autumns and fairly mild winters.

The ground floor plan of the house is reproduced and shows the following:—1 and 2, entrance hall; 3, cloak room; 4 and 5, lounge hall and garden terrace; 6 and 7, living room with dining section; 8, service entrance; 9, pantry; 10, the kitchen, and 11, the maids' room. There are five bedrooms on the first floor and in the basement are situated the garage and library study, which, owing to the fall of the ground, overlooks the garden. Illustration 1 is an aerial view of the house and 2 is the entrance front from the north-east.

The construction is brick (with cork insulation) and balconies in reinforced concrete. The floors and roof are hollow-tile with steel joists. The terraces are paved with pre-cast white terrazzo slabs and the external walls are rendered with a mixture of marble dust and white cement, except the lower storey which is plain brick-work. On the ground floor sliding metal doors and windows are employed, elsewhere the windows are sliding, but constructed in wood.

Inside, as outside, this house is detailed with a thoroughness which does not characterize many English houses of a similar size. Every fitting and fitment has been skilfully prescribed. The architect has designed the whole of the furniture, and, although this may have left the owner no chance to display his life's history in collecting bric-à-brac, there can be no doubt about the satisfying completeness of the ensemble; that completeness which sensitive people have sought after for hundreds of years. You may say that a house completely architect-furnished will soon be out of date. Standards of comfort will, of course, alter, but good design lasts.

Illustration 3 illustrates the garden terrace with its protecting screen wall of Luxfer prisms set in concrete. The value and beauty of such walls of light is not yet fully appreciated. 4 shows the layout of the kitchen fitments—a sensible arrangement, table, cooker and sinks at one level. Note the extending shelf of the fitment under the window. The walls are tiled. 5, the entrance lobby, emphasizes the attention to detail in coat-hooks, door-handles, architraves. In 6 is a secluded telephone recess in the lounge hall. 7 shows one of the divan beds with its reading light, side table and wall inset for books of the hour. And finally, in 8, we have the bathroom lavatory, with well-designed fittings and useful side





9



10



11



12

brackets. Sanitary fittings, despite the fact that they are mass produced, have already become elegant things which we are proud of.

The rest of my illustrations are devoted to the second house called Forgács, which is described below.

II. HOUSE FORGÁCS

The House Forgács was built 1932-33, and cost £1,300; 40,000 cubic feet at 8d. per cubic foot is an exceptionally fine essay in small house design. It has no stunts, no forced architectural features, and, consequently, is perfectly satisfying. Designed for Berkshire, Sussex, or Surrey, a drawing of it would never get into the Academy because it has no porch, no roof, no green shutters. It just has that simple dignity which is possessed by lesser-known Georgian and Regency houses, and which so many of us are afraid is not enough. But we are growing less afraid since we have seen how very much too much the great public has been getting for its money in gables, bay windows, turrets, porticoes and general rubbish.

I ask you to look at one feature particularly of this house. You can tell how an architect thinks by many features of his buildings, but I think most of all by his ironwork. These balustrades give me absolute confidence in Ludwig Kozma, and he deserves it for the plan of the house, which, unfortunately, is not reproduced here.

The House Forgács is of the same general construction as the House Rosenhügel. It is particularly happy in its consideration for aspect. The large open terrace to the parents' bedroom faces south, as does the long balcony to the living room, illustration 9. The living terrace is on the east side, illustration 10. The interior of the living room with its long window is shown in 11. Framed by this window panel may be seen the Schwabenberg range of hills. The horizontal window might well be called the panorama window. Its unbroken view must be lived with to be appreciated. Finally 12 shows a corner of one of the bedrooms, with built-in fittings and radiators without obstructing feet. The elegant foliage on the chest is *figus elastica*. Kozma was one of the first architects to appreciate these sub-tropical plants, which have almost eclipsed the *acanthus*.

I must stress by way of conclusion that Ludwig Kozma is one of those happy artists who works unencumbered by theories. He describes his houses as "simple building, not architecture." In the design he is concerned with peaceful forms, with contrasts of spaciousness and intimacy; in the planning he is concerned with the grouping of rooms in a natural chain.

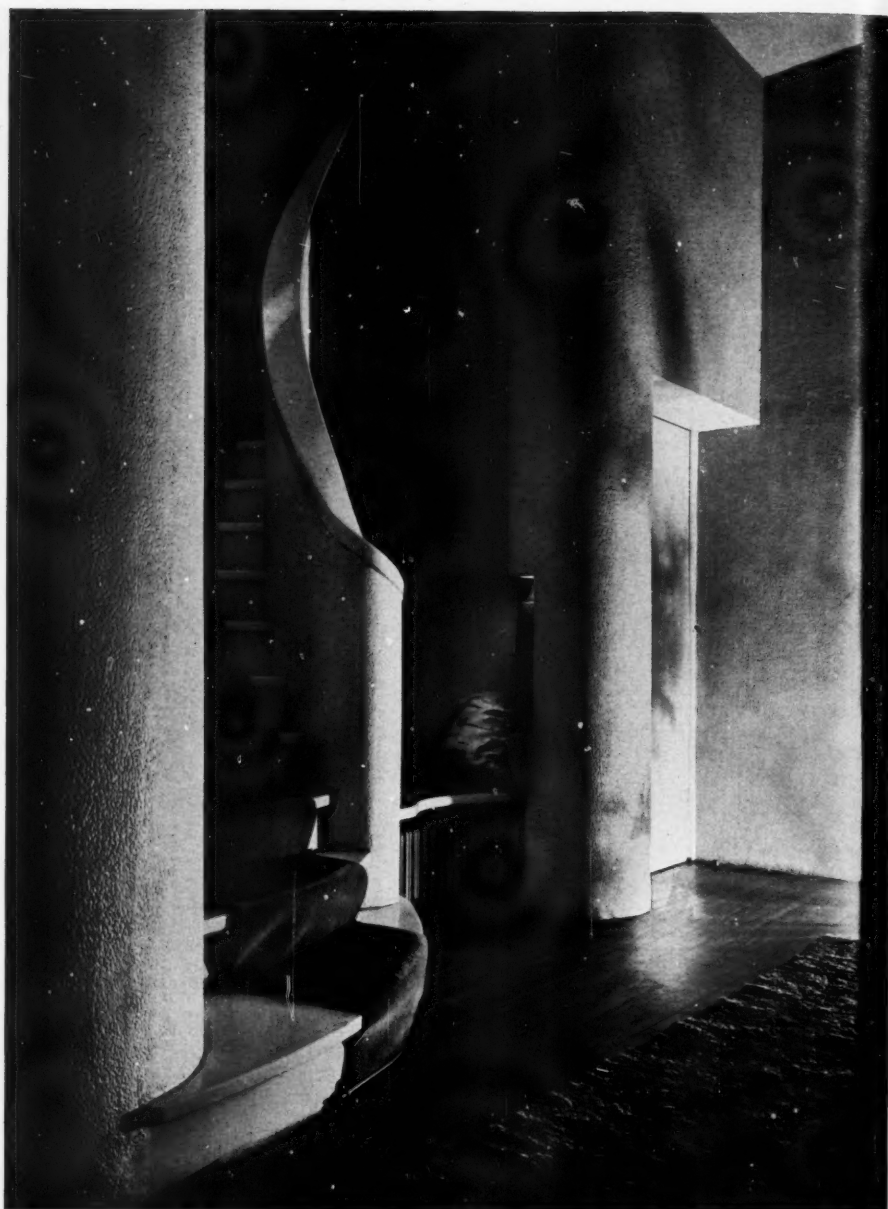
The house, we are often told, has become "a machine to live in"—in the sense, I suppose, that we are ourselves machines, but fortunately retain some individuality. The architect's palette is a conglomeration of machine-made materials. Out of this complexity he produces order, rhythm, serenity—houses, like House Rosenhügel and House Forgács.

A N A R C H I T E C T ' S H O U S E

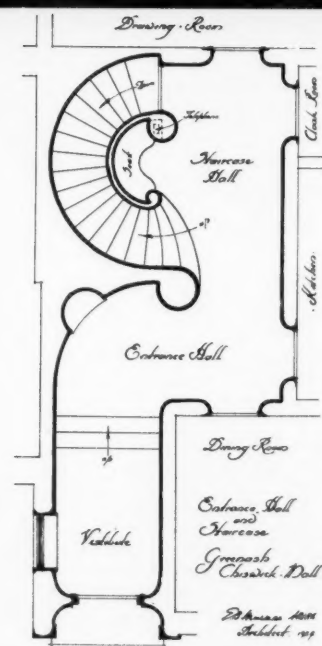
E. B. MUSMAN, ARCHITECT

A very interesting reconstruction has just been carried out by Mr. Musman to his house on Chiswick Mall overlooking the river. It was built in 1882 to the designs of John Belcher, R.A., for Sir John Thornycroft. Considerable alterations have been carried out and the original building has been converted into two separate houses with a self-contained flat above the part which Mr. Musman himself occupies. Externally, little change has been made other than eliminating certain unnecessary and unsuitable enrichments and whitening the whole façade. Internally, however, the reconstruction has been considerable and the rooms have been modernized. Mr. Musman, in aiming at absolute simplicity in designing his furniture and the general *decor*, has given full effect to the value of scale derived from the lofty rooms. The special feature of the house is the staircase, 1 and 2, geometric in shape and following a rather unusual plan, dictated to a large extent by restricted space. An interesting point to note here is the telephone recess cut into the circular pillar with its concealed lighting, and seat and radiator in the curve of the stair, the sole decoration being a large, plain circular mirror and glass shelf, and in the entrance vestibule a specially designed curved chest under a simple niche. The drawing room is lofty and spacious. It is 28 ft. by 17 ft., with three tall windows opening on to the garden, a broad, simple stone fireplace flanked by bookshelves and a curved settee and surmounted by a plain panel of ribbed, silvered glass with an engraved design by the architect of a river scene of tug and barges.

The illustrations are as follows:—1. The hall and staircase. The walls are covered with oyster white stippled plastic paint. The floor is laid with narrow oak boards, covered with a jade green pile carpet. 2. Plan of the entrance hall and staircase. 3 and 4. The ground floor plan before and after reconstruction. 5. A corner of the drawing room. The walls are finished with oyster white finely stippled plastic paint, and the upholstery, curtains and hangings are fawn and coral pink. The floor is bleached pitch pine. Note in the left hand corner a glimpse behind the half opened door of the music cabinet, the glass panels of which are engraved with a short extract from a musical score. 6. The first floor landing. The walls are finished in stippled plastic paint. The carpet is jade green, and the handrail white metal. 7. A corner of the dining room. The furniture is Honduras mahogany, polished dark brown, and the chairs are upholstered in red leather. The gas fire in the mahogany dado forms part of the built-in sideboard. The walls are finished with ivory white plastic paint, and the floor covered with a fawn hair carpet. The furniture was designed by the architect.

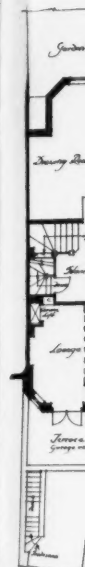


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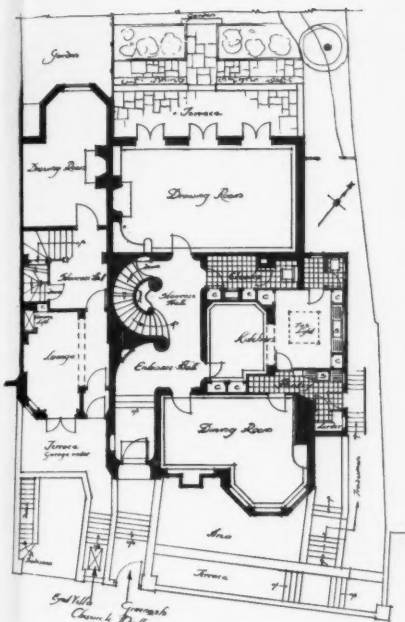
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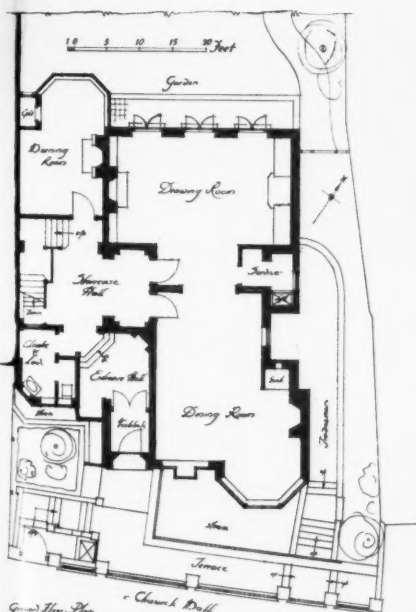


Ground Floor Plan after Reconstruction.

3



5

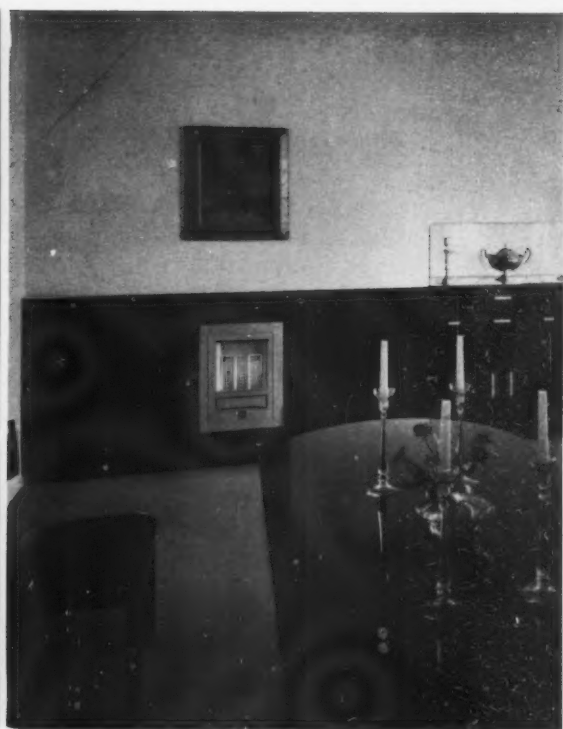


Ground Floor Plan
after Reconstruction

4



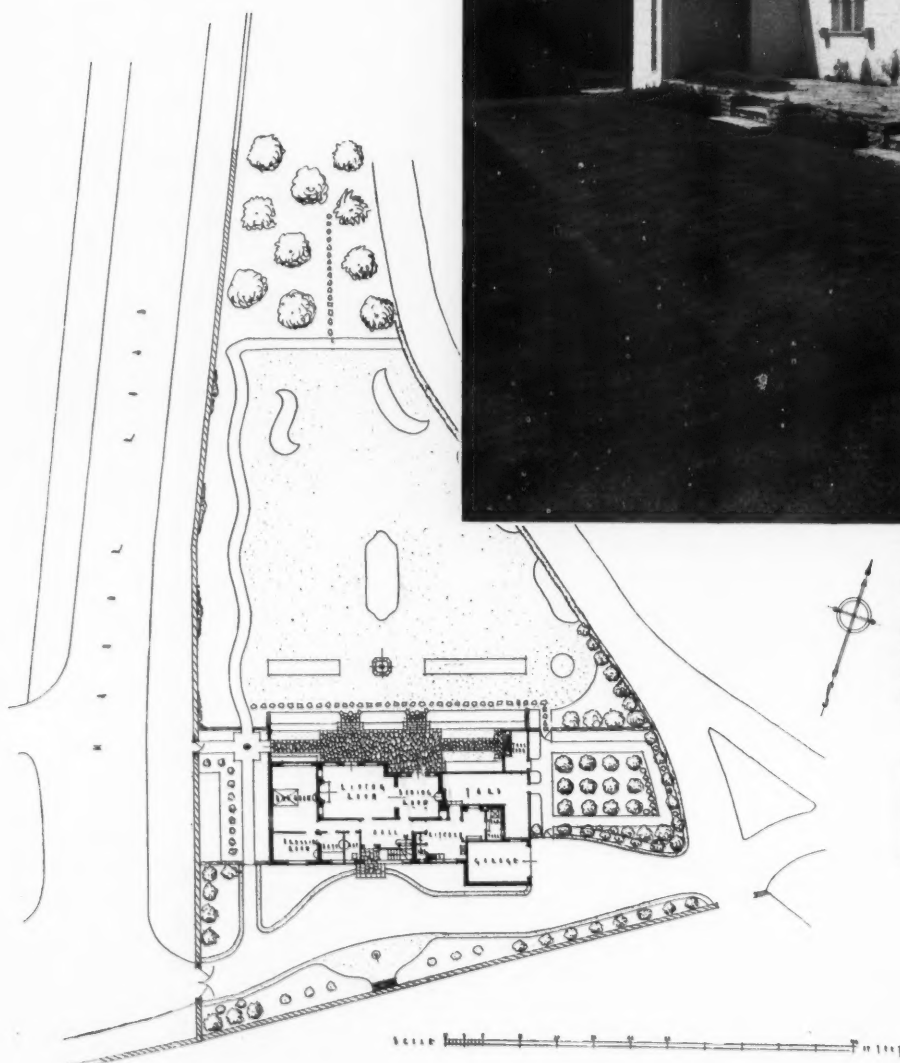
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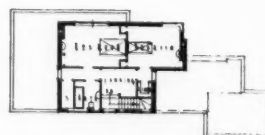
A HOUSE AT OXFORD

STANLEY HAMP: COLLCUTT AND HAMP, ARCHITECTS



The planning of the Manor House, Old Headington, Oxford, is unusual in that the best bedroom and dressing room had to be arranged on the ground floor, with the living room, dining room and kitchen, the first floor being occupied by the guests' bedroom, servants' room and bathroom. The house is so planned that additional bedroom accommodation

can be added as future extensions. A small servants' sitting recess has been arranged so that the kitchen is a working kitchen with a hatchway connection to the dining room through a cupboard as indicated on the plan. The house, of which a view from the garden is shown here, is built of 11 in. hollow walls, finished with rough stucco, lime-whited. The roofs are flat and finished with an impregnated roof sheeting and asphalt.



FIRST FLOOR PLAN





A living room in green and yellow arranged by T. Hayes Marshall. The colour scheme is built up round the painting of Gertrude Lawrence by Molly Bishop, above the fireplace. Green and white Morton Sundour cretonne curtains are used in conjunction with yellow and a nigger brown and cream upholstery. The plaster figure on the sideboard is by Nicolas de Molas. This illustration is reproduced from *Modern Furnishing and Decoration*, which is reviewed on page 212.

PLATE V

June 1934

Book of the Month

The Chosen Eleven

By Osbert Lancaster

UNIT ONE. Edited by Herbert Read. London: Cassell & Company, Ltd. Price 10s. 6d. net.

ONE of the most curious facts about art in this country is the ever recurring need for some fountain of doctrinal infallibility; not for long can we flourish without some little pope to curse and to bless. Ever since Reynolds published his *Discourses* we have enjoyed a long line of pontiffs, and now the piping of the Read has drowned the tolling of the Bell. Bearing this in mind the preface to *Unit One* can be taken as the latest encyclical from the present occupant of the throne of St. Ruskin.

In the present volume each of the elect, in number eleven, is dignified by two photographs of himself (or herself), one of the head and one of the hands, another photograph of his (or her) studio, four or so reproductions of his (or her) work, and the space in which to explain his (or her) aims. Furthermore, there is the preface by Mr. Read, and a reprint of Mr. Paul Nash's original letter to *The Times* announcing the formation of the group.

Mr. Read in his preface states that he thought it well to issue a little questionnaire to all the artists to assist their halting steps in self-expression "since" he says, "the artist is notoriously inarticulate in the medium of words" (shades of Benvenuto Cellini and Benjamin Robert Haydon!). However, few of these inarticulate practitioners seem to have had the least difficulty in running over three pages of close (and incidentally hideous) print. What, however, is most significant is the skill with which the artist has, in practically every case, set down his aims in the unfamiliar medium of words, with, moreover, an almost total disregard for Mr. Read's careful little questionnaire.

Indeed, the only artist who has felt himself unable to provide his own manifesto, Mr. Burra, and has deputed a Mr. Cooper to do the job for him, is quite the worst served in the book. This undergradatish little essay starts with a wonderfully inapposite reference to Blake, whose continued popularity goads the writer into deploring the fact that "the work of Edward Burra remains almost unrecognized." Not only does this imply that Blake, at Mr. Burra's age, was being triumphantly acclaimed on all sides, but is also extremely unfair to Mr. Burra himself (*etat.* 28), who, if my memory serves me right, has had at least one well-reported one-man show at a prominent gallery, has shown his work at numerous exhibitions, and has done some highly successful work for the stage. I feel compelled to single out this particular article for two reasons; firstly, because it contains a great deal of loose thinking that

is not in the least characteristic of the rest of the book, which suffers perhaps, from almost an excess of cerebrality, and secondly, because Mr. Burra's position in the group needs some definition (*vide p. 12*), which is not going to be accomplished by bright little references to Blake and Firkbank. The work of the other exhibitors is, as Mr. Nash says, "peculiarly of today," and represents a very definite break with the past, whereas Mr. Burra, whether he knows it or not, is a traditionalist. His kinship is not with Blake, but with those anonymous masters who, until a few years ago, decorated merry-go-rounds, steam-organs, and ice-cream-carts with the last genuine examples of baroque art in Europe. One can only hope that the influence of his fellow exhibitors and Mr. Cooper's smarty, *rive-gauche* chatter about Lautreaumont and *surréalisme*, etc., will not lead Mr. Burra to forfeit his birth-right as the heir of Luca Giordano for a mess of "abstract" pottage.

If Mr. Burra is badly served by the letterpress, the rest of the group, except the architects and sculptors, suffer from the reproductions. Not that these are bad, but that the two great qualities of these non-figurative artists—the actual quality of

their paint and their exquisite colour-sense—cannot survive half-tone reproduction. This applies more particularly to the works of Messrs. Armstrong, Wadsworth and Nash, for one has only to go to the Mayor Gallery and compare, say, Mr. Armstrong's *Balustrade* with the reproduction Plate XIV, to realize what is lost. The point needs stressing, firstly lest any reader should regard this book as a substitute for, rather than an incentive to, paying a visit to the Gallery, and secondly it is, in my humble opinion, by these very qualities that the work of these artists will in future be remembered.

When abstract art is as dated as the problem picture is today, and *Unit One* is as much a period piece as the P.R.B., English art will be indebted to artists such as Messrs. Armstrong and Wadsworth for their experiments and discoveries in texture and technique. Their handling of paint will long outlast their vision.

This, however, does not, I fancy, apply to Mr. Nash, in whose latest work (I am thinking particularly of two pictures now on view at the Mayor Gallery), the dominant interest is provided not so much by the exquisite colour as by the genuine "feeling" of the whole conception. Hitherto, one has so often felt that Mr. Nash's genius has been of almost too cerebral a nature, that he flourished rather too intellectual a brush; here, however, is proof that Mr. John Nash has not got a monopoly of all the simpler and more direct painter-like qualities in the family.

As for the two architect members of the



A one-room flat in New York designed by G. Rohde. The furniture is in American walnut. The bookcase consists of three units, two bookcases and a desk on a single base, which can be used either singly or in a combination of the pieces. The sofa is also the bed. From "Modern Furnishing and Decoration."

group, Mr. Wells Coates and Mr. Colin Lucas, annoying as their presence must be to other architects, one cannot help feeling glad that they are represented here, though the admirable quality of their work calls for no explanation by themselves or anyone else. Of all the arts, architecture surely is, or should be, the most self-explanatory, and the simple direct lines of the buildings of these two architects, here reproduced in drawings and photographs, speak for themselves. However, Mr. Colin Lucas in his article says a few words which are very much to the point today, and should be taken to heart by all those who regard a house as either a machine to live in or as something on which to hang swags of terra-cotta fruit.

One feels that it is a good thing this book was written, but a deplorable state of affairs in the world of art which renders necessary so much exclamatory self-justification.

OSBERT LANCASTER

Taste on Tap

MODERN FURNISHING AND DECORATION. By Derek Patmore. London: The Studio, Ltd. Price 10s. 6d. net.

IT is a keen pleasure to open a book which includes such a perfect Marie Laurencin besides a Picasso among its sixteen colour plates. That few of the rest are as worthy subjects for the very high standard of colour printing ought not to dim our gratitude for these. In the sailing ship motif of an Allan Walton rug the texture of the tufted wool and the sharp demarcation of colours are so brilliantly reproduced that we feel the greater regret that Jean Lurçat's lovely "Chinois"; the composite page of textiles designed by Vanessa Bell, Duncan Grant, Frank Dobson, Allan Walton, and Cedric Morris; and Terence Prentis' Fir-Tree Pattern for Horrockses should only be illustrated in half tone.

Compared to the pictures and these fine textiles the interiors and exhibition sets shown appear the more mediocre. Virtually all are English or American, though many rely to a considerable extent on "products that have the stamp of real art" like Venetian glass

chandeliers, Jensen silver, and Copenhagen porcelain. Most of these rooms perpetuate the "modern" of 1930, and look overfurnished at that. What Mr. Derek Patmore calls "modern adaptations of peasant crafts"—a curious phrase, for apart from a handful of crofters tilling their lonely shielings in Chelsea and Church Street, Kensington, we have no peasantry in Great Britain—are as much in evidence as they were then. The laid dinner-tables are overloaded and ostentatious, that reproduced on the dust-jacket being typical of a not very up-to-date, but very *de luxe*, hotel.

The only "period" interior is a useful cautionary example of how not to frame and hang good pictures in general, and French Impressionists in particular. And that "clever but simple furniture arrangement" in Plate 5—in which "a decorative note has been introduced by placing an old glass ship between candlesticks with coloured candles on the mantelpiece"—is one we fancy we have seen before.

Turning to the letterpress, it is difficult to decide whether this book should be considered as a form of group publicity for the firms represented in it; or as what it claims to be, a guide to the decorative qualities of modern fabrics and furnishings for "the housewife of average means," which will teach her how to "employ the best artists of the day." Judging by the majority of the illustrations, "average means" presupposes super-tax assessment in what I believe are termed "the higher incidences." We all hope to live to see the leading English manufacturers employing the best English designers. For Mr. Patmore this wish is the father to the thought, and the consummation of that happy event, at present the exception rather than the rule, is airily mentioned as if it were the merest truism. Art students of the future will probably read in their textbooks "By 1934 the foremost artists had combined with the manufacturers of England, and the union of art and industry thereafter became an accomplished fact (c.f. Patmore)."

Commendably brief as is the text, the bright femininity of the gossip-writer vein in which it is written makes it hard to persevere to the end. Thus we are told, much as though we were being let into the most deliciously snob secret, that an artist of the calibre of Edward Bawden "has a particular flair for the decorative arts." But even these vulgar little pats on the back are less intolerable reading than such serene reiterations of the obvious as

Some artists work better on a small scale, others are more effective on a large canvas . . . The price of a mural painting varies according to its size and the reputation of the artist employed . . . Some fabrics will darken a room, others will lighten it . . . Many of the new fabrics rely on weave and texture for their effects.

The decorative possibilities of books are rightly stressed, but those recommended are not modern, but such as have "backs gleaming with elaborately tooled gilt, and calf bindings": a form of infilling at least one enterprising firm can supply in dummy strips.

Mr. Patmore has one supremely important piece of historical research to impart:

a few years ago, Jean Michel-Frank, the well-known French interior decorator, broke away from tradition and showed us the decorative possibilities of elimination. With exquisite good taste he went further and introduced new decorative materials (was "chromium silver tubing" one of them?), such as walls made of straw . . . It was he who first reintroduced the now popular all-white colour scheme. Since then he has had many followers.

BAIRD DENNISON



A bedroom designed by Duncan Miller. The walls and ceiling are painted dead-white and so is the furniture, which has black handles. The curtains are of white jute. The rug, designed by Terence Prentis, is in Indian red, black and yellow, on a beige ground. From "Modern Furnishing and Decoration."



The "building of unsurpassed beauty."

The Cultured Copy-Writer

CALLISTHENES. London: Selfridge and Company, Ltd. Price 2s. 6d. net.

WE are told that Callisthenes was a pupil of Aristotle who was appointed to attend Alexander the Great on his expedition to India, "one of the greatest enterprises of all time." He wrote about the enterprise and did not fear to criticise Alexander when he declined from greatness. Therefore, his name was chosen to head the collection of articles which have been published by Messrs. Selfridge "reflecting the policies, principles and opinions of this House of Business upon various points of public interest."

The critical function of Callisthenes has been concealed; either the necessity for it has not arisen or perhaps Mr. Callisthenes discharges it in a discreet series of private letters to the controllers of the Great Enterprise on which it is his privilege to attend. The collection consists of a number of articles of the most varied and ingenious eulogy of that Great Department Store. Messrs. Selfridge quite frankly admit that the articles were primarily intended for purposes of advertisement. It is therefore right to consider them first as such, and it must be admitted that for this purpose they are as original as they are cunning.

They begin usually with a quotation drawn from authors as varied as Kipling, Stevenson, de Vigny, Masfield, Johnson, Shaw or Bacon. The interest of the reader of average education being once caught on this initial bait is held by a number of skilful developments, which deal mostly with such topics as work and leisure, action and ideas, organization and progress, in such a way that he feels that the vague views which he generally holds upon such subjects are not only right but rare, that the majority of people are suffering from the delusion that success can be obtained without work, construction without imagination, and progress without effort, and that if he will only act upon his convictions a great career is open to him in a world of sluggards, fools and stick-in-the-muds.

Then he finds that Messrs. Selfridge agree with the views which Mr. Callisthenes has expressed. This fact is conveyed with a quick sentence to prepare his mind for the grand peroration that is to follow. Such a trenchant phrase as "we believe in thinking all the time," "no firm prizes intellect more than we do," "In this House we cherish the imagination," "In this House we like brilliance—and we are not afraid of it" heralds the exultant climax.

In the last paragraph he is told how Messrs. Selfridge are putting the opinions expressed into practice. That firm is invariably spelt with a capital letter, whether under the title

of this Store, this House, this Business or our Building. A feeling of religious fervour is thus conveyed. The reader's mind is brought to rest in a glow of beatitude; and he finds himself called on a pilgrimage to the Temple of Service, where it is even implied that the managers each spend an hour a day in "meditation."

Now this religious outlook may be as useful an asset to a business as a creed may be to a system of ethics. There is no doubt that Selfridge's is the most competent department store in London. It is quite conceivable that what at first sight appears to be a lot of pompous foolishness may work upon the minds of the employees to turn them into the unusually competent staff they are. Therefore, the articles of Mr. Callisthenes serve probably a double purpose—not only to draw customers to Selfridge's but also to render its services more efficient. To judge by the results he is to be congratulated upon both scores. Yet Callisthenes of Olynthus suffered death rather than approve the assumption of divine honours by his great commander.

But now that his articles are published in the form of a Book of Essays, it is necessary to examine some of them and see how far one may find oneself in agreement with the opinions of that Great House of Business.

He tells us that as Blake foresaw that the jewels would be taken from the hilt of the sword and put upon the handle of the plough, so the Building of Selfridge's has been invested with the beauty of architecture. The unfortunate seer must have turned in his grave at such an interpretation of his vision. Never surely was there a building less comparable to a jewel. Lacking alike in grandeur or simplicity the great pillared box stands as a monument to unimaginative building, a monument in which the dead formulae of Tradition are clumsily stretched over a steel construction, so as to admit of infinite expansion over London, but in which the fire of classical, or of modern, inspiration is signally, hideously lacking. A pompous corpse, the building may fulfil the canons of accepted architectural design, it may sustain satisfactorily the most efficient of

stores among its hidden girders, it may even clothe itself in the transient glory of a Forest of Christmas trees, but it lacks for ever the splendid life with which a Nash, or a Soane, or today perhaps a Kennedy or even a Corbusier might have animated its being. "We have done the best we know to make our Building worthy," says Mr. Callisthenes in a tone of proud modesty. But elsewhere he calls it a building of "unsurpassed beauty."

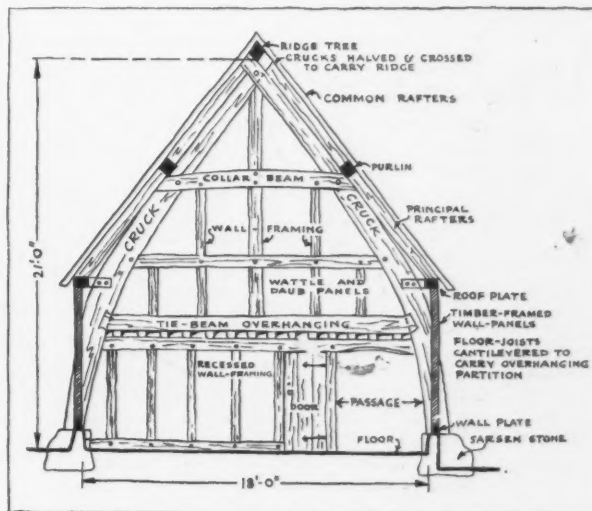
Mr. Callisthenes might seek perhaps to justify this new criterion of taste which puts Selfridge's building on a level with St. Paul's, or the Cathedral of Chartres, or the Parthenon itself, by quoting from an article in which he says that the public have a sixth sense. The knowledge of a good thing seems to him "to spread through the suburbs as a summons travels mysteriously from tribe to tribe through the equatorial forest." If a kinema has a queue the programme, he says, must be good: nor will the public visit a theatre where the play is poor. If their judgment is to be accepted as invariably right and it is considered that the daily number of visitors to Selfridge's exceeds those to St. Paul's, etc., it may be argued that Selfridge's not only equals but surpasses St. Paul's in beauty. But is it in search of beauty that the public visit Selfridge's? And is the public's taste a true criterion? Samuel Butler said, indeed, that the more he saw of the gullibility of the public, the more he became aware how hard it was to impose upon that gullibility. But the waywardness of the public taste does not prove its excellence. For purposes of commerce it may be necessary to bow down to the views of the mob. But let us at least avoid bowing down to the views of Callisthenes.

BRYAN GUINNESS

A Remarkable Book

THE EVOLUTION OF THE ENGLISH HOUSE. By Sidney Oldall Addy. Revised and enlarged from the author's notes by John Summerson, with a Foreword by Clough Williams-Ellis. London: George Allen and Unwin. Price 12s. 6d. net.

MR. ADDY's book was first published in 1898, but in its present form, revised and enlarged by Mr. John Summerson, it is one of the most remarkable architectural publi-



Section of a house at Lambourn, Berkshire. An example of well-finished mediæval cruck construction. Note the method of supporting the ridge. From "The Evolution of the English House."



The front of an ancient manor house at Padley Hall, Derbyshire. From "The Evolution of the English House."

cations of the past year. In his preface, Mr. Clough Williams-Ellis expresses his profound admiration of "the staggering erudition and relentless thoroughness of Mr. Addy in tracking down the remote ancestry of the English Home." And a reviewer of less eminence and experience can only add to that statement by saying that every page is full of interest. And of what value is erudition if it is not interestingly communicated to the laity?

The Evolution of the English House is traced back to absolute basic elements and proved by exhaustive archaeological, literary, and etymological research. The first type of dwelling took the shape of a round hut clumsily built of rough material, a form of building still used in England by charcoal-burners, but previously only used, as far as we know, by the lake-dwellers of Glastonbury. The real origin of our architectural forms is to be found in a simple hut, the roof of which was held up by a pair of bent trees forming a fork. The distance between each pair of crucks or forks was always the same length and the area was known as a "bay." ("Booth" was in mediæval England often used for "bay," and the German word for a building, "gebäude," is plural, and signifies a collection of booths.) The fact that the size of a bay was always standard is a matter of fundamental importance as far as origins are concerned. Mr. Addy later proves conclusively, from modern English and ancient Latin evidence, that the width of a bay was 16 ft. because that is the space universally accepted as sufficient for stabling two pairs of oxen. Not only was the distance between the crucks always the same, but the amount of land owned by the tenant was apparently directly proportionate to the number of bays.

The reason for this is not clearly explained, but being assumed it leads to some remarkable conclusions.

Oxen once acted as money, and a man's taxable wealth was usually assessed by the number of his cattle. A bay was originally the space required for four oxen, and as it also represented a proportionate quantity of land, it was reasonable to suppose that a man could be taxed according to the number of bays his house contained. The word skilling is apparently derived from the Icelandic "to divide." Now a bay is a division of a house, and, more significant, in Wiltshire a skilling is an open cowshed. In addition to such mystifications, intricate calculations are given to prove that the coinage system had an architectural basis. As in

Greek *στάθμη* means "a measure," and *σταθμός* "a dwelling," so Mr. Addy claims that the English house was the basis of units of measure, words like *maison*, or *mansion*, being derived from *metiri*, to measure, rather than *manere*, to dwell—*mensio* easily adapting itself into the form *mansio*.

Strictly speaking, although they do not explain the architectural evolution of the English house, these matters are inextricably bound up with its origins, and must form a background to any work of the type of Mr. Addy's. It is not a textbook of domestic architecture in the sense that it gives brief sketches of various styles with-

out giving reasons for development, neither is it one of those treatises on domestic architecture which are apt to be concerned only with existing relics or picturesque and famous houses.

Crucks have been known to exist for two thousand years in various countries, and Mr. Addy in one chapter discusses the foreign prototypes of the English "cruck" house. A house built in such a form bears a strong resemblance to a ship, and from the Latin *navis*, a ship, we get our word *nave*. Nowadays we refer by *nave* to the central part of a church, but we must remember that the original forms of construction were identical, lateral additions to a "cruck" house corresponding to the transepts or aisles of a church. One of the most important facts about church buildings up to two or three centuries ago was that they were used for secular purposes. For instance, there were no municipi-

pal buildings in the Middle Ages and councils met in the church.

Besides dealing with churches, Mr. Addy devotes a chapter to Castles and Watch-towers, and another to the Manor House, and one to the Town House, explaining the existence of Rows in towns like Chester, tracing the evolution of shops from Pompeii to London in 1933. The storey built above the street-level floor was called a solar, or solarium, after the Roman name for the erections over colonnades, etc. This solar was always projected a little nearer to the street than the ground-floor plan to afford protection to the tavern or taberna beneath. In the thirteenth century a garret (originally meaning a lookout) was sometimes added.

The evolution of the chimney from a hole in the centre of the roof to its present position is a matter of great difficulty to trace, because of the absence of records and references in this respect. It is obvious, however, that Mr. Addy's research has been stupendous, for throughout the book we meet with delightful quotations from obscure records. For instance, in a chapter on Building Materials he notes a builder's account for 1575:

Item paid to Mr. West for vij trees and he gave my wiffe one tree besydes . . . xvjs.

It is a pity, too, not to reproduce the quotation from a German text-book of 1556. "To find the length of a rood . . . according to scientific usage . . . stand at the door of a church on a Sunday and bid sixteen men to stop, tall ones and small ones, as they happen to pass out; then make them put their left feet behind one another, and the length thus obtained shall be a right and lawful rood."

Mr. Addy produced material enough for many volumes, but Mr. Summerson has successfully presented it all in one volume, in a coherent and interesting manner, and after his careful enlargement and revision he must be congratulated on such an outstanding production.

P. J. DUFF

PAINTING

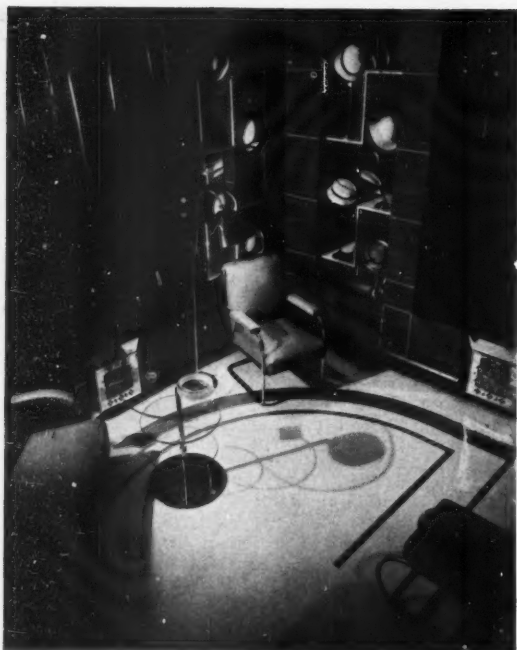
The Royal Academy

EVERY alternate year the Summer Exhibition of the R.A. opens in circumstances that are, in the fullest sense of the word, trying. Of recent years one has been accustomed to seeing these familiar walls, now bearing up so nobly under the strain of supporting a surfeit of mayors and highland cattle, adorned six months previously with the treasures of international art, and some of the ghosts of these past visitors linger all too vividly. At first, when the inevitable comparisons leap to the mind, one dismisses them as being unfair and beside the point, but on second thoughts it seems to me only right and proper that they should be instituted. Too often the R.A. is taken to task on the grounds that the works exhibited compare unfavourably with the pictures painted by modern masters outside these walls, that the paintings of Sir William Llewellyn and Mr. Olsson show few traces of the influence of Modigliani and Cézanne. To argue thus, however, is to show an ignorance of the character and purpose of the R.A. It has of its own volition rejected the tenets of modern painting and deliberately elected to continue its work in accordance with the established tradition of academic art which was laid down in the eighteenth century and

flourished so profitably, though barrenly, throughout the nineteenth. Therefore the comparison with their masters, and late tenants, is not out of place; is, in fact, deliberately invited, for the pupil must always to some extent be also a competitor.

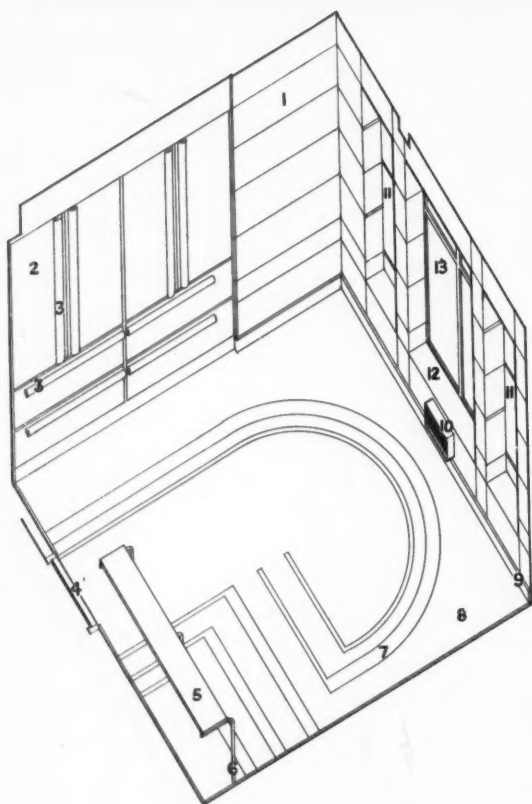
What then, bearing this in mind and resolutely banishing all memories of what has taken place in the outside world since the death of Manet, is the impression left by the present exhibition? At first glance one cannot help noticing the universal and monotonous lack of "style," more particularly in the portraits. One does not, naturally, demand that peculiar distinction which is seldom lacking in even the most mediocre eighteenth-century portrait-painters, but merely something that is present in Winterhalter but absent here. The modern academic artist seems to be so completely lacking in conviction that his knowledge and skill, however great, cannot save him from being a bore. Take, for instance, a picture by Mr. Egerton Cooper in Gallery 10, "Derby Day, seventy-seven years after Frith," that by its title sets out to invite a comparison. Frith knew what he wanted to do, and with what one must admit to be amazing technical skill, did it, and the finished result, although it





A HAT SHOP SHOWROOM

The illustrations here and overleaf are of the showroom at the "Dolores" hat shop in Beak Street, London. The latter is a view looking into the mirror over the fitting table. The walls and ceiling are lined with a specially printed paper, the general tone of which is gun-metal colour; the paper is fixed horizontally with wide spaced $\frac{1}{16}$ in. joints. The flooring is rubber with a putty coloured ground and vermillion bands. The hats are exhibited on staggered shelves in four mirror lined recesses. The furniture is of chromium plated tubular construction with vermillion leather upholstery. The fitting table top is of 1 in. polished plate glass, with chromium supports, and has a large mirror over. The hand mirrors have natural ivory coloured shagreen backs with synthetic coral handles and ivorine ends, with the letters DOLORES inlaid in silver wire. The view on this page is of a corner showing the recesses for the display of hats. The windows on either side are curtained with lead coloured oil silk. The seats are upholstered in vermillion leather and the circular table is of glass. Below is an axometric drawing of the showroom by Rolf Jensen. The key to the numbers is as follows :—



1. Tinted wallpaper. 2. A cupboard fitment, cellulosed shrimp pink. 3. Chromium tubular handles.
4. Door. 5. Polished plate glass fitting table. 6. Bent chromium table supports. 7. Vermilion red bands on the rubber floor. 8. Putty coloured ground of the floor. 9. Ebonized skirting. 10. Electric fire. 11. Mirror backs to the recesses. 12. Black opaque glass. 13. Window.

The architect for the showroom was Oliver Hill.

Sir Edwin Lutyens's Roman Catholic Cathedral of Christ the King, Liverpool, exhibited at the Royal Academy Summer Exhibition. The model was made by Mr. John B. Thorp to a scale of one inch to four feet and is 13 ft. 6 ins. high, 17 ft. long and 11 ft. wide.

reveals quite plainly his sentimentality and his ponderous humour, does bear the hall-mark of his mind, commonplace as that was. Mr. Cooper's picture, on the other hand, might almost be a piece of automatic writing. It seems to express nobody's mind, so impersonal is its expression.

There is, however, one tradition that was noticeable all through the exhibition in January that is here continued unbroken; that is the unwillingness of British artists to submit themselves to what Mr. Roger Fry calls "the acid test of still-life." Examples in the present exhibition can be counted on the fingers of the hand.

In this all-prevailing level of depersonalized talent it is extremely difficult to pick out any individual pictures. What the Press will eventually decide to be the picture of the year I cannot say. Personally I should tip Mr. Meredith Frampton's portrait of the Bishop of Exeter; it has all the negative virtues combined with a certain dignity and truthfulness that counterbalance the, to me, unpleasant quality of the painting.

Mr. Rex Whistler's portrait of the Misses Dudley Ward is a fine piece of virtuosity and a notable example of this painter's remarkable eclectic talents. It, at any rate, has style, albeit borrowed.

The big guns are, however, all well below their usual level. There is a scrappy portrait by Mr. John, which is a poor thing coming from such an artist. Of Mr. Sickert's two contributions, the portrait of Sir James Dunn is a notable and successful example of his latest snapshot manner, and has a disconcertingly vivid effect among its neighbours, but the picture of Miss Fabia Drake as Lady Macbeth makes one wish that Mr. Sickert had never heard of the invention of photography. As for Sir John Lavery, he can seldom have been so woefully represented. Of other old friends, Dame Laura Knight has painted a very large picture, Mr. Olsson two of the most glowing suns that ever set over St. Ives, Mr. Mark Symons is as defiantly allegorical as ever. The new A.R.A., Mr. Stanley Spencer, a visitor from that outside world, the existence of which one agrees



to ignore on entering Burlington House, seems a little out of place, but his brother, Mr. Gilbert Spencer, seems to be settling down nicely.

With one exception, this fearful, impersonal stylelessness applies as much to the architecture as to the painting, but this one exception makes the whole exhibition memorable. I refer to Sir Edwin Lutyens's model of his Roman Catholic Cathedral at Liverpool.

In many ways the present time is unfavourable to monumental architecture. The current doctrine of functionalism and *sancta simplicitas* generally, combine with the lack of sufficient opportunities to render the monumental architect almost a creature of the past and, as a result, so many of our public buildings in recent years bear all too plainly the indications of having been put up by architects whose reputations were made by their success in domestic architecture. The result is that we are surrounded by a series of buildings that are merely private houses swollen to monumental proportions and decked out with a Corinthian façade and a flight of steps. Alone of all our architects, Sir Edwin Lutyens is capable of working in the grand manner, and here in his Roman Catholic Cathedral at Liverpool he has been given his opportunity.

Objections will doubtless be raised, in fact were being raised on Press day, that the mass of the building has been ruined by extraneous decorations, which, it will be maintained, detract from the magnificence of the scale. Personally, I cannot but feel that our architects are becoming afraid of employing even the mildest form of decorative embellishment. Admittedly the fearful examples of super-cinemas and multiple stores must act as a strong, and in the main, healthy deterrent, but there is no reason why decorative elaboration in the hands of an architect of culture, who can divest himself of the memory of our national reputation for all too

tasteful restraint, and work regardless of the noble heritage of our Gothic cathedrals, could not again become a satisfying and integral part of an architectural whole. Sir Edwin Lutyens, even if not wholly successful in this, deserves the highest praise for making the attempt. One would perhaps like to question the exact purpose of the two pinnacled copper cupolas over the apse. In fact, the whole of the east end suffers from decorative adjuncts whose relationship to the whole is decidedly loose, but the scale and proportion of the doors in the transepts are truly noble in the fullest sense of that old-fashioned term; and if the same standard is not quite maintained throughout, critics are recommended to go and look at Sir Herbert Baker's scale drawing for a portion of the interior of the new Bank of England in the next room, noting particularly the proportions and leading of the windows, to see what pitfalls await an architect who lacks Sir Edwin's assurance in the grand manner.

It is a good thing for this year's Academy that this great model, surely one of the most ambitious of its kind made in recent years, confronts the visitor on entering, and must be passed again on leaving, for although it will not cause Sir Christopher to look to his laurels, it bears witness that the last faint echo of the grand manner is still audible, despite the din of jazz-modernism and the sound-proof swaddling of neo-Georgian restraint. O.L.

Hans Feibusch

WHAT does modern architecture leave for the painter and the sculptor? How often does one hear the question asked, and not alone by men who need a frame or a



pedestal to gather their thoughts into and onto? Yet is the answer difficult of finding? Architecture no longer requires its frame of pier and pediment, nor yet its solid base; and painting too can be its own structural support and fill its space upon the wall as self-contained shape, colour and design. Hans Feibusch, from whose recent exhibition at Reid and Lefèvres gallery this painting is selected, seems to realize very completely the demands which modern architecture makes of his art. Here the painting is framed for exhibition, yet none the less it is a thing for the wall, where his future work in England belongs.

I don't know that I am competent to discuss the merits of this painting in critic's terms. I feel its oppressive force and its detached, sensitive pity, and the two fight inside me. It may happen that England will mould Feibusch's work in ways that were never possible to post-war Germany. He is one of a very small number of painters whose work is integral with the architecture of which it forms a part, and I can only hope that the development of his art in England may move hand in hand with that of our contemporary architecture.

E.M.F.

A Free Commentary

By Junius

THE thirty-three and a third per cent. retrospective issue of this journal, published last month, has tempted me to try and discover which of the advantageous social developments of the first third of a pregnant century is the most significant. On the whole, I give my vote for the Decay of Snobbery—though possibly if the word "decay" presupposes death one should substitute "decline." Snobbery certainly is not yet quite dead.

There are, of course, here and there in queer mental backwaters people who still talk as if some other and lower processes were responsible for the begetting of the bodies and the infusion of the souls into the bodies of the "common people." But they are few. It is so obvious, except to the mentally dying, that there are no longer any real and intelligible class distinctions (save such as are made inevitable by possession or lack of money), but only distinctions of type. As to money, there is beginning to appear among the more sensitive of the possessing people a slight reaction of self-disgust and self-disapproval, and among the less sensitive a slight tremor of apprehension—among people like Lord X, something more than a faint apprehension.

It is hard to touch on this business without a seeming taint of patronage. It has been my lot at various times, and for weeks at a stretch, to work at the bench or come in intimate contact with the actual jobs of work of many artisans. I cannot remember one who, when once his innate and perfectly natural suspicion had worn off ("worn off" so far as I could see, but there one may flatter oneself somewhat easily), did not prove himself a person of character—friendly, self-respecting, envying no man, solid, a sound citizen. There must be some bad lots among the working-class, that's obvious, but there seems something about labour with the hands for a standard living and with freedom from the material ambitions so distracting to us others, which is calculated

to produce a good type. To give so much importance to the discovery is implicitly to confess the inherent snobbishness of one's earlier ignorant viewpoint. Clearly. But one must learn by experience.

Lest we should flatter ourselves too much on this admirable change in our general attitude, we should remind ourselves that we have at last attained something which has been long established in the social practice of the Irish, the Scots and the Continentals... They say even of the Americans! And from the mysterious German front competent observers report that the sense of class has been largely undermined by troubles shared by the migrations of hikers, and by the fanatic emphasis on race which has, to set off this good thing, had such deplorable effects.

And to think of countless thousands of our fine men and their women tortured on the rack of apprehension or of experience of unemployment, hungry in a world of plenty, is just not bearable.

Perhaps this kind of consideration takes us into inconvenient depths. Possibly by the time this is in print the Sedition Bill will have made me liable to summary imprisonment as a disaffected person. Let us extricate a bogged foot and turn to lighter things. How admirably the young journal, *Design for Today*, comports itself! (It is one of the pleasures of writing for this journal that one may freely praise others which may be reasonably judged to be in some sort of competition with it.)

Mr. Noel Carrington, a resolute and conscientious worker in the D.I.A. training ground, is giving his paper a personality and a solid function. The matter is so good and to the point that it may well be that it is actually adopting a scale of payment of which I have long dreamed in secret—three guineas for a thousand, five guineas for five hundred words—but the right five hundred! Let him correct

A FREE COMMENTARY

me if I am wrong. If right, I will make shift to compose five hundred [Advt.]. If *Design for Today* doesn't gain the steady patronage of the British manufacturer he will deserve the hardest things that the most intemperate of us have thought (and occasionally said) about him.

I hied me to Olympia to the Ideal Home Exhibition to try, if so be I might amid the confusing welter of that much too successful and confusing conglomeration of things good, bad and indifferent, to find and assay the modern and modernish houses.

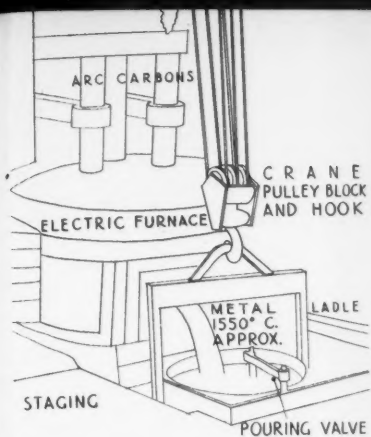
It is clear to me that, given a free hand, the stunt modernist builder will be capable of committing crimes which by comparison with those of appliqué Elizabethan and other morbid "traditional" styles will be venial. Have we not seen pots and carpets and fabrics in the modern manner by Cheek out of Ignorance of a more ensanguined nature than anything traditional?

Mr. Wells Coates's "Sunspan" house, for Messrs. Bergner, the builders, was indeed admirable—product of a fine disciplined intelligence working logically on a new problem with new materials for a new age. Our good Sir Reginald may rumble "Modernismus!" as much as he likes, there will be no stopping this kind of thing. How to stop its inglorious, insolent, incapable imitators is another matter—and a delicate. The design by Mr. A. W. Kenyon, for Messrs. John Laing, is also interesting and free from nonsense... But the chances of a Road House school of domestic architecture bursting over us are not slight.

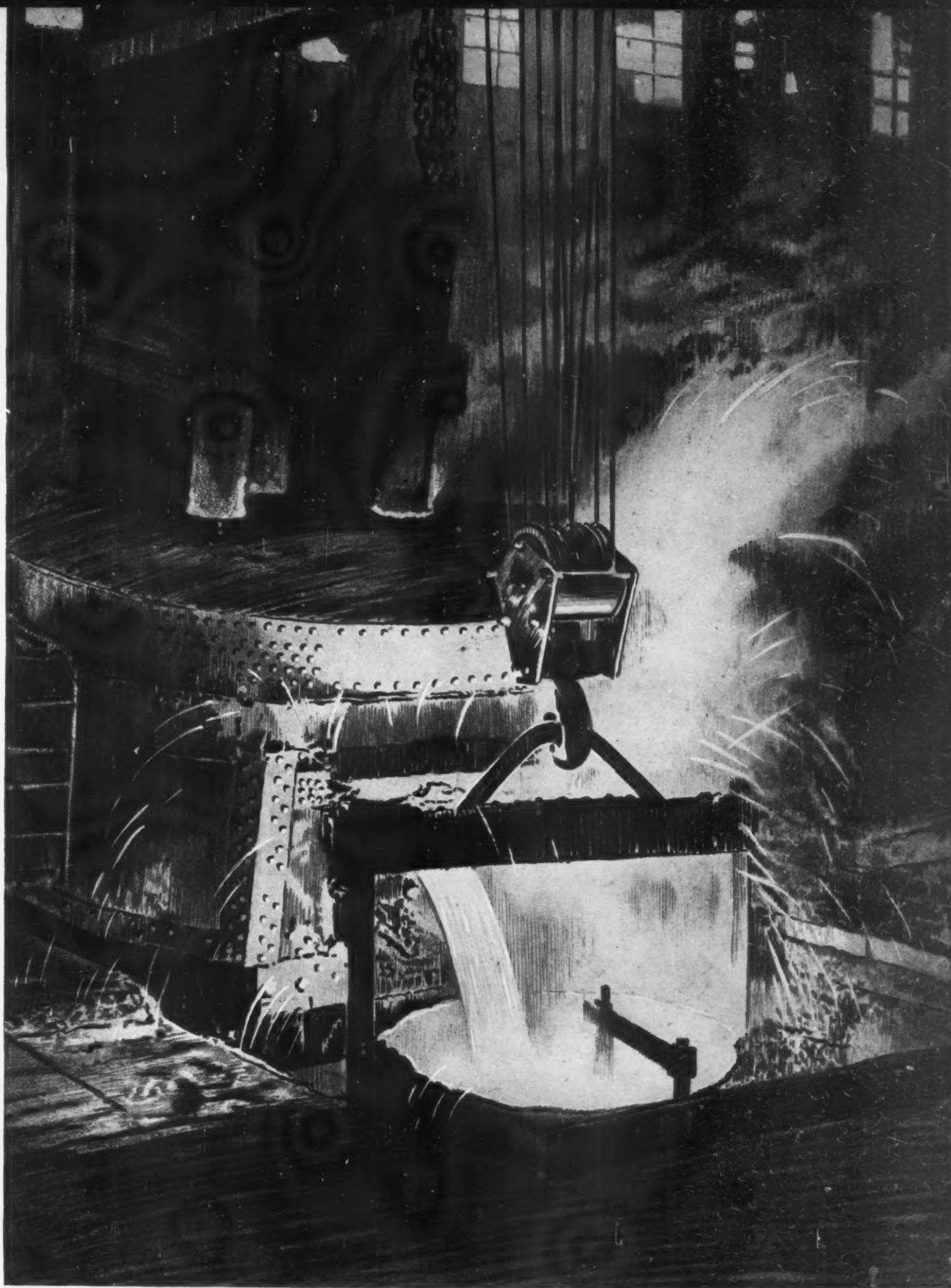
A correspondent sends the following which I print for its sound common sense (its accord with the views expressed at the time—June 1932—in this journal) and for the delicate hint conveyed in the last sentence.

"The town of Stratford cannot quite get used to its new architectural feature, and the county, I gather, thinks it, within and without, almost threateningly Bolshevik in appearance and, very probably, in a secret design as well. There is some excuse for them. A building planned for execution in stone, or in steel and concrete, and carried out in the crudest villa bricks which have not yet had time to weather, could not fail to shock the eye, set as it is in the middle of a mellow domestic town. The colour of them is not only hideous in itself, but it explodes the proportions designed for pale stone. The windows, which clearly should have been paned casements, are sashed, and this gives the ground floor, when you approach it, the air of being a series of not very good railway station refreshment rooms. You can still see the artist's intention. I wonder she did not commit suicide when she saw how it was being carried out. Clough Williams-Ellis would probably whitewash the whole thing—I fancy so simple and cheap a remedy would put everything right and display the inherent beauty of the design."

We should not like our readers to remain long ignorant that there is now upon the market a metal Beefeater (all in natural or praternatural colours) bearing in his hand a curious weapon of which the handle is as the handle of a rapier and the blade like the handle of a domestic broom, while under the hilt is a model of the Tower of London. From hooks in the Beefeater's back depend fire irons. *Tout ce qu'il y a de plus chic!*



1. A stainless steel electric furnace.
Reproduced by courtesy of Messrs.
Thomas Firth and John Brown.

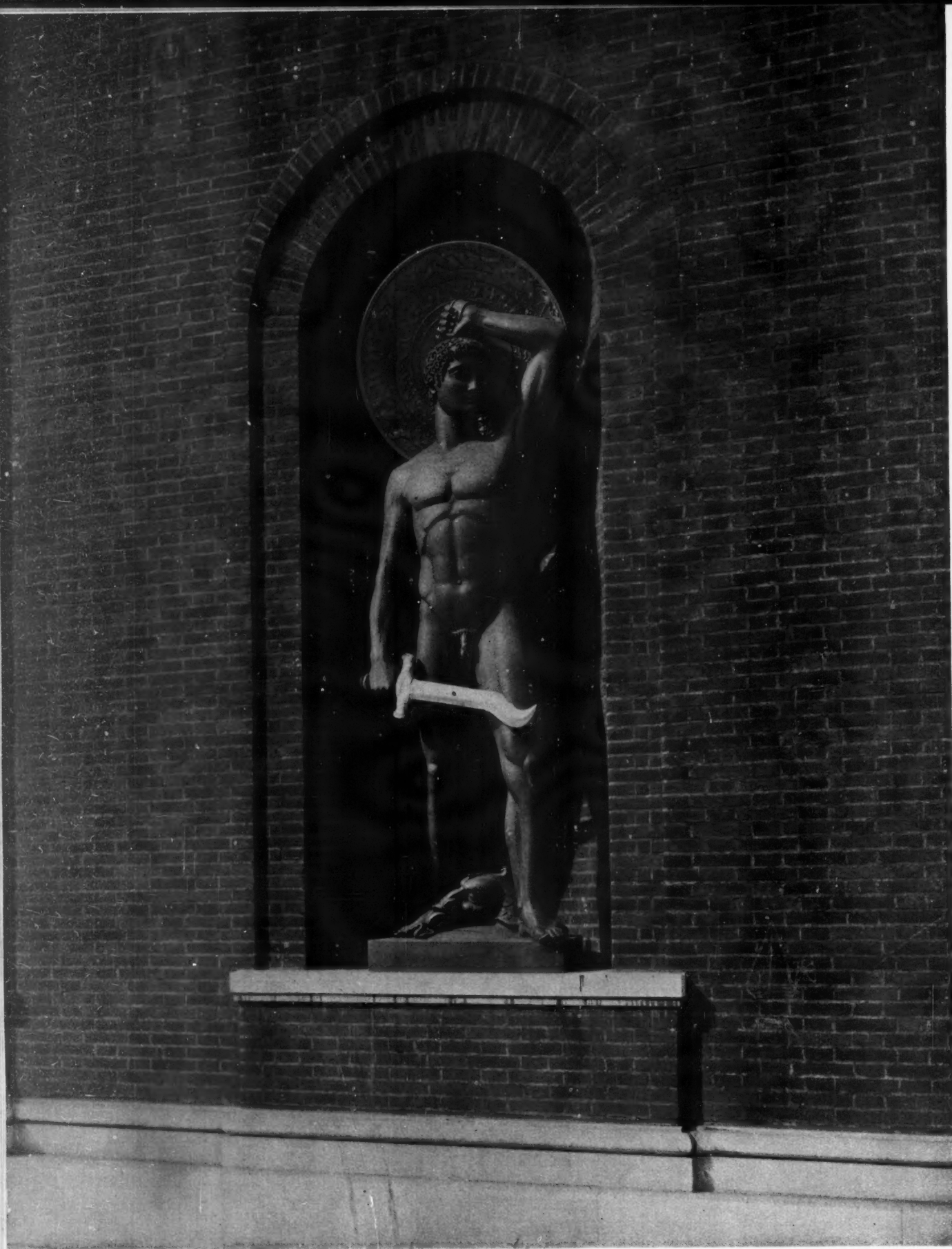


M E T A L S

DECORATION AND CRAFTSMANSHIP

SUPPLEMENT

JUNE 1934



2. Cast bronze figure of St. George erected at Carlos Place, London. Here the metal of the statue shows to advantage against the simplicity of the brickwork. Sculptor: A. F. Hardiman. Craftsmen : Morris-Singer Company.

M e t a l s

By

Walter Goodesmith

Of the early history of metals very little is recorded. All metals in their early stages were treated as precious metals, and it was not until they were used in a general way for useful purposes that much can be ascertained about them. The Bronze Age is generally believed to have commenced about 2200 B.C., bronze was then known in the Aegean. As bronze is an alloy of copper and tin, it dates these two pure metals earlier still, but apart from the fact that copper and tin have been known from a very early date in the Near East, more accurate information is not available.

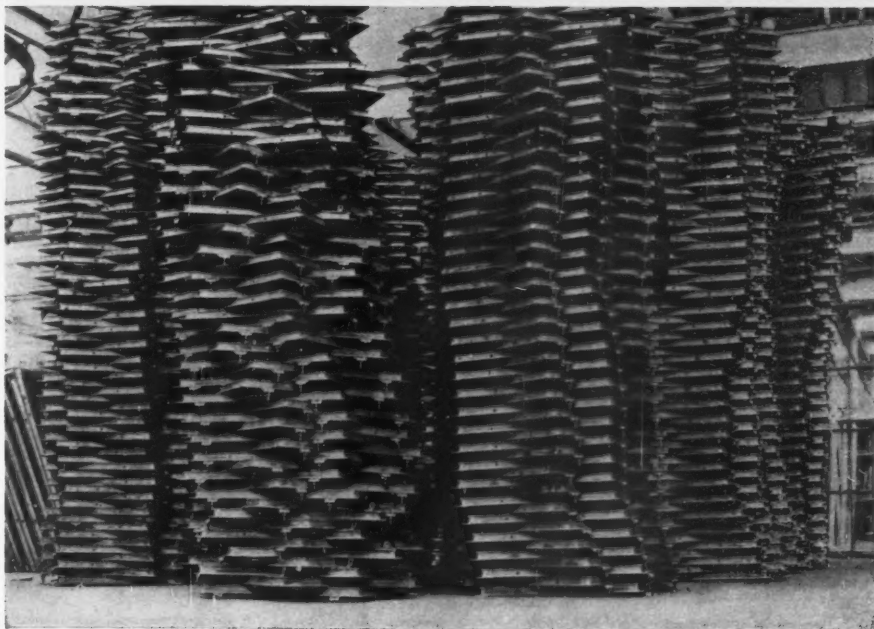
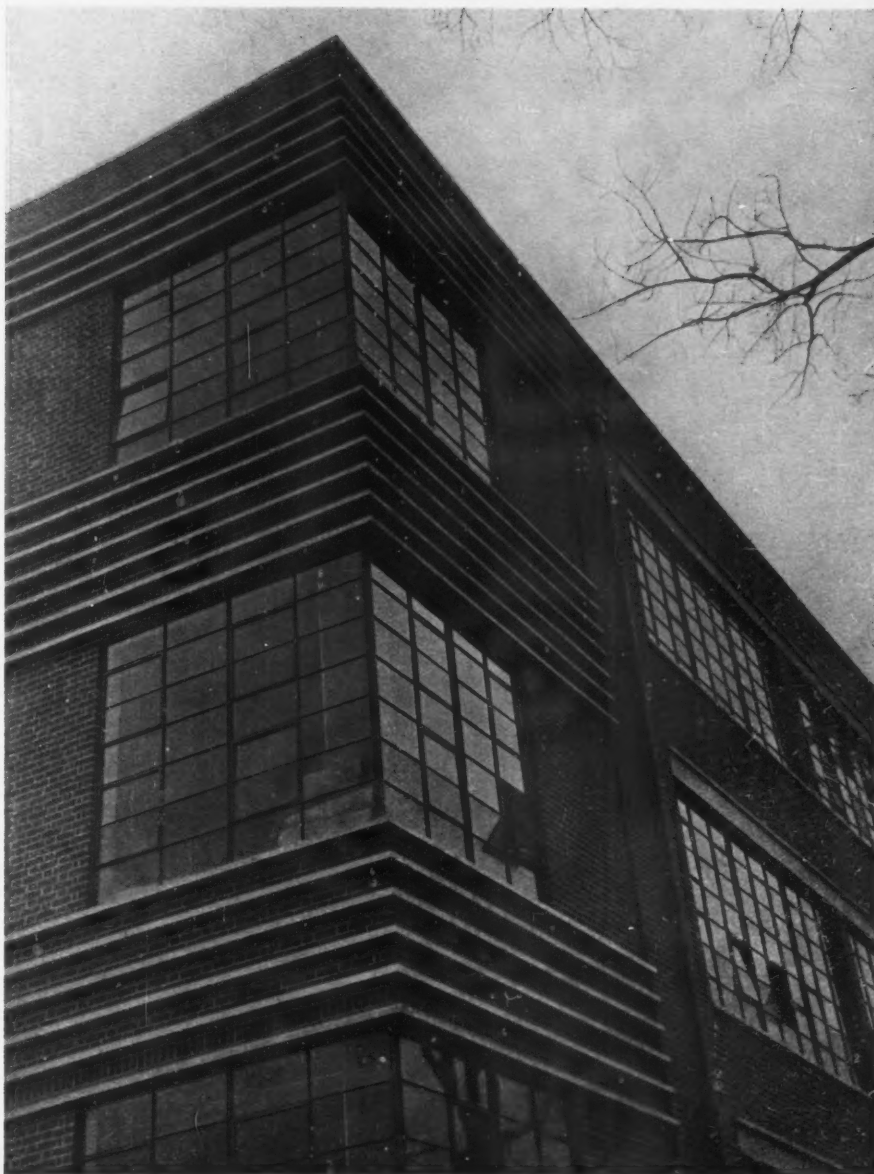
The Iron Age is usually considered to date from about 1000 B.C. in Egypt, previous to which iron belonged generally to the list of precious metals, the oldest known example being a group of oxidized iron beads dated about 4000 B.C.

In 55 B.C. a malleable iron was produced direct from the ore in Britain, but it was not until 1350 that we first hear of a cast iron which was supposed to have been made in Sussex. It is interesting in passing to note that in 1558 an Act was passed by Queen Elizabeth forbidding use of forest timber for fuel in iron manufacture, lest insufficient should be left for naval construction. Although many improvements were made in the manufacture and use of cast and wrought iron, it was not until 1856 that steel first appeared as a mass produced product. Then in 1877 the Board of Trade repealed regulations against the use of mild steel in bridges and the Forth Bridge was commenced in 1880, thus paving the way for the adoption of steel in structures generally.

Progress in the quality of steel has been very rapid during the last twenty years. Carbon steel and stainless alloy steels such as nickel and chromium all showing an increase in strength and hardness.

3. Steel factory windows at the Metal Box Company Works, London.
Architect : S. N. Cooke.
Craftsmen : Henry Hope and Sons.

4. Standardization. Stacks of steel window open frames ready for night ventilators in ordinary standard metal windows.
Designers and Craftsmen : Crittall Manufacturing Company.





Stainless steel is a general term used broadly to cover all "rustless steels" or iron alloys designed to resist atmospheric corrosion, etc. The principal alloying element is chromium, and when it is realized how enormous the entire field of iron-carbon-chromium-nickel-silicon alloys really is, with the possible additions of aluminium, cobalt, copper, manganese, molybdenum, tungsten, and that very little has been done to date, the future promises some wonderful possibilities in stainless alloys.

Zinc, which does not occur free in nature, has the commencement of its working hidden by early confusion with bismuth. It is recorded, however, that the first smelting of it in Europe was carried out in England in 1730.

Amongst the non-ferrous metals, aluminium, which owes its name to the Romans, and its alloys, here are amongst the commonest today. In 1854 experiments using an electric current resulted in some aluminium beads, and thirty years later the method of production as we know it today was originated.

5 The present tendency in choice of metals of a non-structural type, seems to favour those which are both "white" and stainless.

Pure aluminium is soft and easily scratches, it is therefore advisable to use one of its numerous aluminium alloys.

A typical alloy is "birmabright," which has structural strength, with resistance to corrosion and a surface which can be treated in several ways. Whilst being as light as aluminium, it is two-and-a-half times as strong. On the basis of such advancement much is hoped for in the near future, and the claim that these alloys will be the structural materials of the near future may well come to pass, if not by themselves then perhaps in conjunction with "stainless" steel alloys.

Nickel silver—or German silver so called—includes a group of alloys of nickel, copper and zinc, and may more correctly be termed nickel brass. It was used by the early Chinese, who designated it "white copper." Silveroid and Monel metal are two nickel rich alloys. Silveroid contains a little more nickel than copper, and can be readily worked in hot or cold state; it retains its brightness especially well indoors.

Monel metal contains more nickel, some

5. Metal-faced plywood. Copper plymax sheets applied to the sides of the staircase and orchestra front of the Frascati Restaurant, Manchester.

Architect : Ernest Newton.

Craftsmen : Venesta.

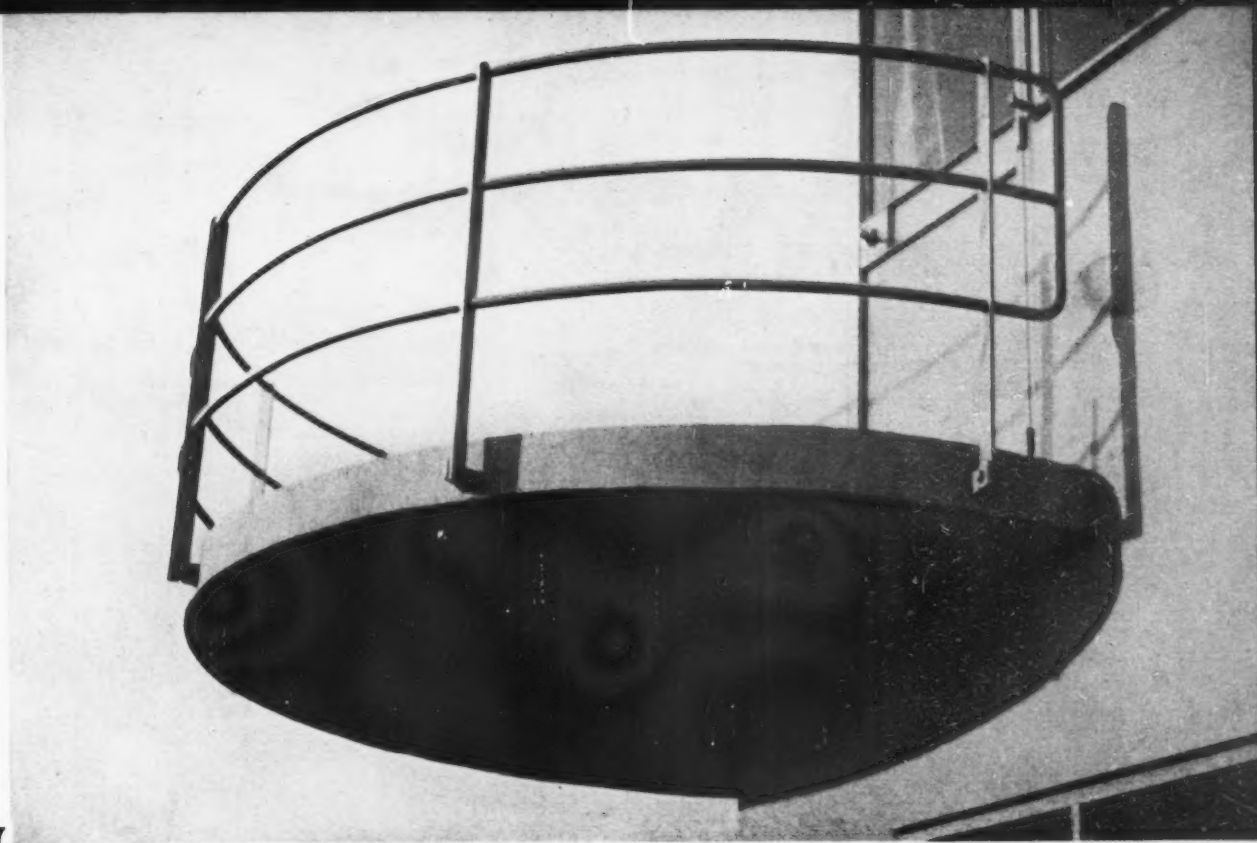
6. Balustrade at the Midland Hotel, Morecambe. The handrail and uprights are in polished birmabright, the intermediate three rails being wrought iron painted.

Architect : Oliver Hill.

6 Craftsmen : James Gibbons.

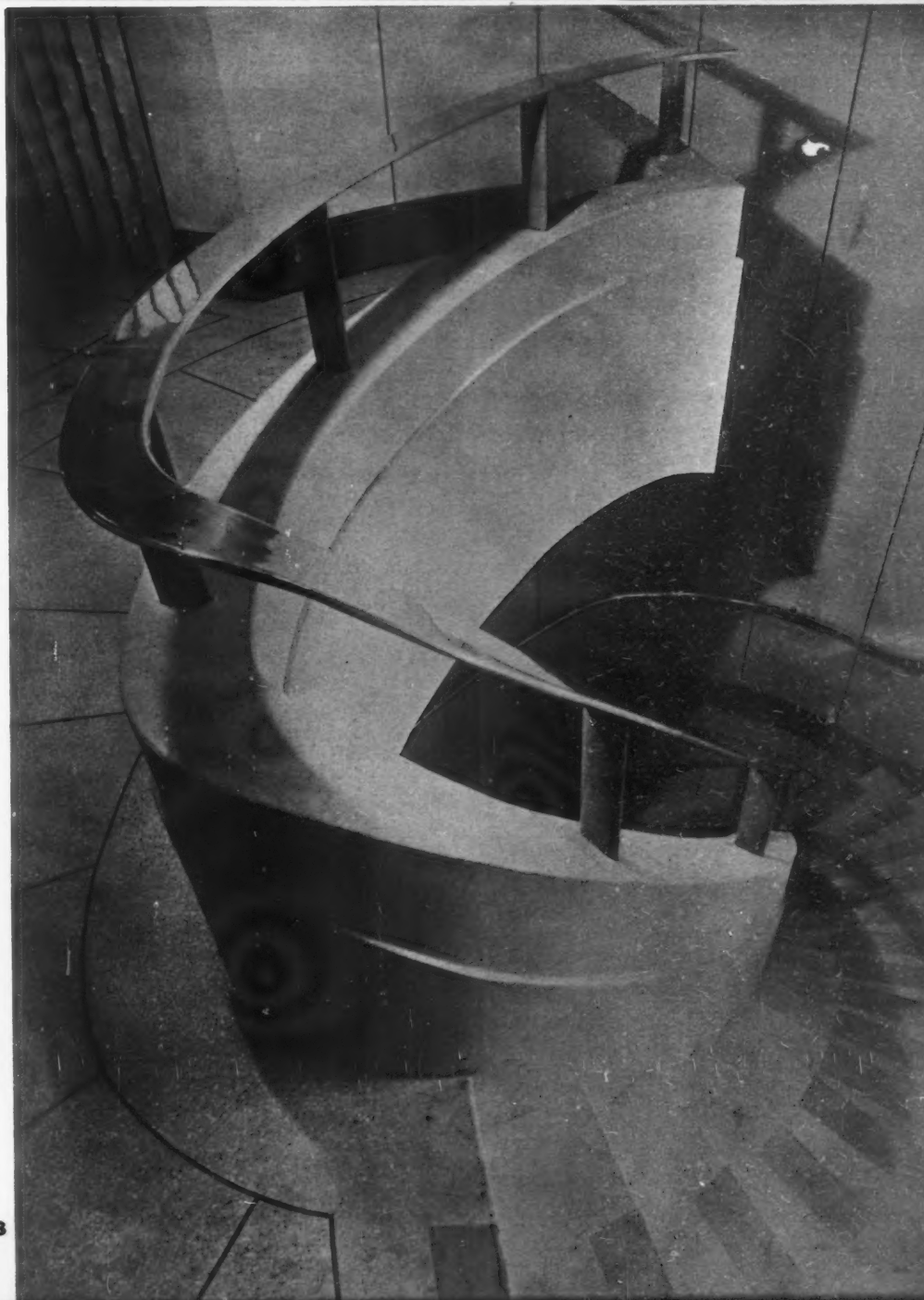
THE CRAFTSMAN'S
PORTFOLIO
NUMBER 88
METALS

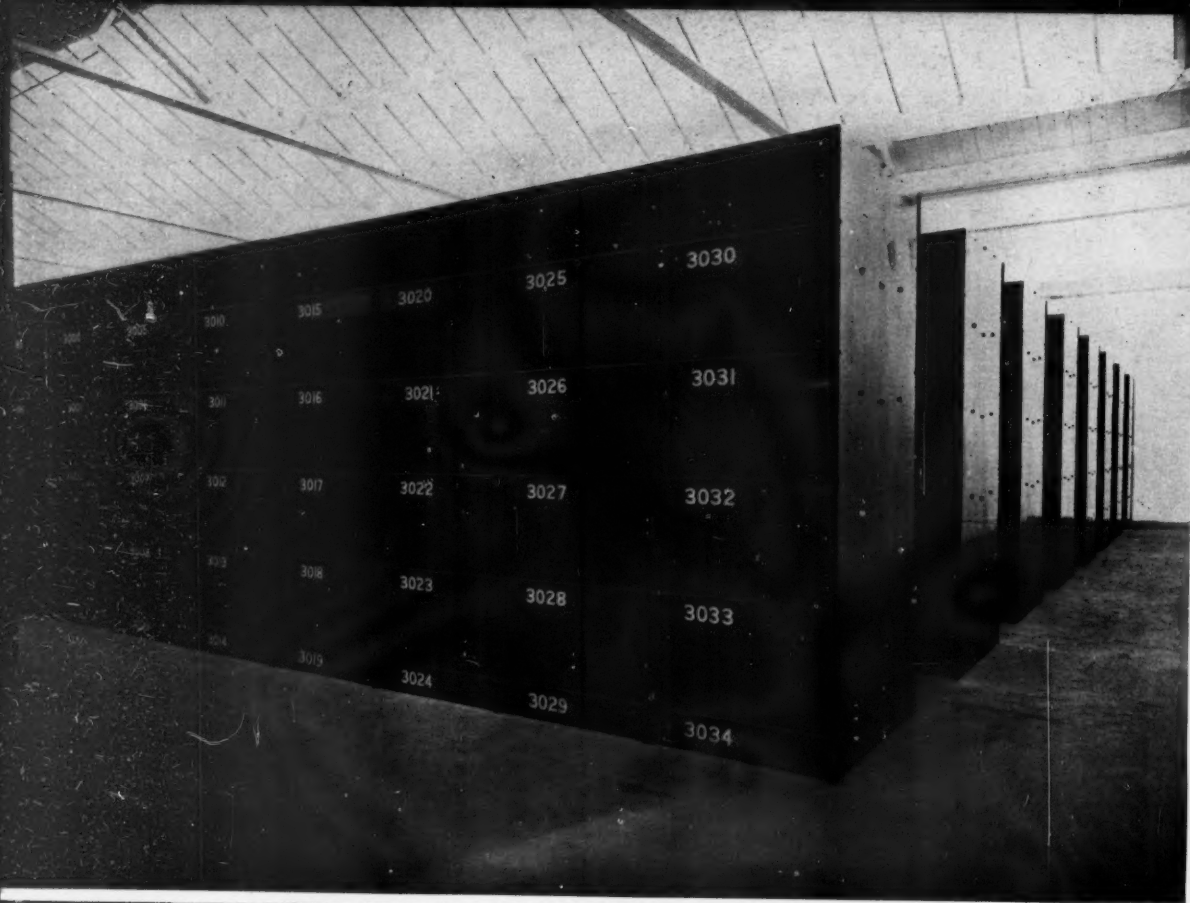
7



7. The painted galvanized iron balustrade to the balcony of a house at Rugby.
Architect : Serge Chermayeff.
Craftsmen : Foster and Dicksee.
8. The continuity of the curve of this birmabright (aluminium alloy) handrail at the "Daily Express" Building, London, is delightful.
Architects : Ellis and Clarke.
Craftsmen : The Birmingham Guild.

8





10

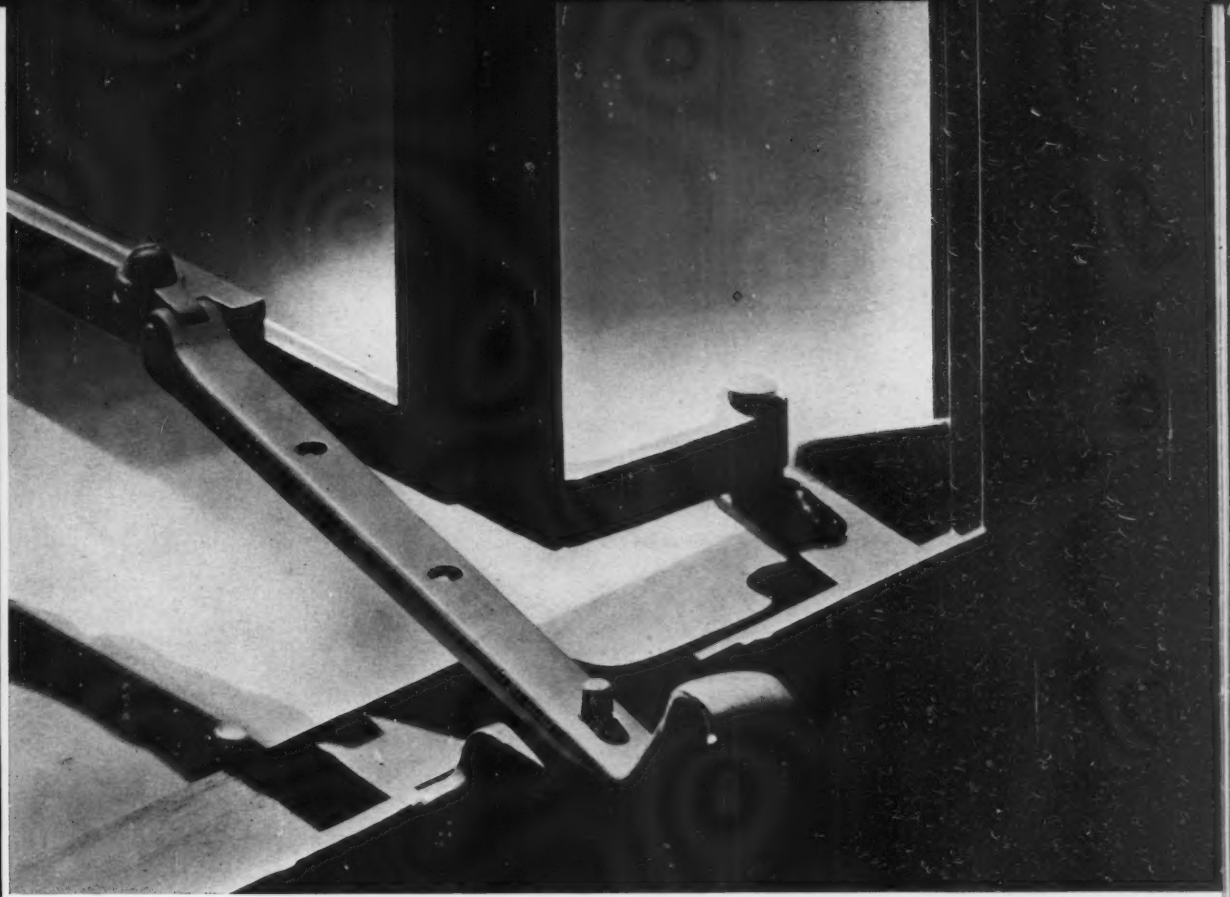


11

THE CRAFTSMAN'S PORTFOLIO



9. Steel library shelving. The adjustment is apparent, the giving great character to the design. Designers and Craftsmen: Roneo.
10. Steel bins. The simple mass large units, which can be used in many poses, denotes a large and enlightened efficiency in business. Designers and Craftsmen: Roneo.
11. Steel lavatory cubicles. The employees' cubicles in a large factory the use of steel units at Carreras Architects: Messrs. M. E. and O. Craftsmen: Roneo.
12. The projecting hinge allows for opening of the outside of the window as for the better circulation of air. The window frame is invariably in steel. The hinge, stay, handle, etc., are of or a "stainless" metal. Designers and Craftsmen: Crittall Manufacturing Company.
13. Standardization—Repetition—A stack of completed steel window units. Designers and Craftsmen: Crittall Manufacturing Company.



12

NUMBER 88

METALS

shelving. The simplicity of
apparent, the horizontal slots
character to the design.

Craftsmen: Roneo.

The simple massing of these
which can be used for many pur-
a large and enlightened outlook
business.

Craftsmen: Roneo.

cubicles. The problem of em-
es in a large factory is solved by
units at Carreras' factory.

essrs. M. E. and O. H. Collins.

toneo.

hinge allows for the easy clean-
side of the window pane as well
ter circulation of air. Whilst the
is invariably in steel, the fittings,
andle, etc., are often in bronze
metal.

Craftsmen:

acturing Company.

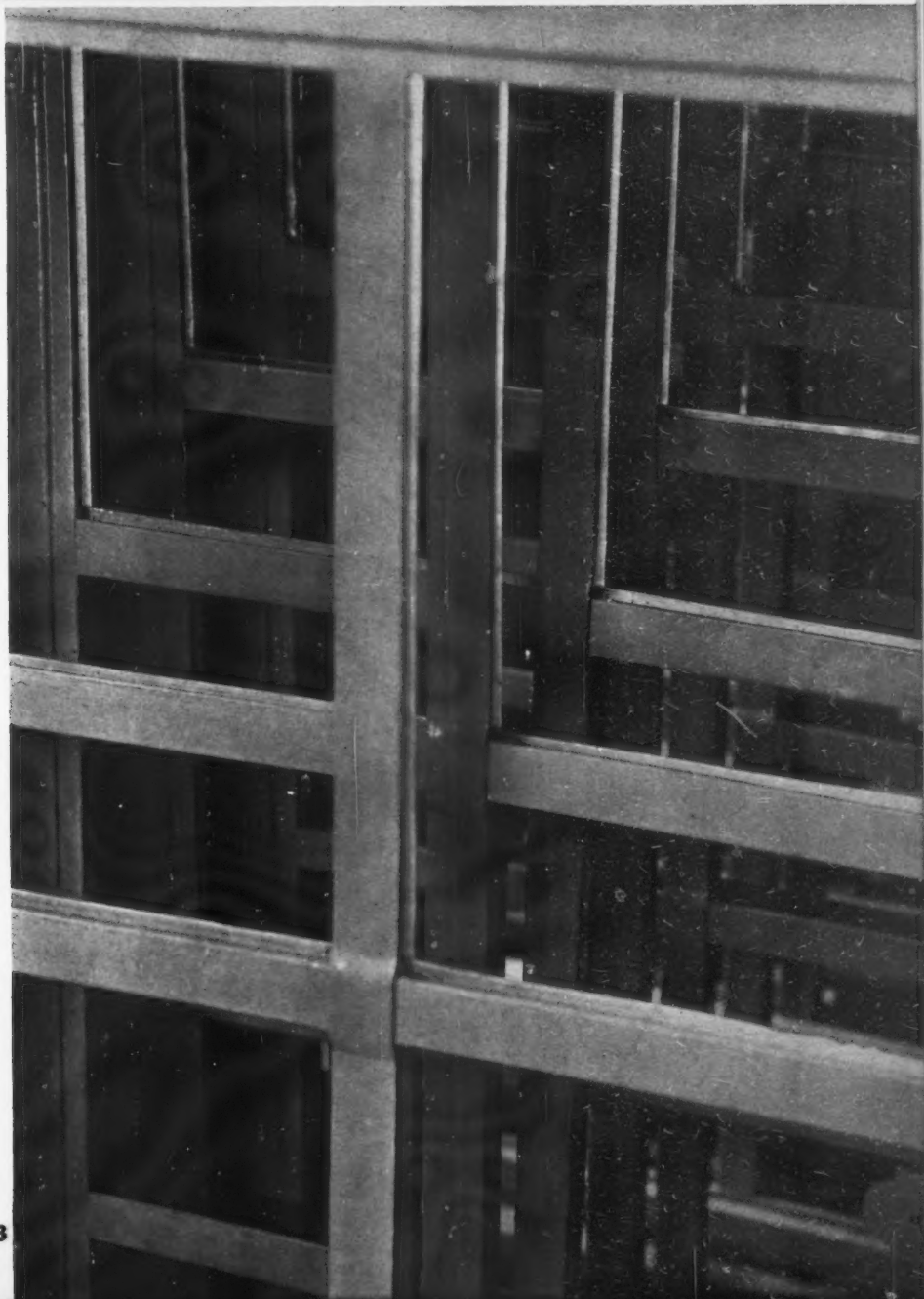
n—Repetition—Simplicity. A
eted steel windows.

Craftsmen:

acturing Company.

223

13





THE CRAFTSMAN'S
PORTFOLIO
NUMBER 88
METALS

14



14. Polished copper sheets applied to a curved bar counter at the Embassy Club, London. The stools are standard steel, with a copper finish. Architect : Raymond McGrath. Craftsmen for the metal: Cleve'and Art Metal Works. For the stools : Thonet Brothers.

15. Interior furniture of the Atalanta class air liners for Imperial Airways. The metal work is elektron, finished with stove enamel. The single chair weighs only 7 lb. 3 oz. Architect : Raymond McGrath. Craftsmen for the furniture : Messrs. Rumbolds (late Boyd-Carpenter).

224

15

seven parts to three, in proportion to copper, and about 5 per cent. other metals. It can be soldered, brazed and welded, solid drawn, forged, machined and cast. Its value lies in its non-corrosive qualities, and it is used a lot on sinks and table tops.

To lead, tellorium (about 0.1 per cent.) has been added, producing a much tougher and smoother working product.

The importance of the junctions and juxtaposition of metals cannot be overstressed.

Zinc should never be used against copper or iron if subject to moisture, for this condition is bound to result in speedy deterioration.

Many lesser-known interesting alloys are available and their number is increasing rapidly. Silver bronze has a very rich colour suggested by its name, but it must be kept 'wiped down,' being subject to finger marks.

Tungum is a non-corrosive alloy, the exact colour of 22 carat gold. It is very ductile, and has just been applied for the first time on the exterior of a London building.

Metal sections are produced by being

Extruded,
Drawn,
Rolled.

The extrusion of non-ferrous metals is carried out by heating and forcing (extruding) through a die, any reasonable section being possible. As architectural metal work is generally not less than $\frac{1}{8}$ in. thick, no supporting core is necessary.

In drawn work the cold metal is drawn by tension through a die, the metal in this case being thinner than in extruded work. It is drawn on to a wooden core, and, by this method it is possible to work a greater range of metals than with extrusion.

The method of rolling is similar to that employed for structural steelwork and, being heavier in section, it seldom has a wood core.

The use of metals in architecture has increased very rapidly during recent years.

In the structure itself one of the most noticeable advances has taken place in the design and manufacture of windows.

Standardized structural sections are available made up into stock sizes to satisfy ordinary demands, whilst special sizes or special designs utilizing built-up sections are readily obtainable at reasonable speed and cost.

In the interior of the structure one of the most noticeable development of metals is in the furniture and office equipment and



16



17

16. A wrought iron balustrade with bronze newels and handrail at the Law Courts, Belfast.

Architects : H.M. Office of Works.

Craftsmen : The Birmingham Guild.

17. This is a good example of bronze casting left from the sand without tooling or chasing. It is of a screen in the New Bank of England.

Architects : Sir Herbert Baker and A. T. Scott.

Modeller : Charles Wheeler.

Craftsmen : The Birmingham Guild.



fitments; the round tube has certainly been bent into an enormous number of different shapes by the various designers in attempting to produce ideal types.

Steel has been the metal mostly used on account of its tensile strength. Copper tubes have been used but require reinforcing by additional ones placed inside main tubes at bends. Aluminium alloy tubes have proved very suitable for aeroplane chairs and tables, on account of the combined lightness and strength of this group of metals.

The steel stacking chair has been an immense success in convertible halls, restaurants, etc., but its indiscriminate use has not enhanced its reputation, for the simplicity and form necessitated by its function prevent the same degree of comfort as that contained in non-stacking types.

The advance in simplicity of design and general workability of steel office filing cabinets, shelving, tables, etc., is well-known and represents perhaps the high-water mark, so far, of standardized application of metal to furniture.

Metal door trim is now made here, though it has been used in Europe and America for some years. It is excellent if intelligently used, but a point to be watched is the junction of trim with plaster render, the latter showing stains after a while if the steel has not been protected with an anti-corrosive coating.

Steel partitions and doors using standardized units offer an excellent solution of the problem of partitioning offices, factories and hospitals.

The application of sheets of various metals to a plywood backing, using special cements for adhesion, has marked a great advance in the use of metal-sheeting in partitions, doors, table tops, etc.

The main difficulty experienced has been with the edge treatment and although this still remains the weakest item, quite a number of satisfactory solutions to the problem have been evolved.

The fireplace was always a location for metal treatment, and though replaced nowadays by electric or gas radiators, recessed or built into walls, it is more than ever the recipient of thoughtful design and craftsmanship. Large curved reflectors and surrounds in stainless or plated metals are often used, thus forming a focal point in many modern rooms.



18. Stainless steel applied to the exterior of the Savoy Theatre, London. The wavy light reflections give warning of the need for dead flat sheets of sufficient thickness when using highly polished metals.

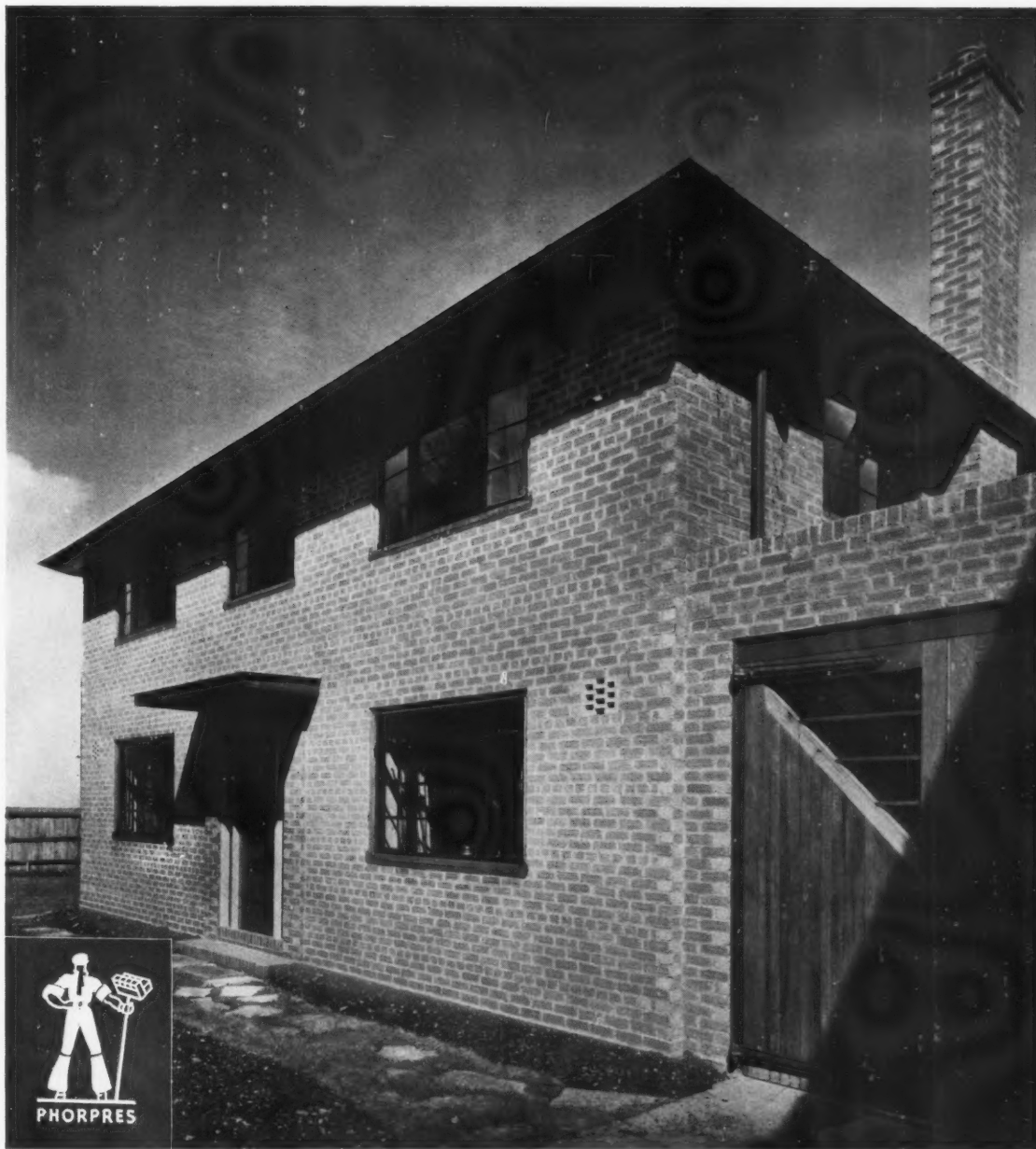
Architects: Easton and Robertson.

Craftsmen: Messrs. Parnall.

19. The bronze screen is a simple, dignified treatment not often found in bank work. It is situated in the Banking Hall of the Birmingham Municipal Bank.

Architect: T. Cecil Howitt.

19 Craftsmen: The Birmingham Guild.

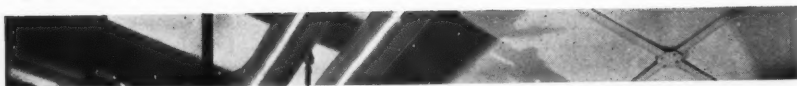


The common problems in domestic architecture are comfort and convenience at low cost and with minimum upkeep. 150, Coombe Lane, Wimbledon, successfully offers some very unusual solutions. Every item of material was chosen for its quality, yet the total cost, including elaborate built-in furniture, was under 1/2d. per cubic foot. In a house heated by central heating—there are no fireplaces—the minimising of heat loss is an important factor in upkeep. The use of “Phorpres” Cellular bricks sufficiently reduces conductivity to make special insulation unnecessary. Still further economies were effected by using “Phorpres”

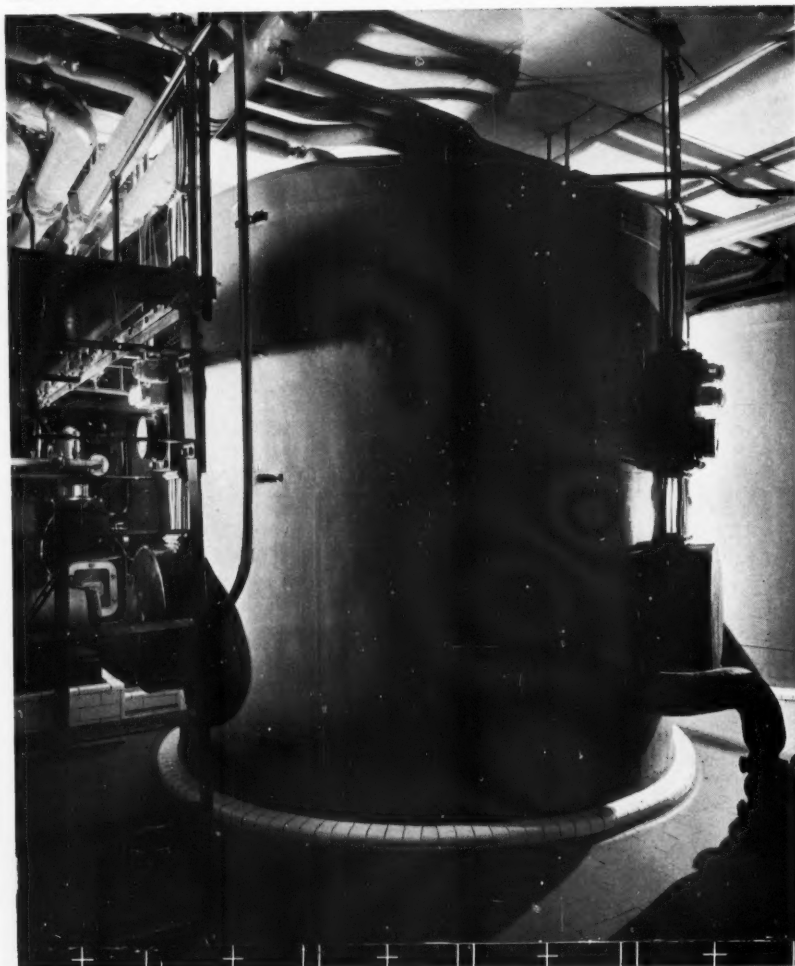
Rustic facing bricks for the external walls. So far from detracting from the appearance, these inexpensive bricks invariably impress the critical visitor, and as for their weathering properties, it is sufficient to say that many examples of their satisfactory performance under the most exacting conditions were inspected before the bricks were used.

Architect: W. A. Downe, L.R.I.B.A. Contractors: Messrs. C. H. King and Son, New Malden. Brickmakers: London Brick Company and Forders, Ltd., Africa House, Kingsway, W.C.2 (Telephone: Holborn 8282).

B.71



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thermal storage equipments
installed in connection with
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ANTHOLOGY

Birmingham

Smoke from the train-gulf hid by hoardings blunders upward, the brakes of cars
Pipe as the policeman pivoting round raises his flat hand, bars
With his figure of a monolith Pharaoh the queue of fidgety machines
(Chromium dogs on the bonnet, faces behind the triplex screens)
Behind him the streets run away between the proud glass of shops
Cubical scent-bottles, artificial legs, arctic foxes and electric mops
But beyond this centre the slumward vista thins like a diagram :
There, unvisited, are Vulcan's forges who doesn't care a tinker's damn.

Sprayed outwards through the suburbs houses, houses for rest
Seducingly rigged by the builder, half timbered houses with lips pressed
So tightly and eyes staring at the traffic through bleary haws
And only a six-inch grip of the racing earth in their concrete claws ;
In these houses men as in a dream pursue the Platonic Forms
With wireless and cairn terriers and gadgets approximating to the fickle norms
And endeavour to find God and score one over the neighbour
By climbing tentatively upward on jerry-built beauty and sweated labour.

The lunch hour : the shops empty, shopgirl's' faces relax
Diaphanous as green glass, empty as old almanacs
As incoherent with ticketed gewgaws tiered behind their heads
As the Burne-Jones windows in St. Philip's broken by crawling leads
Inspid colour, patches of emotion, Saturday thrills—
" This theatre is sprayed with June "—the gutter take our old playbills,
Next week-end it is likely in the heart's funfair we shall pull
Strong enough on the handle to get back our money ; or at any rate it is possible.

On shining lines the trams like vast sarcophagi move
Into the sky, plum after sunset, merging to duck's egg, barred with mauve
Zeppelin clouds, and pentecost-like the cars' headlights bud
Out from sideroads and the traffic signals, crème-de-menthe or bull's blood,
Tell one to stop, the engine gently breathing, or to go on
To where like black pipes of organs in the frayed and fading zone
Of the West the factory chimneys on sullen sentry will all night wait
To call, in the harsh morning, sleep-stupid faces through the daily gate.

LOUIS MACNEICE

Reproduced from the February, 1934, issue of *NEW VERSE*.

Civic Personality

Every town, old and new, is a special problem with individual possibilities of developing its own specific character, which I may call its civic personality. In antiquity this idea of a personality was boldly conceived and expressed. Athens became Athene, the genius of Rome had a magnificent temple, and even here in Britain a Roman town would have had a statue of its genius. I must confess that I should like to see some molten images of London and Leeds, Birmingham and Bristol set up as symbols and centres around which the towns might build up their pride. We cannot remain strong without pride, we cannot long be proud without being given something for which to be proud. Every town has to emulate its neighbour and set about developing particular productions and special types of industry and culture. They should race for the reputation of having the smartest railway station, the most efficient electric lighting, the best restaurants, the most flowery park, the loveliest suburbs, the most restful cemetery. In every town we need a civilization society, a council which would advise the town council, a centre for civic patriotism to gather into strength.

In going about England the things which have shown themselves as orderly in their classes are golf grounds, race-courses, training villages, cricket fields, and tennis courts. In all the serious matters of sport, as also in war, it is seen that tidiness and smartness are parts of efficiency. In our town life it is not too much to say that this instinctive feeling has largely been pushed out by pressures which we have accepted as "economic." Good and noble things have been done, like the provision of parks and better water supply, and attempts, sometimes quite sad, at "beautification" are frequently made as a sacrifice to what is supposed to be "art" ; but the idea of town tidiness, the ideal of town perfection, seems nowhere even to be prophesied.

I am eager to try once more to make it plain that by art and beauty in towns I do not mean some few out-of-the-way things which claim to be works of genius when they may be mere freaks of impudence. No ; when beauty is scarce and shut up, the little that remains necessarily becomes weakened and even diseased.

W. R. LETHABY

IN "TOWN, THEORY AND PRACTICE"
EDITED BY C. B. PURDOM (Benn, 1922)

MARGINALIA

TO GEORGE ALPHEGE, CHAD. AGNES AND
ETHELBURGA :

DEVOTED GOTHIC ! burn'd upon the West
In stony pokerwork ! some Gilbert Scott
When all his contract crockets were begot
Threw in a sundown to set off the rest.
Leeds suns are always setting ; with what zest
They spread redeeming blood or damning flames
On dirty heaven ! John and Jude and James
Sprout proudly now and look their bevell'd best.
What topiary ecclesiastical
Designed this monstrous consecrated Hedge ?
Blockheaded Gothic ! hands fantastical,
Stubb'd thumbs or spikes with bitten-finger edge
Vain rise your alleg'ries monastical :
Why carve the thin end of an empty wedge ?
Leeds : March and April.

MICHAEL FRIEND SERPELL.

CIVIC CONSCIOUSNESS

Although English civic authorities do not always give the enthusiastic support to planning that would be engendered by a proper sense of their responsibilities, their English individualism is happily expressed by true veneration for buildings that have adorned their towns and cities for more than a century, and by appreciation of the merits of the most recent additions to architectural amenities. So much criticism is fired at civic authorities, that with a view to illustrating an important side of their architectural consciousness, application was made to the Town Clerks of over fifty towns and cities in England, asking for illustrations of what, in the opinion of the officials concerned, was considered to be the principal architectural treasure of the town or city, and what was the best building erected during the last ten years.

The illustrations that follow attest that civic consciousness is not dormant in England.



1

HIGH WYCOMBE

1. The Guildhall, and 2, its modern counterpart, the Municipal Offices (Architect: R. G. Brocklehurst. Consulting Architect: C. Cowles Voysey.)



2

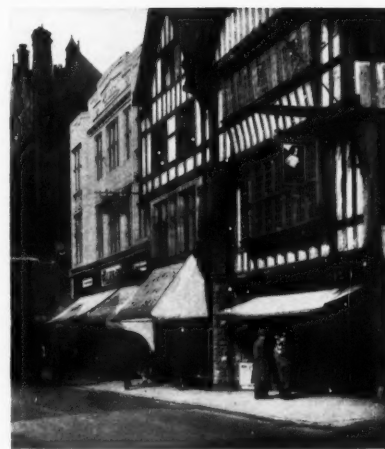


3

CHESTER

The choice of architectural treasures, we learned, lay between the Cathedral, the old Dee Bridge, the "Bear and Billet," Bishop Lloyd's House, and 3, The Falcon Inn.

Of the modern buildings we were told that "probably the most attractive" were the premises of 4, Messrs. W. H. Smith & Son.



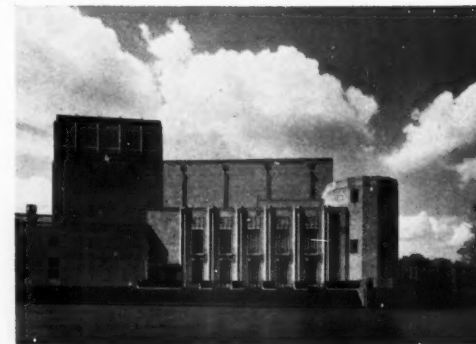
4

STRATFORD-ON-AVON

To choose from so many riches was difficult, but we were given as suggestions Anne Hathaway's Cottage, the Tudor House, the Almshouses and Grammar School. Here is 5, The Tudor House. There was, of course, only one answer about the best modern building, the Shakespeare Memorial Theatre, 6. (Architects: Scott, Chesterton and Shepherd.)



5



6

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36 HAMMER BLOWS EVERY MINUTE, ALL DAY LONG

Up and down move the weights, thirty-six times a minute, and with each opening of the valve that admits water pressure from the mains, the cement mortar discs, $\frac{3}{8}$ in. thick, receive a hammer-like blow from the water in the cylinders lined with thick, toughened glass. This goes on all day, and for days on end, and in spite of this severe test—far more drastic than any likely to occur in actual work—the disc composed of 2 parts of sand to 1 part of Portland cement waterproofed with 5% of 'PUDLO' Brand powder, remains proof against the penetration of the water. The pressure of the water-hammer is

10 lbs. per square inch, and as the area of the waterproofed cement disc in contact with the water is 7 sq. in., the total force of the blow over this area is 70 lbs. This is but one of many tests which give positive proof of the unfailing dependability of this pioneer British waterproofer. Ask for the Handbook of cement waterproofing—or better still, send us a brief description of any waterproofing problem you are considering, when we will submit a fully detailed specification that will ensure a thoroughly satisfactory result at the most reasonable cost. There is, of course, no obligation.

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BRAND
CEMENT WATERPROOFER

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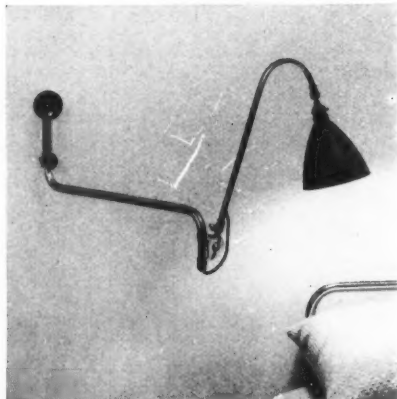
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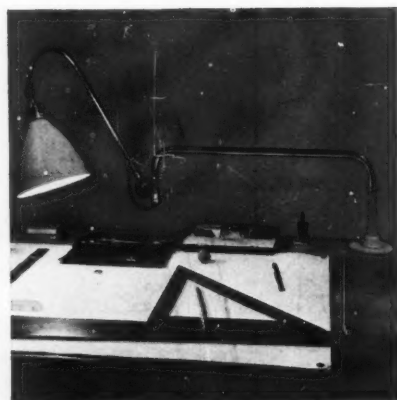
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PRICE

66/-

The universal use made by architects of the "Bestlite" in its various forms, desk lamp, bracket or standard, is due to its flexibility, its foolproof simplicity, its fitness for the job. "Bestlites" have been specified in the following amongst many other contracts, and are in use in thousands of architects' offices.

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W. B. Corset Showroom, Serge Chermayeff.

Waygood Otis Drawing Office.

Whiteley's Modern Living Exhibition,
Serge Chermayeff.

Savoy Hotel, Stanley Hall & Easton & Robertson.

Broadcasting House, London and Birmingham,
Serge Chermayeff.

Cumberland Hotel, Oliver Bernard.

Harvey Nichols, Knightsbridge.

Holywell Manor, Oxford, Kennedy & Nightingale.

Balliol College, Oxford.

31417 "Bestplan" Bracket. Extension 41 in. Finished chromium-plate and black.

29532 "Bestlite" Pillar. Height over finial 17½ in. Base 8½ in. diam.

31418 "Bestplan" Pillar. Extension 39½ in. Finished chromium-plate and black.

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CIVIC CONSCIOUSNESS [Continued]



7

SALISBURY

The City of New Sarum fell back on its cathedral, **7**. And we were told that "the best and most attractive building erected in the City in recent years was **8**, the South Wilts Secondary School for Girls." (Architect: Thomas Walker.)



8



9

BIRKENHEAD

9. The Town Hall was presented as "the foremost building architecturally in Birkenhead." It was opened in 1877. The three modern buildings suggested were the Municipal Art Gallery, the New Library, and **10**, the Mersey Tunnel ventilating station (Architect: Herbert J. Rowse), "which is unique owing to the manner in which the brickwork has been designed in proportional beauty."



10



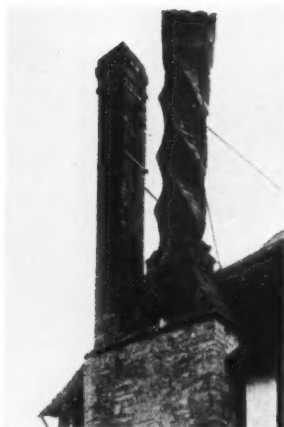
11

PETERBOROUGH

Peterborough also fell back on its cathedral, **11**. And the Town Clerk selected to represent the best recent architectural achievement **12**, the New Town Hall. (Architect: Berry Webber.)



12

CIVIC CONSCIOUSNESS [Continued]**BUCKINGHAM**

13

We are told that The Manor House is the chief architectural treasure of this Borough, and this illustration, **13**, from the Local Guide shows "the twisted chimney of the Manor House—its chief feature." It was not thought that "any building erected within the last ten years is worthy of mention."

KING'S LYNN

King's Lynn produced Henry Bell's Customs House, **14**, and authority said: "There are no modern buildings of note in King's Lynn."



14



15

WIGAN

Wigan was able to give us old and new in one view: **15**, Wigan Parish Church. "The present building was restored in 1849, but its predecessors were also buildings of architectural merit." The Wigan War Memorial, designed by Sir Giles Gilbert Scott, R.A., P.R.I.B.A., "is the best and most attractive building (if an erection which is purely a memorial, and serves no other purpose, can be called a building) that has been erected in Wigan within the last ten years."

[To be continued]

CHURCH ROW, OR KEEPING THE LANDSCAPE ELEGANT. The earliest sham Gothic ruin for which we have a date is (according to Mr. Kenneth Clark) the work of Sanderson Millar in his grounds at Edgehill in 1746. But the use of Gothic screens for the preservation of the countryside is revealed in this illustration of a sham church at Tattingstone, Suffolk, as early as 1750. The local Squire built three cottages in a group, and made the side and front elevations represent a church; he even added a false tower that only had three walls, so the illusion of solidity should be preserved from his own windows. The conclusions archaeologists of, say, the year A.D. 3000, may draw from excavating the ruins of this building may be very exciting; but they are almost certain to be wholly misleading.



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Metal Finishes

By *Walter Goodesmith*

THE term "metal finishing" is a very loosely applied description which might be divided into Self-expression of the metal
Coating, Application,
Rust prevention.

It is only during recent years that metal finishing has developed from an uncontrolled art to a combined art-science in which guess-work is reduced to a minimum and in its place appear scientific methods continuously under control and working in close co-operation with the laboratory throughout the job.

Only one colour of bronze was known previous to 1828, that of Verde Antique, and it is the French to whom credit is due for developing the art of bronzing at about this period.

A practical fact overlooked generally is that stainless or anti-corrosive metals must be washed or rubbed down periodically to get rid of the atmospheric deposits which are, if left undisturbed long enough, sometimes strong enough to eat into the surface of pure chromium.

Chromium plating as a skin only is therefore much more vulnerable.

Aluminium

Aluminium for outside purposes contains 5-10 per cent. silicon, which on exposure results in the formation of a thin film of aluminium oxide which protects the surface, thus preventing further deterioration. A thicker film can be produced by "anodic oxidation" which increases the anti-corrosion qualities but results in a matt surface.

Aluminium alloys such as birmabright are also capable of further treatment, the film being dyed to produce various colour results. A translucent effect known as iridescent is also obtainable.

Electro-plating

Electro-plating is about seventy years old. It is a generalized term indicating the action of depositing metals or metal alloys by means of electric currents.

Great variation in quality is obtained, depending on the parent metal, the deposited metal, atmospheric conditions, and good and bad workmanship.

Chromium, copper, gold, nickel, silver and tin are often deposited, whilst cadmium and zinc are used particularly as an anti-rust for iron and steel.

Chromium Plating

Complete absence from foreign matter and a highly polished surface are essential in any material to be plated. If the basis is steel a heavy coating of copper is first necessary, followed by a nickel coat, and then chromium.

Brass should be nickel-plated first, then chromed.

A good chromium plating should neither be too heavy nor too light. If the former happens, the chromium will be so strong that it will pull itself away, and if the latter, of course, will not be sufficiently strong to resist corrosive action.

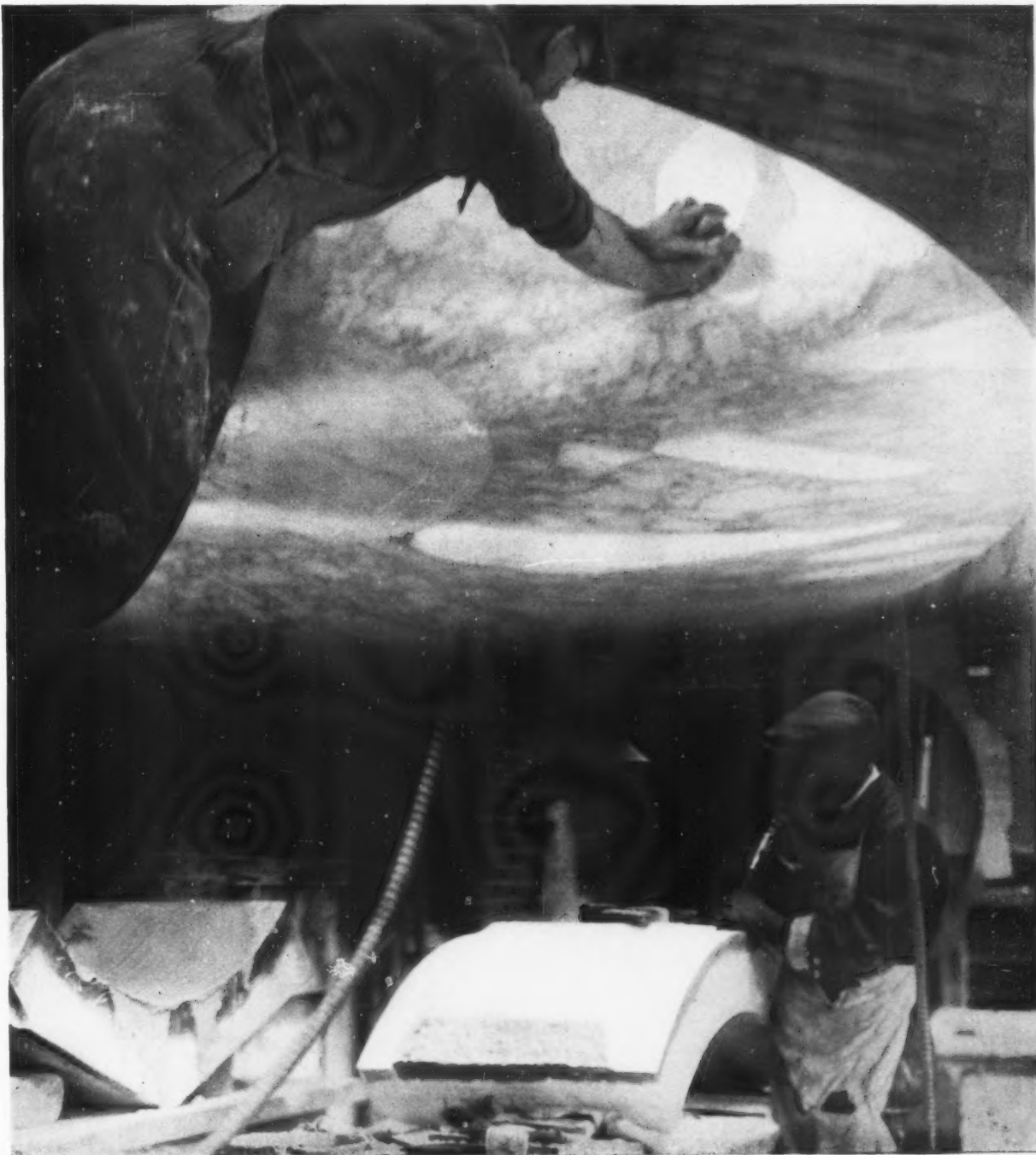
It is most important that chromium plating be kept cleaned, especially on the soffit of horizontal members such as the tube members carrying the actual seat portion of a metal chair, or the supporting tube underneath a metal framed table. At these positions par-

A ROOM WITH A VIEW



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ticularly, condensation takes place which is not wiped away by normal contact with hands or clothes.

Cellulose and Enamels

A considerable advance has been made with the application of hard enamels to metal tubing, and the use of cellulose sprayed on metal. Cellulose applied to furniture was apt to chip or mark when subjected to rough handling, but a good cellulose, properly applied, should give a satisfactory wearing surface. Hard enamels provide a successful wearing surface of semi-matt finish, but the effect is not quite so rich as that given by a good cellulose.

Metallic Paints

There are numerous metallic paints, made primarily for the protection of metal surfaces. Powdered aluminium paint has, in addition to this quality, that of light reflection, heat reflection and heat conservation, and is therefore most useful where these technical factors are a consideration.

Corrosion

According to Dr. Wernick the loss due to the corrosion of iron and steel alone amounts to about £700,000,000

annually. To this is added approximately 20 per cent. of the total, for various rust preventives.

There are two main classes of coating processes for preventing corrosion. Inorganic coatings, comprising metals; and inorganic coatings and organic coatings, including enamels, paints, lacquers and varnishes.

Rust Prevention

There are four general methods of rust prevention:

Galvanizing,
Metalization,
Parkerizing,
Sherardizing.

In galvanizing, the object is submerged in a molten zinc bath with a resultant protective coating. Where it is not desired to heat the material the zinc may be deposited electrically.

Metalization can be applied as a coating to most materials, the necessary qualification being that the metal or alloy must be capable of being drawn into a wire. By atomizing and spraying without a binder a matt deposit can be produced. This surface can be painted. By spraying a heavy deposit grinding and polishing can be carried out.

Parkerizing is forming a layer of

insoluble phosphates on the surface of iron or steel. It is used largely by the motor industry and is economical. Bulky work can be tackled. The final surface is a durable grey-black matt finish.

Sherardizing is a zinc-heat treatment for iron and steel. The metal work must be thoroughly clean before treatment. The container is then filled in with finest zinc dust. After sealing the container is placed in a furnace and subjected to an accurately controlled heat treatment, the container being continually revolved. The movement ensures that every face of the metal is treated uniformly. Varying times are needed for treatment in the furnace, according to the type of tests to which the metal has to be placed afterwards. The result is an amalgamation of the base metal and zinc dust, the penetration of the zinc forming an alloy which entirely encases the base metal. A further pure zinc coating can be given if required.

The limits of containers govern the sizes of objects to be treated and are

1 ft. 3 in. by 1 ft. 3 in. by 6 ft.

11 in. by 11 in. by 15 ft.

2 ft. dia. by 3 ft. 4 in.

window frames and made-up articles being treated before assembly of the parts.

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Interior decoration at Hat Shop
for "Dolores," designed by
Oliver Hill, Esq., F.R.I.B.A.

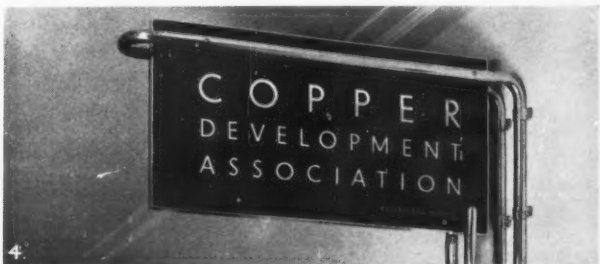
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TOUGH

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LIGHT

PERMANENT

GOOD-

LOOKING



1. The copper roof of St. Thomas's, *Harwell* (Architect: Edward Maufe, F.R.I.B.A.). 2. Bronze front to International Art Galleries Ltd., St. James's Street (Architect: Z. Sirotkin, A.R.I.B.A., in collaboration with Arthur Szuk). 3. A desk and chair of copper tubing, the desk top being of copper-faced Plymax (Messrs. Cox & Co.). 4. A sign in copper tubing and copper-faced Plymax (Designed and made by Eric Munday).

A.R. 1

A NEW TYPE OF RADIATOR

The National Radiator Company have recently published an illustrated pamphlet about their new No 35 Ideal Rayrad. This type of radiator is light and adaptable and suitable for fixing to ceilings, walls and floors. It is made in sections comprising a series of vertical and horizontal waterways, is of cast iron and therefore free from the possibility of corrosion. A full specification and diagrams are included in the pamphlet, copies of which may be had by writing to the head office at Hull, to Ideal House, Great Marlborough Street, London, W.1, or to 35 Paradise Street, Birmingham.

RAINWATER HEADS

The rainwater head offers one of the few opportunities for exterior decoration in the now fashionable "plain" style of building. Messrs. Henry Hope and Sons have been quick to realize this and have just published an illustrated folder of designs in harmony with the style. These rainwater heads can be supplied in cast iron or lead at very economical prices ranging from as low a figure as 13s. 9d. to a maximum of £4 2s. 9d. Copies of the folder can be obtained from Messrs. Henry Hope and Sons, Smethwick, Birmingham.

GAS COOKER AS FURNITURE

Messrs. Flavel's "Kabineat" gas cooker, illustrated above, has been specially designed for the modern kitchen or the one-room flat. The cooker proper is



encased in a pressed metal cabinet with stainless steel mountings and feet, and when not in use forms an admirable piece of furniture. All the essential accessories for the preparation of food are provided for; the top of the cabinet lifts up, and, when locked in position, forms the usual plate rack. On the insides of the doors in front of the oven are hung the usual cooker implements such as spoons and other appliances with holes in

them which are used for lifting fish and similar fragile foods. The cooker is made in two sizes, suitable for large or small families, and in six colours selected from the British Colour Council's standard colour card. The series can be inspected at a permanent exhibition of over one hundred fireplaces and stoves in modern and period settings at the Welbeck Street Fireplace Galleries, 38 Welbeck Street, London, W.1.

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Columbia House, Aldwych, London, W.C.2
Phone: HOLBORN 5593

A.R.5

SEE THE COAL-BURNING SECTION AT THE BUILDING CENTRE, 158, New Bond Street, London, W.1. For the convenience of Architects who wish to see the newest in coal-burning equipment, a full display has been arranged at the Building Centre. The Coal Utilisation Council cordially invite inspection of these appliances, some of which may be seen in actual operation.

PAINTING THE TOWN

Messrs. Docker Brothers have sent us a copy of a brochure about their new Decoration Service Department which is now in full swing. The Department is under the direction of Mr. F. W. Chapman and offers the following facilities:—

A complete stock of all standard colours in Water Paint, Gloss Paint, Synthetic Enamel, etc.

An entirely new counter-trade warehouse for the benefit of callers and messengers.

A fleet of light and fast motor vehicles for rapid local delivery.

A showroom, wherein every product of Messrs. Docker Brothers is displayed and where decorators and their customers can see the latest materials and discuss the colour schemes and treatments.

A staff of practical and technical experts always at hand to give advice or assistance.

A studio service to provide decorators—without obligation—with colour schemes.

A panel department to prepare patterns for decorators to submit to their customers.

A system of special discounts on the total value of a decorator's business with Messrs. Docker Brothers. These discounts are additional to the normal settlement terms and rebates on quantity orders.

For the information of all who are interested and seek advice on decorative schemes, or the selection of paints, enamels or varnishes, Messrs. Docker Brothers' head offices are at Rotton Park Street, Ladywood, Birmingham, 16, and their London offices at Nos. 4-6, Moor Lane, Moorgate, E.C.4.

CHANGE OF ADDRESS

Messrs. Edinburgh Weavers inform us that they have now moved from No. 14 Holborn, E.C.1, to their former premises at No. 14 Hanover Square, London, W.1, to which address all correspondence should now be sent. Their telephone number is Mayfair 4229.

SCIENTIFIC LIGHTING

"Scientific lighting is not as common as it should be. Every day we see examples of unscientific and wasteful methods."

This quotation, taken from Messrs. Allom's recently published brochure on "Scientific Lighting," is a just reflection on the conservative attitude of the public to this important subject.

The Allom System, which depends on a number of key patents, can be supplied to every lighting problem, and in cases where the desired result cannot be obtained by the correct application of standard fittings, fresh designs are prepared to meet the needs of the client.

The brochure contains a selection of examples of the work Messrs. Allom have accomplished in the scientific lighting of churches, restaurants, hotels, town halls, picture galleries and gardens. Amongst the illustrations are two which show the foyer of the Grand Hotel, Scarborough, as it looked with its old lighting and the remarkable effect achieved by Messrs. Allom with new indirect lighting, by which illumination was improved by 700 per cent., whilst the

consumption increase was only 70 per cent. Another of special interest is the restaurant of the Cambridge Union Society's premises which is lighted by a patent self-lighting pendant. The translucent effect of this fitting is obtained by the reflection which enables it to illuminate itself from beneath.

All who are interested should write to Messrs. Allom Brothers, Ltd., at 16 Grosvenor Place, London, S.W.1, for a copy of this attractively produced and well illustrated brochure.

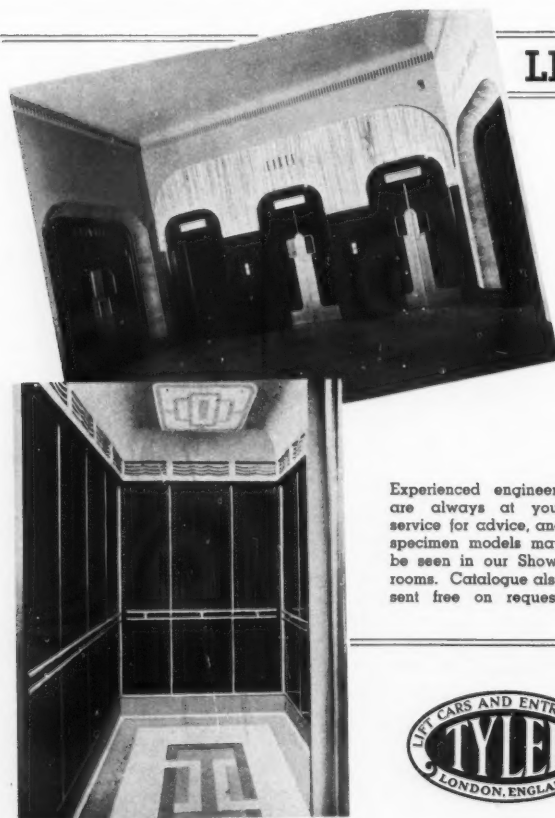
THE MODERN LIGHTING FITTING

We have received from Messrs. Best and Lloyd a copy of a new leaflet illustrating the "Best" range of lighting fittings. The illustrations consist of a series of diagrams showing the lamps in elevation and section with measurements, a most useful idea. The fittings can be supplied dull finished in oxidized brass, or finished in toned bronze or cellulose enamel.

Everyone interested in these lighting fittings, which have been specially designed for Messrs. Best and Lloyd by Mr. Christian Barman, the architect, should write to them for copies of the leaflet. Their address is Handsworth, Birmingham.

ELECTRICAL WIRING

Messrs. Callender's Cable and Construction Co., Ltd., have sent us copies of their leaflets on the electric wiring of municipal buildings, cinemas and hospitals.



Experienced engineers are always at your service for advice, and specimen models may be seen in our Showrooms. Catalogue also sent free on request.

LIFT CARS AND ENTRANCES

THE four passenger Lifts installed in the new Cumberland Hotel at Marble Arch, W., under the supervision of the Architect, Oliver P. Bernard, L.R.I.B.A., are of particular interest.

The Lift Entrances, while constructed in accordance with the "Tyler" principle, are macassar ebony Me-tyl-wood inlaid with tungum metal, with tungum metal handles and vision panels. The cars are constructed in a similar manner with macassar ebony panels divided by tungum metal pilasters, plinths coved at the bottom, ventilation grilles, and guard rails.

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In each leaflet there is a list of the buildings for which they have supplied the wiring, accompanied by some illustrations which convey an idea of the scope of their installations. Copies of the leaflets can be obtained by writing to them at Hamilton House, Victoria Embankment, E.C.4. Their telephone number is Central 5241.

The general contractors for the Mersey Tunnel, designed by Herbert J. Rowse, F.R.I.B.A., were Messrs. John Mowlem & Co., Ltd., William Moss and Sons, Ltd., Henry Boot and Sons, Ltd., Sir Robert McAlpine and Sons. Among the artists, craftsmen and sub-contractors were the following: Metropolitan-Vickers Electrical Co., Ltd. (electrical equipment), Dorman Long & Co., Ltd. (steel sheet piling), Cement-Gun Co., Ltd. ("Cement-Gun" and "Gun-ite" work), C. A. and A. W. Haward (special staircase in Woodside ventilating shaft), William Briggs and Sons, Ltd. (waterproofing), British Thermostat Co., Ltd. ("Ted-dington" automatic controls), Liverpool Artificial Stone Co., Ltd. (concrete), C. C. Dunkerly & Co., Ltd. (steel), Redpath Brown & Co., Ltd. (steelwork), Trussed Concrete Steel Co., Ltd. (reinforced concrete work), R. W. Haughton, Ltd. (drains and plumbing), Frederick Braby & Co., Ltd. (metal staircases), William Thornton, Ltd. (Portland stone and granite), Val de Travers Asphaltic Paving Co., Ltd. (asphalte), Sneyd Collieries, Ltd., Shaw's Glazed Brick Co.,

Ltd., Brooks, Ltd., and Leeds Fireclay Co., Ltd. (glazed bricks), Richard Crittall & Co., Ltd. (heating and ventilating installations), Rowe Bros. & Co., Ltd. (sanitary fittings), Henry Hope and Sons, Ltd. (steel windows), Birmingham Guild, Ltd. (entrance doors), Thompson and Capstick (models and stone carving), Goodlass Wall & Co., Ltd. (Cement floor paint), Ravenhead Brick Co., Ltd. (common bricks), Bath and Portland Stone Firms, Ltd. (Portland stone), H. H. Martyn & Co., Ltd. (coping to tower), John Hunter & Co. (electrical installation), Pollock Bros. (plastering), Ames and Finnis (facing bricks), Mellows & Co., Ltd. (hipped roof lights), J. A. King & Co., Ltd. (roof light), James B. Robertson & Co., Ltd. (glazed "Stipplecrete" finish to cement rendered surfaces of stanchion casings, ceilings and beams), W. G. Crotch, Ltd. (plastering), and Berry's Electric (1928), Ltd. (switchboards and fuse-switches).

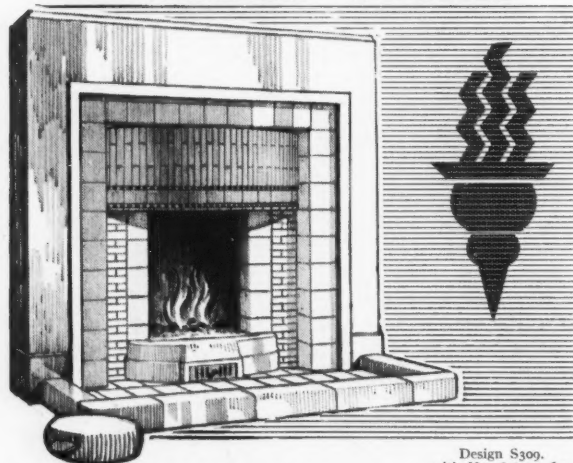
The general contractors for the Manor House, Headington, Oxford, designed by Stanley Hamp, F.R.I.B.A., were Messrs. Benfield and Loxley, 105, Bullingdon Road, Oxford. The artists, craftsmen and sub-contractors were as follows: F. G. Alden, Oxford (heating), Davis Gas Stove Co. (gas fires), Hill Upton & Co., Oxford (electric wiring), Charles Smith & Co., Ltd. (door furniture), Crittall Manufacturing Co., Ltd. (casements), J. H. Grant, Oxford (balcony).

The general contractors for a house

on Chiswick Mall, designed by the owner, E. B. Musman, A.R.I.B.A., were Messrs. E. C. Arter, Gordon Road, Peckham. Among the artists, craftsmen and sub-contractors were the following: Pugh Brothers (decorative glasswork), Hollis Bros. & Co., Ltd. (wood-block flooring), Helical Bar and Engineering Co. (patent flooring), Abbey Heating Co. (central heating), Bratt, Colbran & Co. (grates), Gas Light and Coke Co. (gas fixtures), Crane, Ltd. (boilers), Galsworthy, Ltd. (electric light fixtures), Froy and Sons, Ltd. (sanitary fittings), Yannedis & Co. (door furniture), Crittall Manufacturing Co. (casements), George Wright (London), Ltd. (iron staircases), Marb-L-Cote (decorative plaster), Galsworthy, Ltd. (metalwork), Cope & Co. (tiling), Skellorn Edwards & Co., Ltd. and Rowley Galleries (textiles), Frederick Tibbenham, Ltd. (furniture).

The general contractors for a hat shop at Silver House, Beak Street, W.1, designed by Oliver Hill, F.R.I.B.A., were Messrs. Warburton and Son. Among the artists, craftsmen and sub-contractors were the following: Dunlop Rubber Co. (rubber flooring), Best and Lloyd (electric light fixtures), Froy and Sons (electric fires), Comyn Ching, Ltd. (door furniture), Skellorn Edwards (oil silk curtains), John Line and Sons (wallpapers), Pel, Ltd. and Heal and Son, Ltd. (steel furniture), G. Garbe and Sons (hand mirrors).

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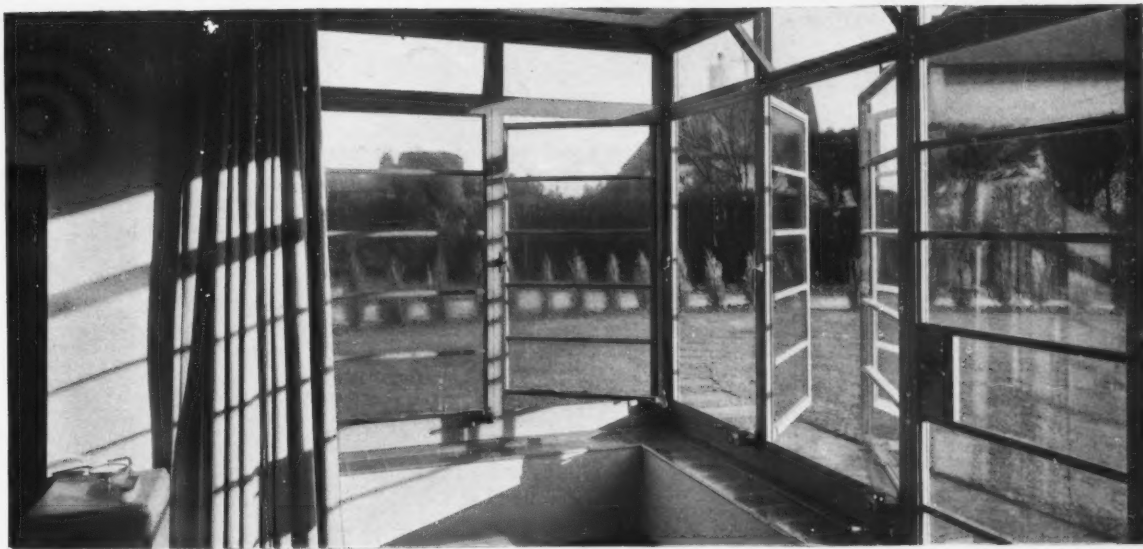
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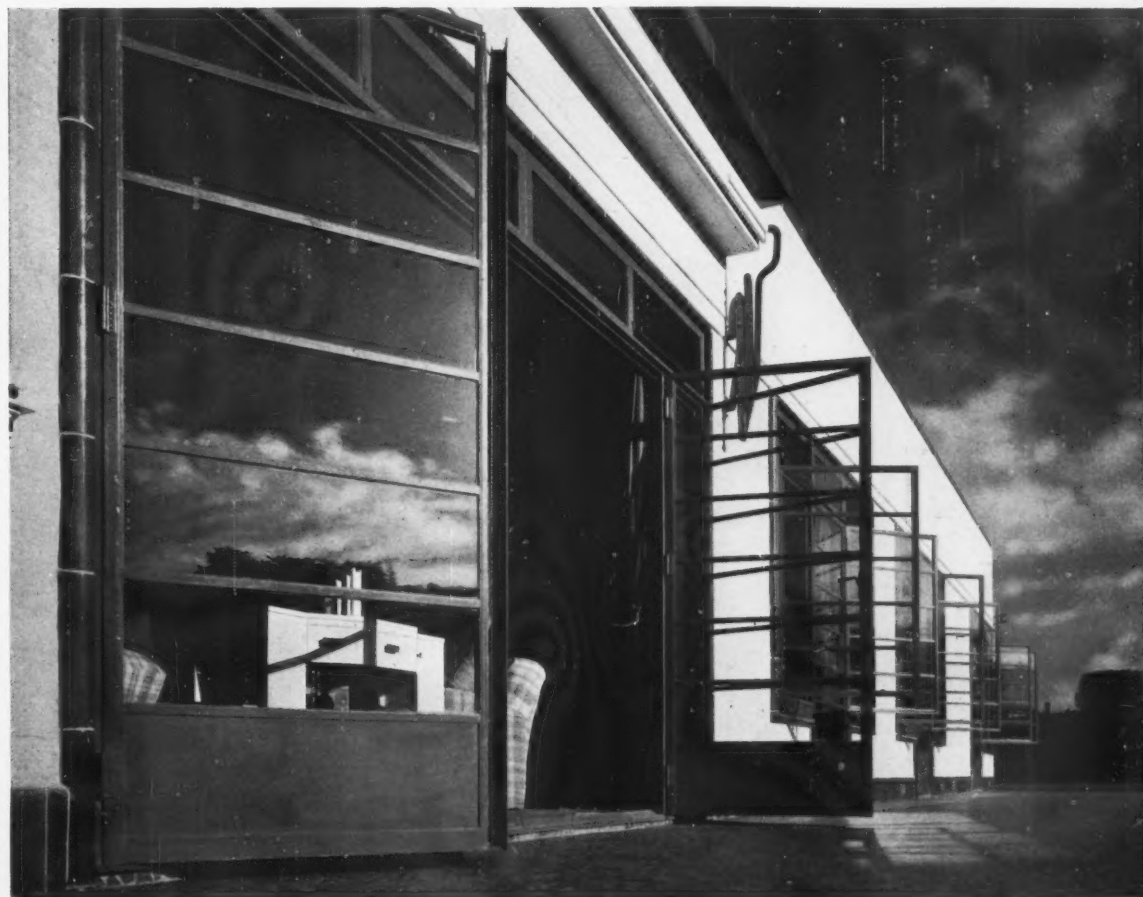
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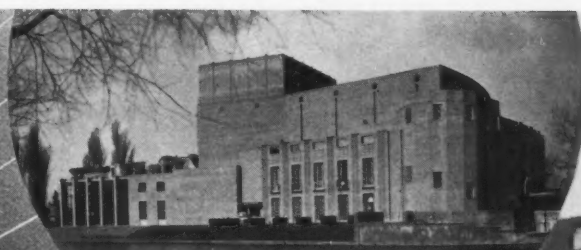
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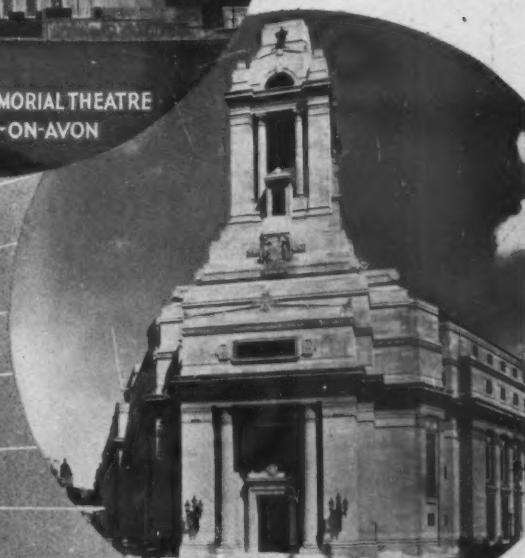
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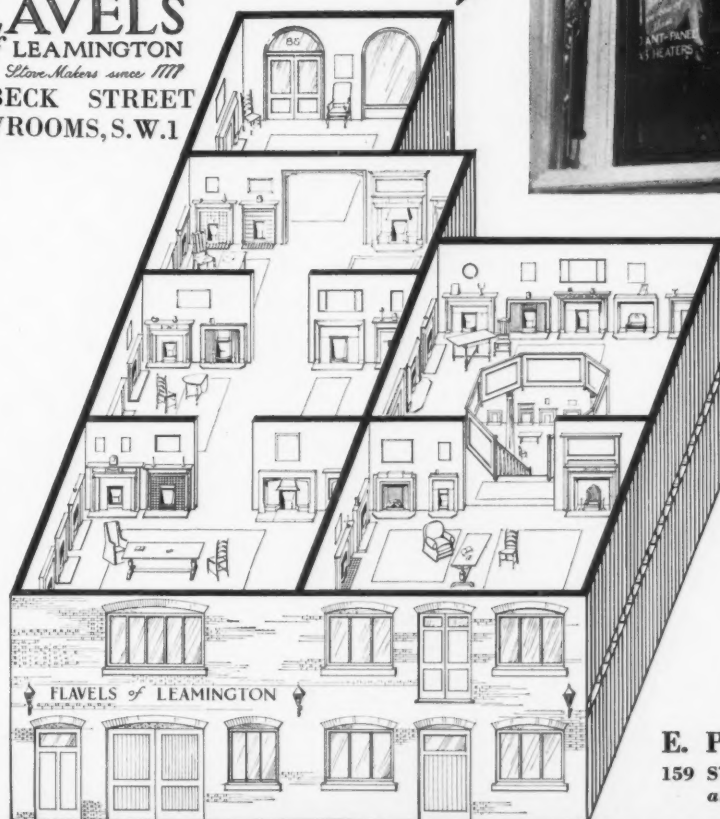
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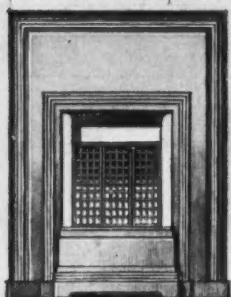
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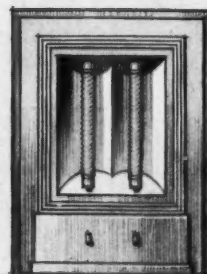


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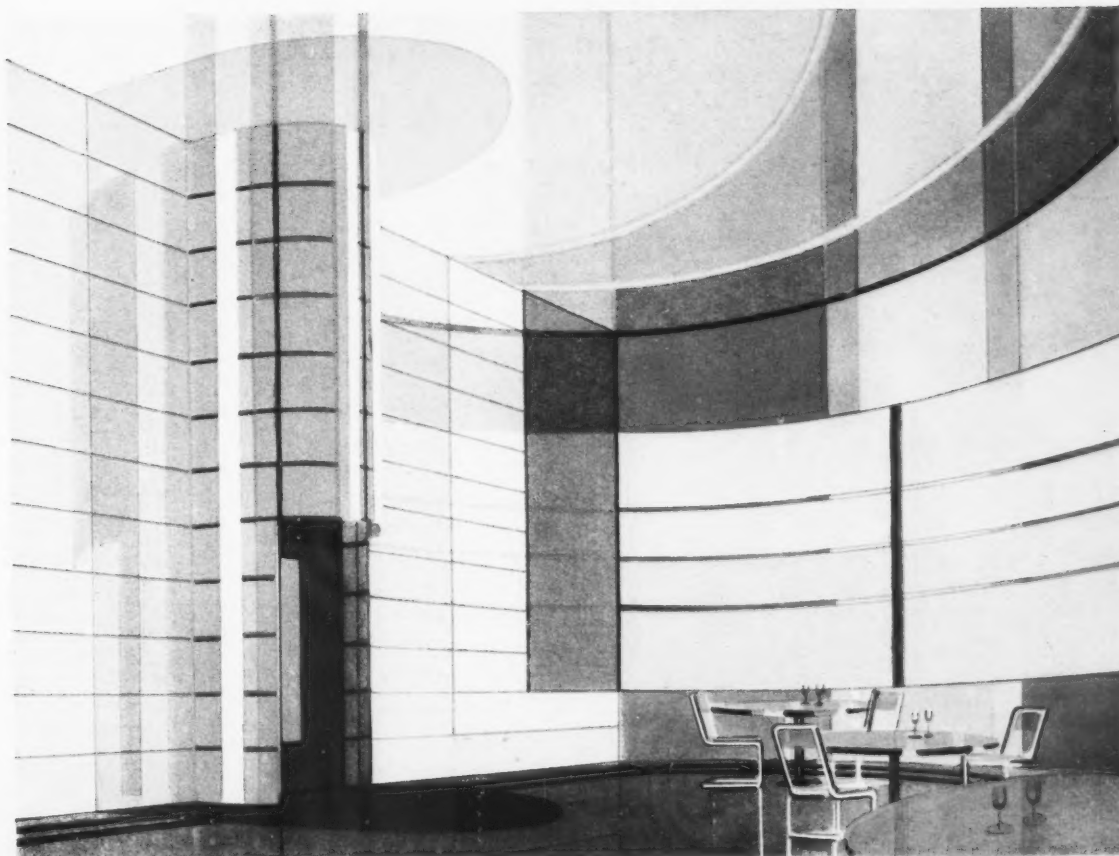


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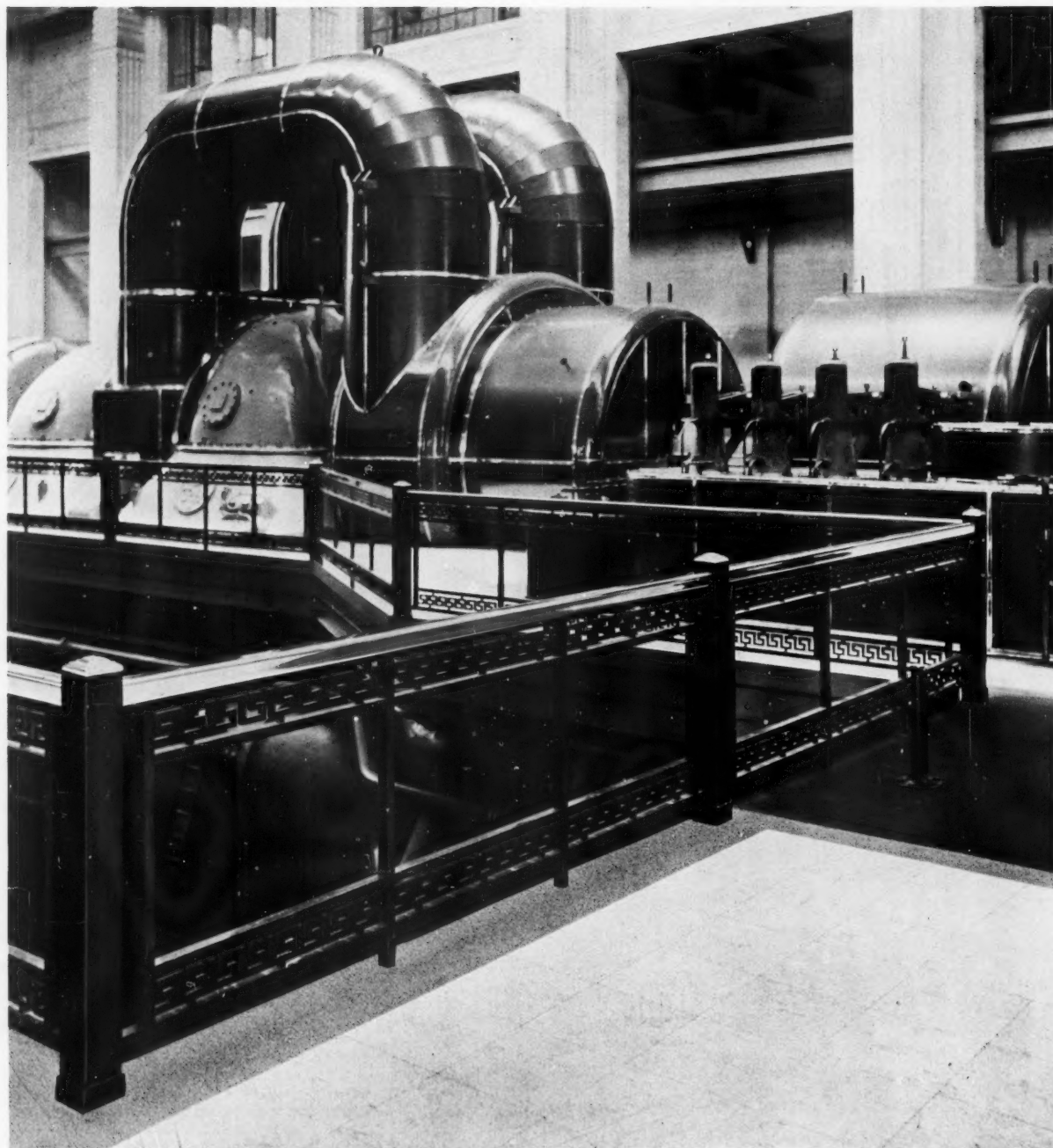
VITROLITE FOR CLEAN COLOUR

Above is a design for a café interior to the following specification: Walls lined from floor to ceiling with $\frac{1}{8}$ " Shell Pink, Yellow and Primrose Vitrolite, fixed with Gripson Mastic throughout. Mirror supplied with special lead backing and fixed direct to wall with Mastic. Curved Wall above and below window lined with $\frac{1}{8}$ " Turquoise Vitrolite—upper part supported by metal frame of window. Windows with Staybrite steel frames glazed with $\frac{1}{4}$ " acid obscured Polished Plate. Semicircular Screen above entrance, of Staybrite steel frame construction glazed with Rough Cast Double-Rolled Glass bent to required curve and illuminated from behind. Table Tops of $\frac{1}{8}$ " Shell Pink Vitrolite built up on a special backing and bound with stainless steel rim. Floor of rubber. Ceiling painted in concentric bands and finished in high gloss enamel. Sunray tubes dividing bands.

To the left is one of the specimen schemes in the new Vitrolite London Showrooms at 7 Albemarle Street, W.1.

The counter front and the adjoining screen are of pearl grey Vitrolite, thin lines being acid embossed and painted cerise to tone with the colour of the carpet. On the counter, which is also of pearl Vitrolite with a very neat special stainless steel edging, is a plate glass screen, the three lines being left clear on a stippled ground. The design on the circular table top has been worked in shaded sandblast to show the possibilities of this new decorative process. It is of Primrose Vitrolite, the design being tinted a pale apricot.

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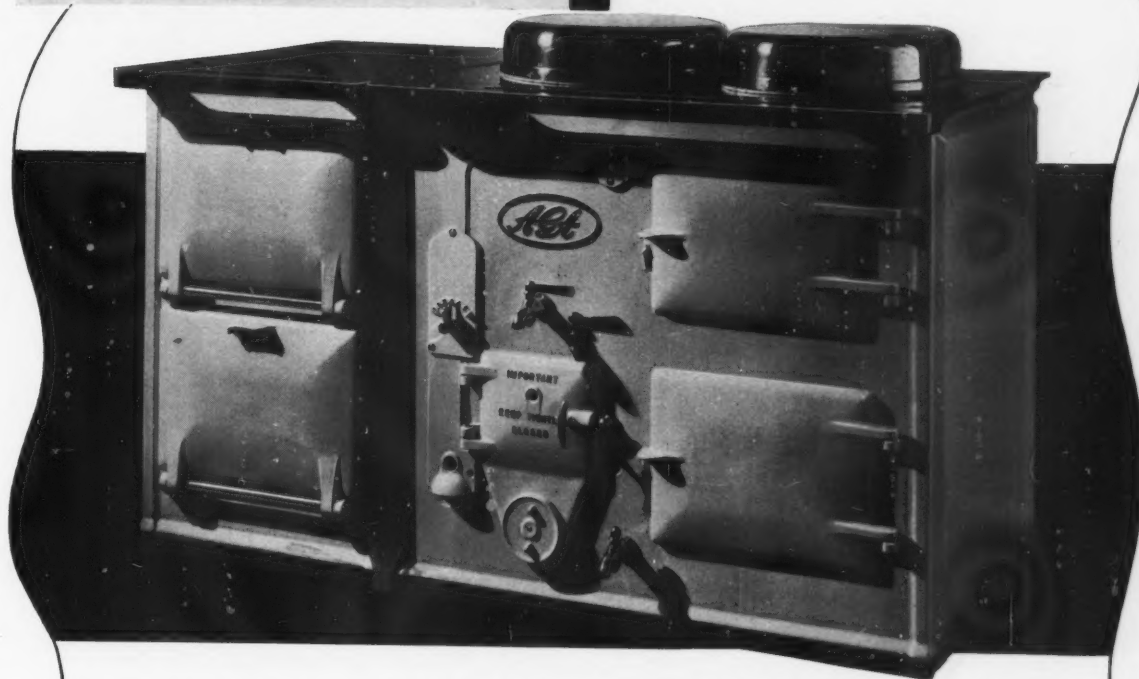
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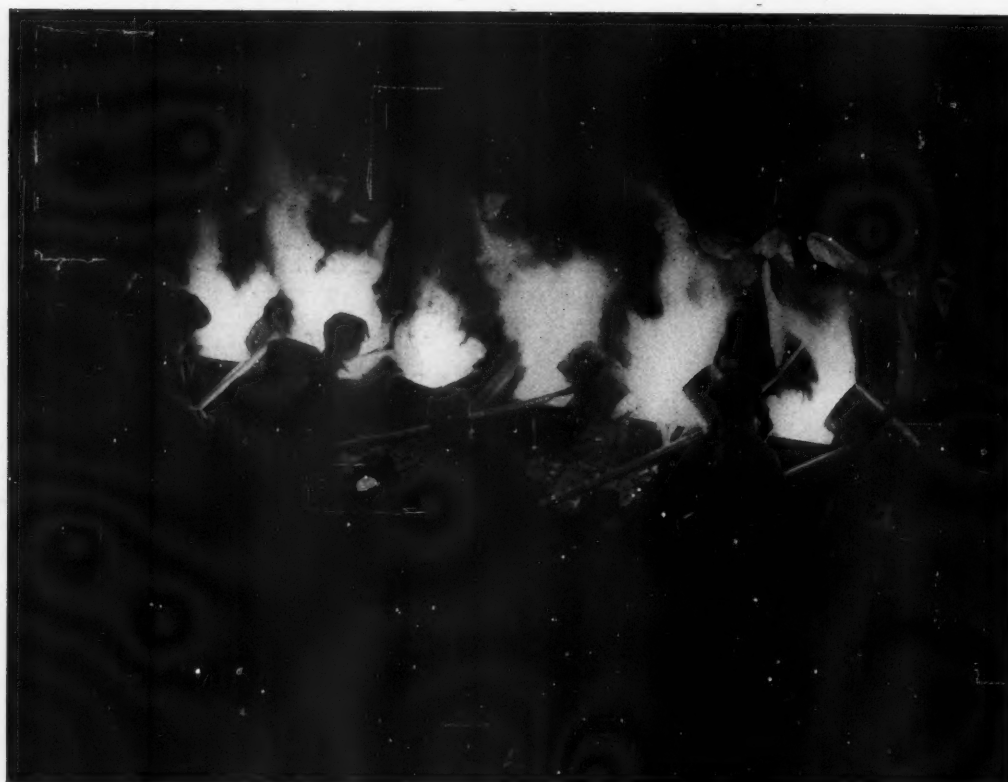
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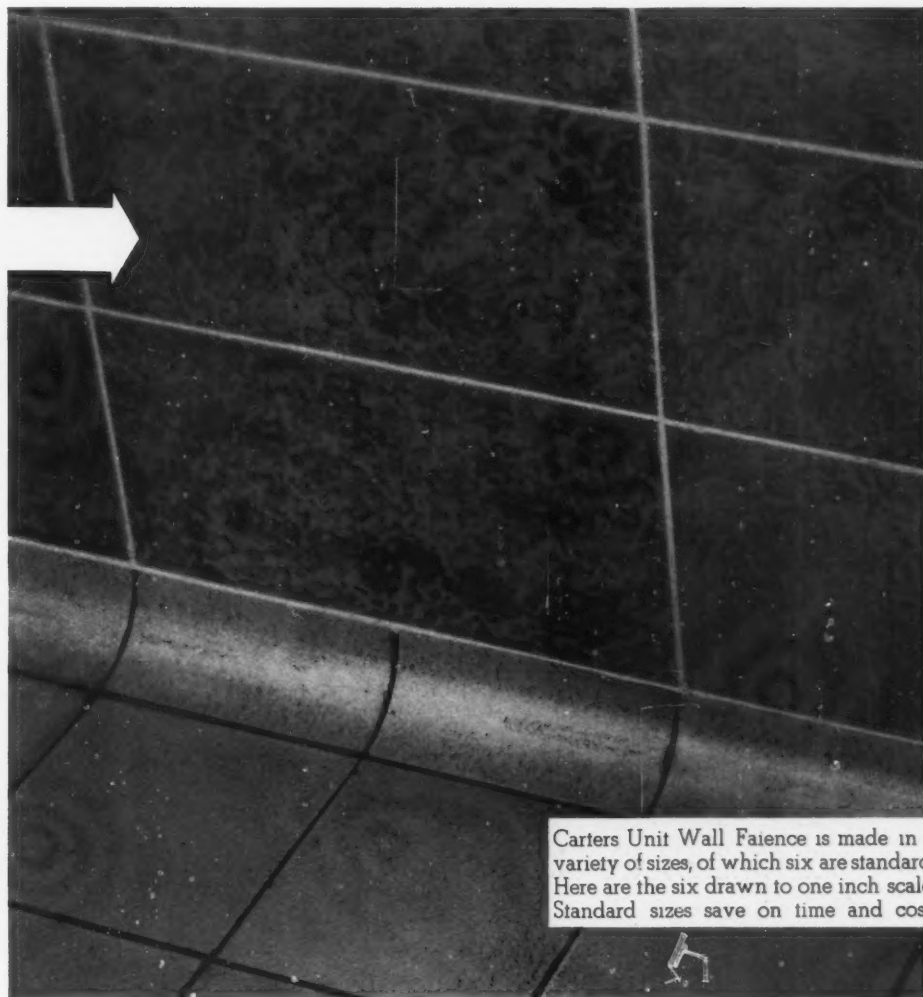
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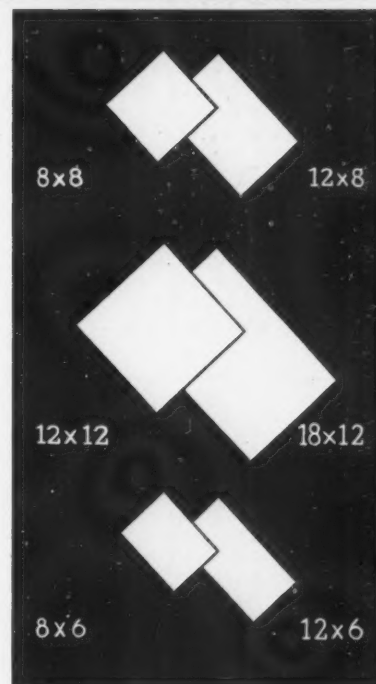


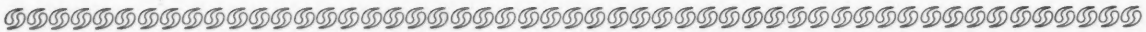
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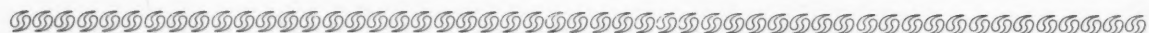
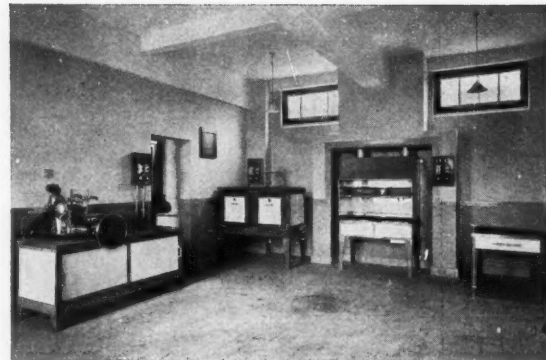
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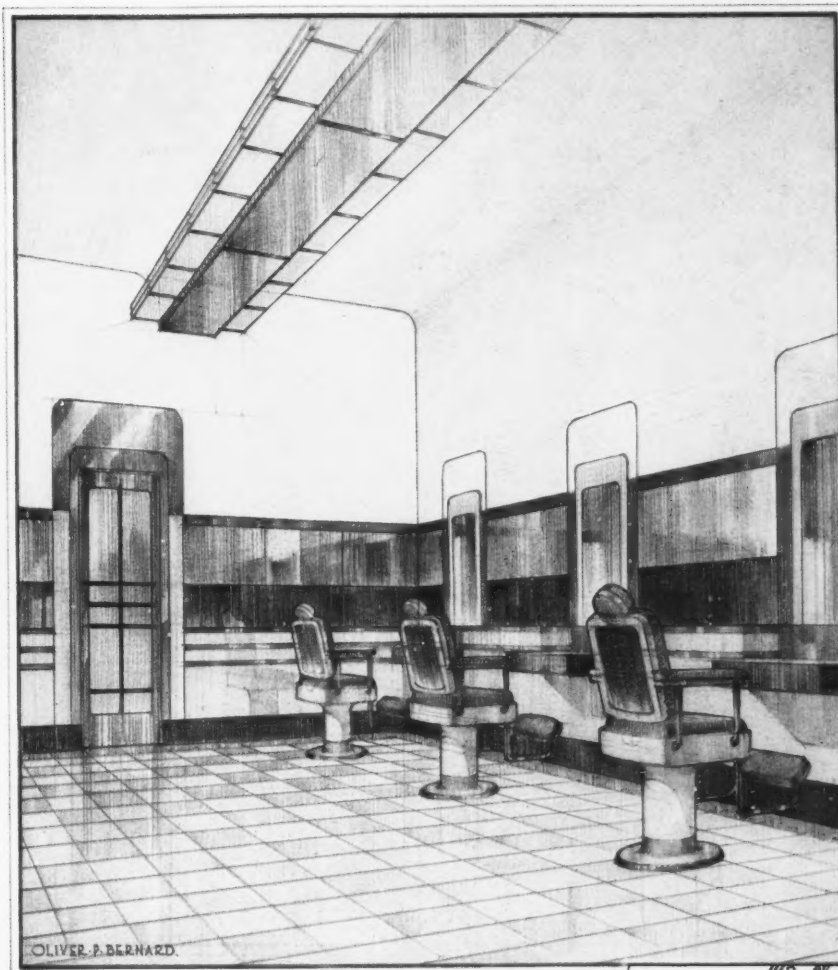


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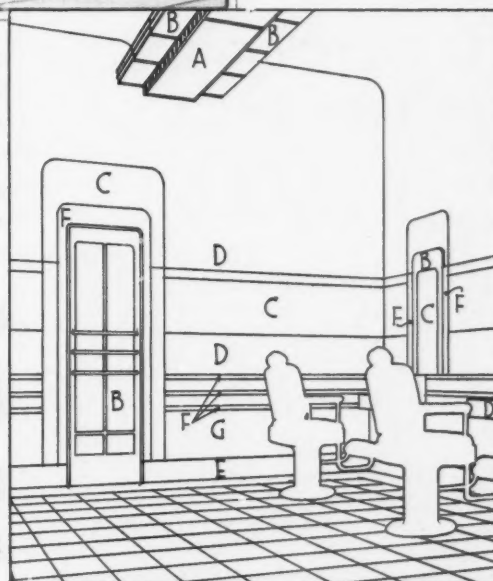


Here is a design for a hairdressing saloon in which the following types of glass are used (see key diagram to the right). (A) *Stippled Pink Plate Mirror*, (B) *Stippled Pink Plate Clear*, (C) *Pink Plate Mirror*, (D) *Black Quartz Vitrolite*, (E) *Black Quartz with cove and border*, (F) *Tango Vitrolite*, (G) *Primrose Vitrolite*. Samples of all these glasses are shown by Pilkington Brothers Limited at the Building Centre, 158 New Bond Street, London, W.1

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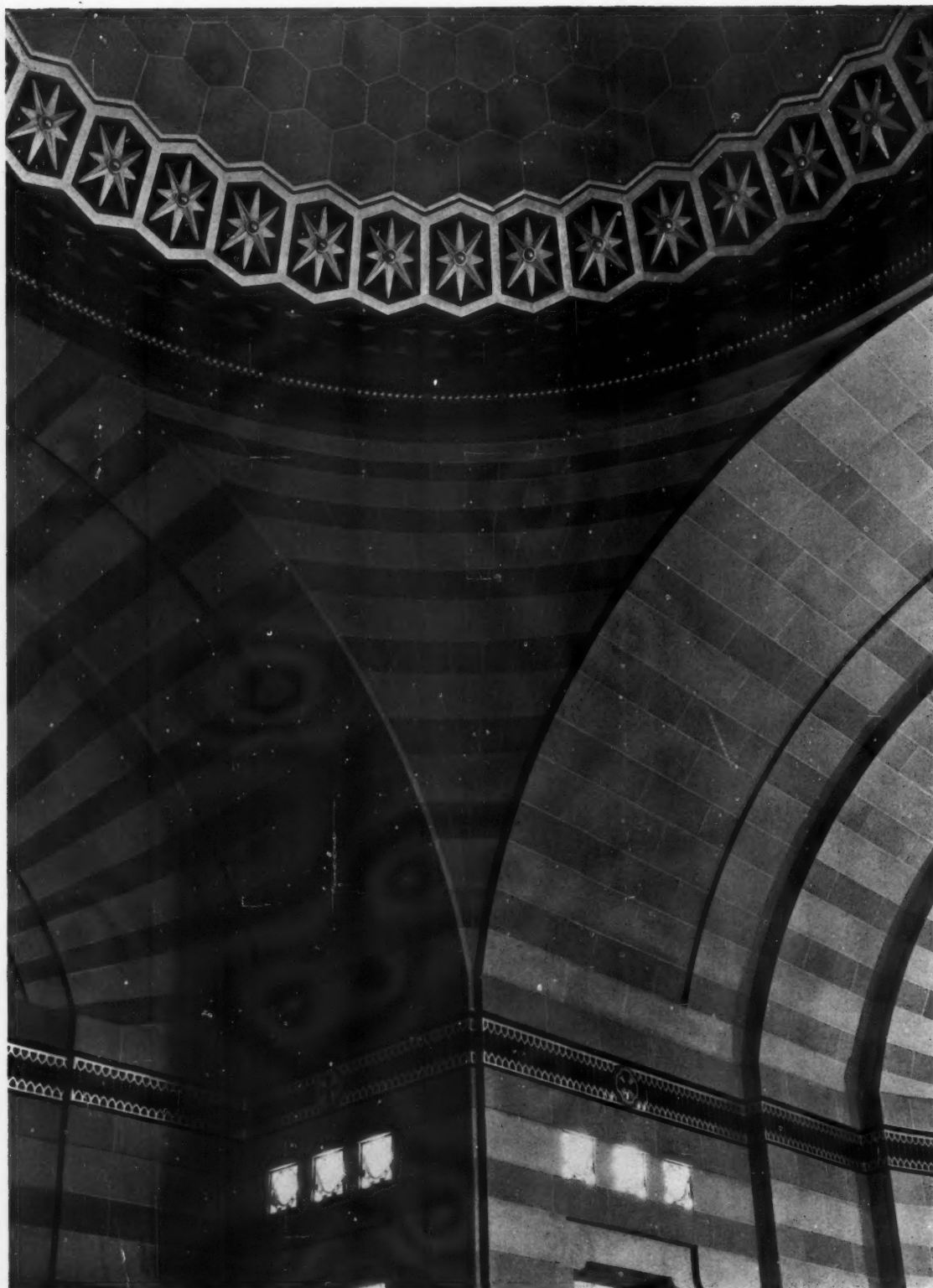
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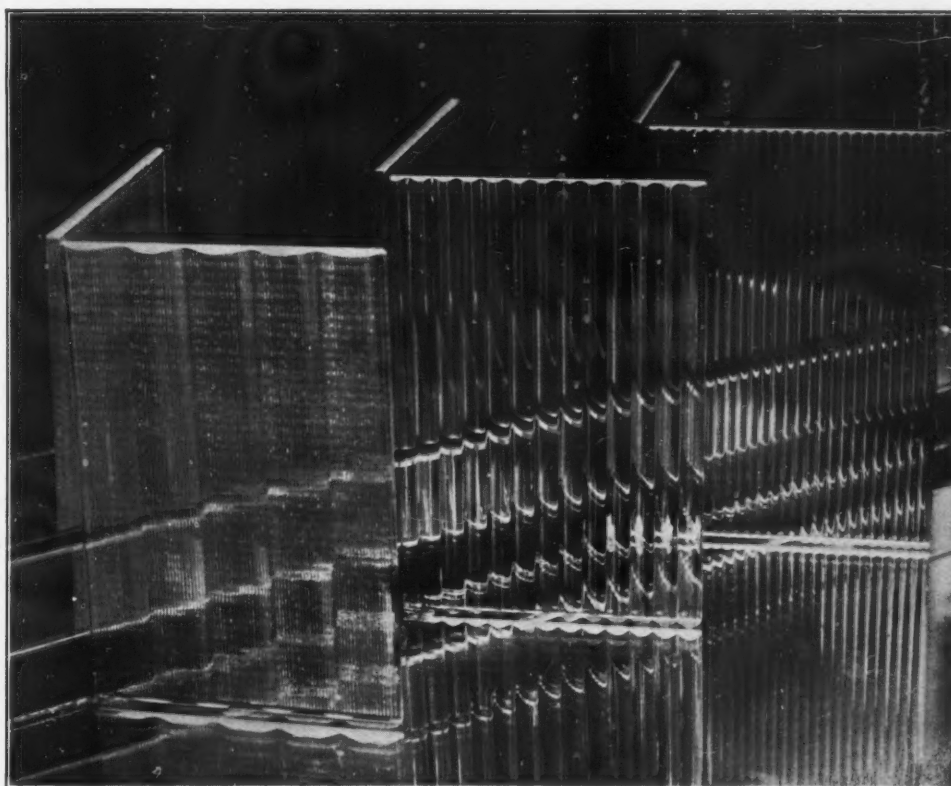
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P. 158

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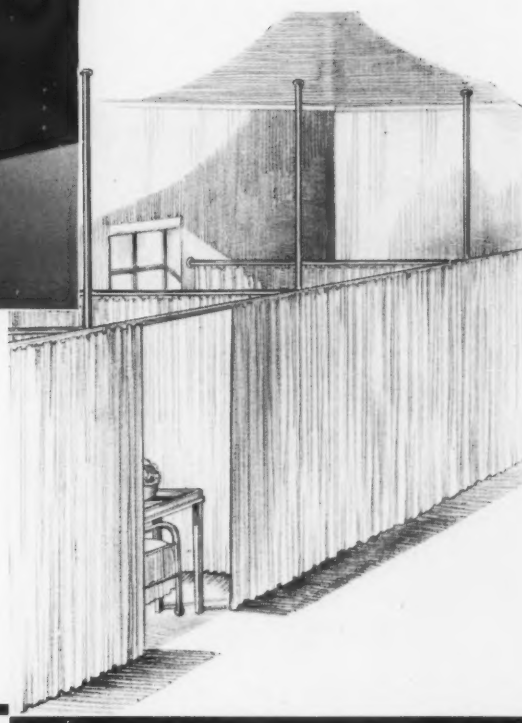
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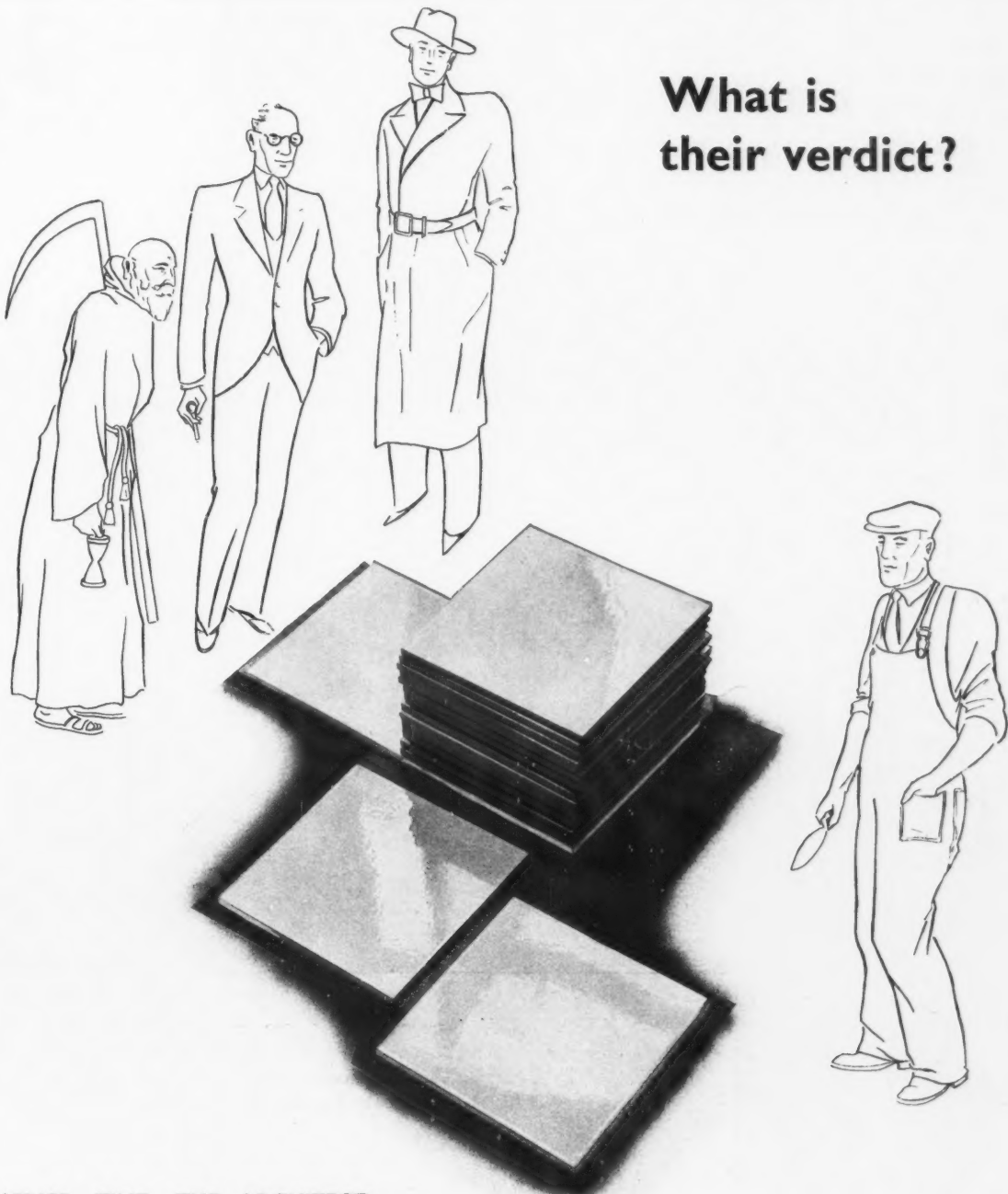
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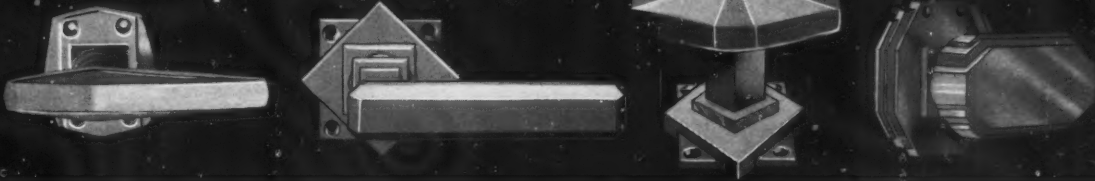
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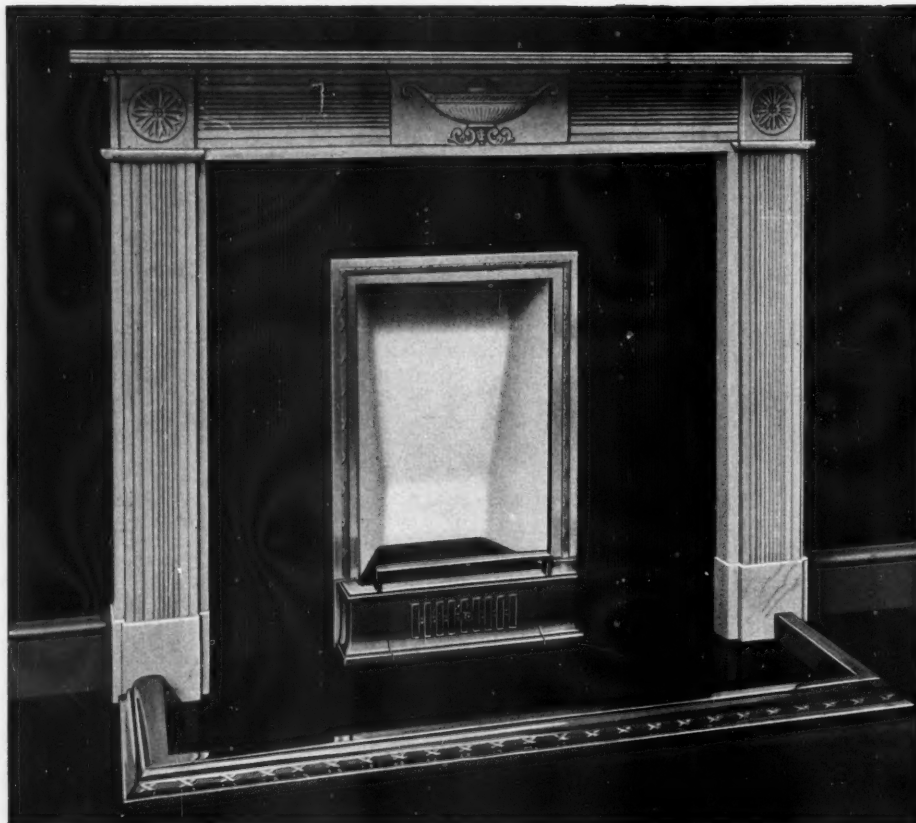


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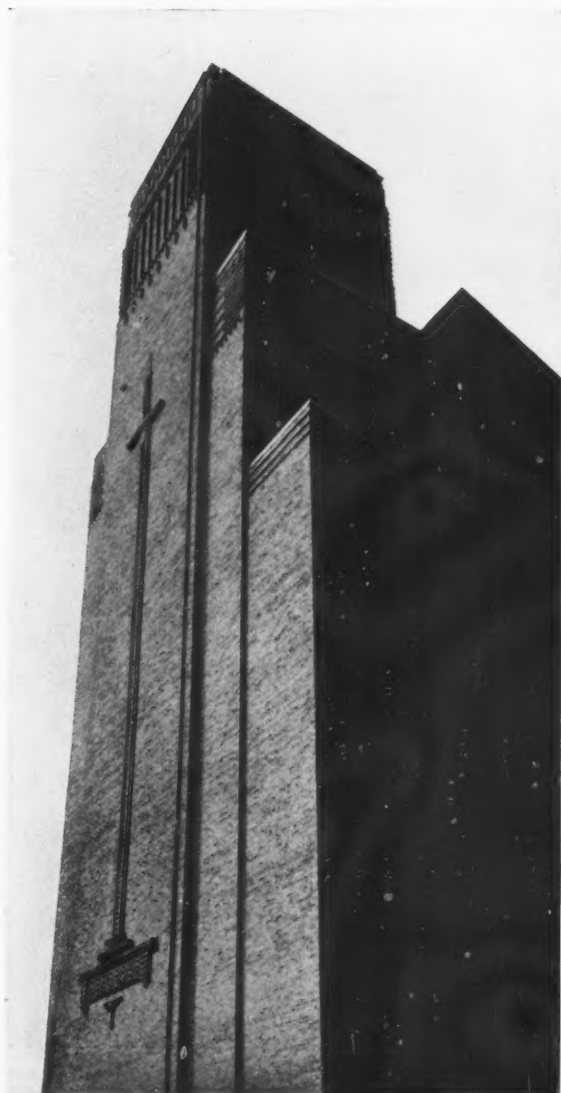
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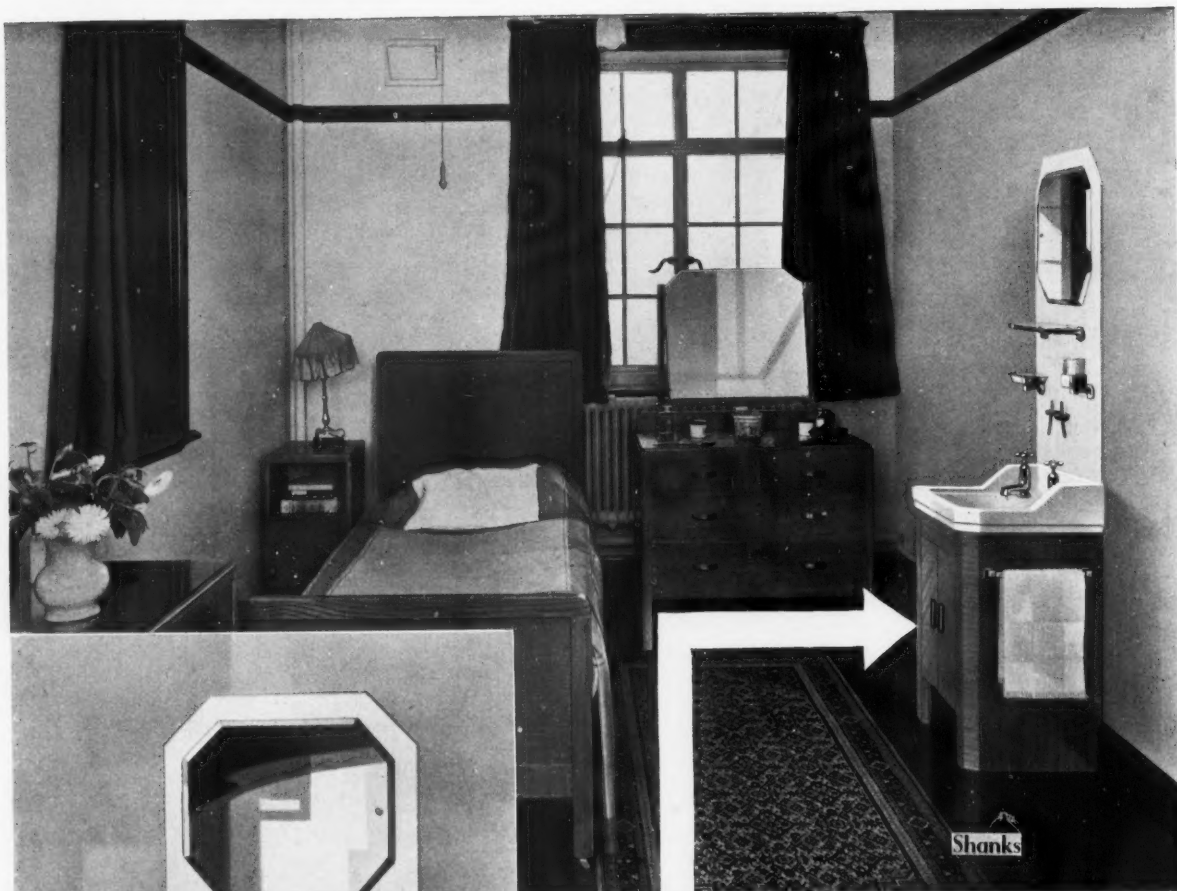
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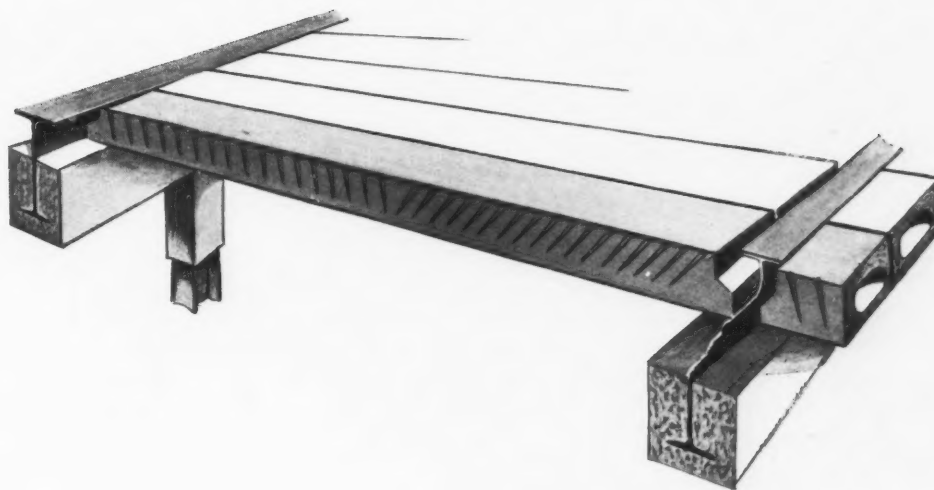
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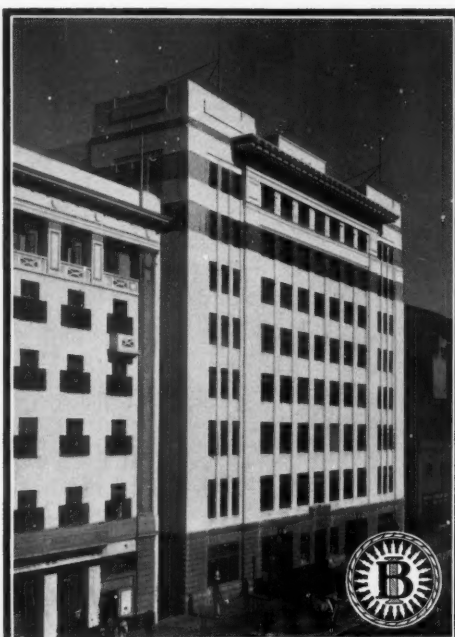
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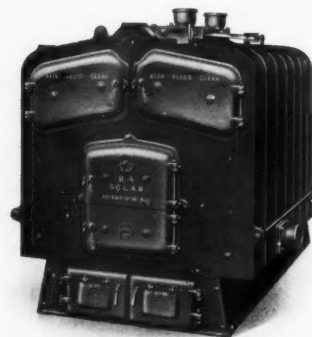


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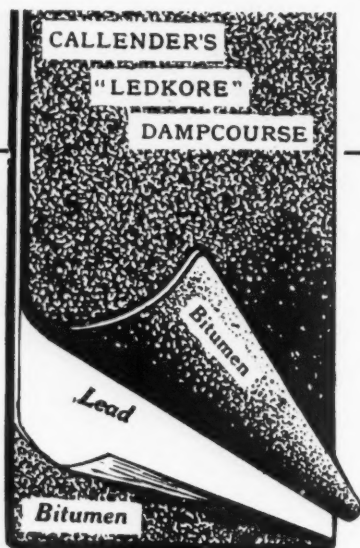
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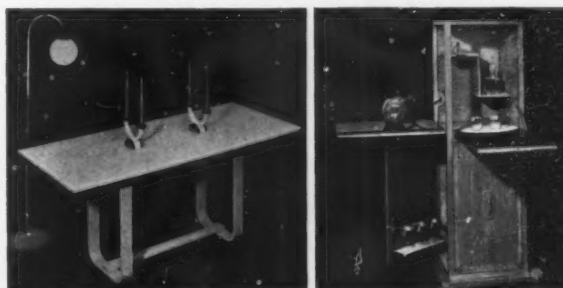
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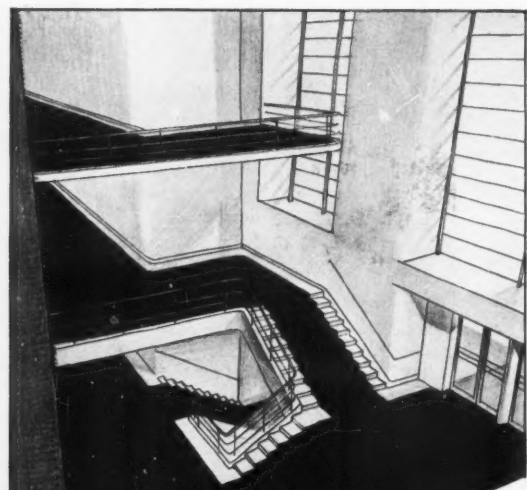
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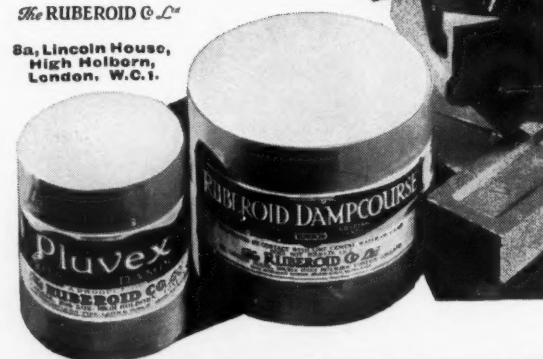
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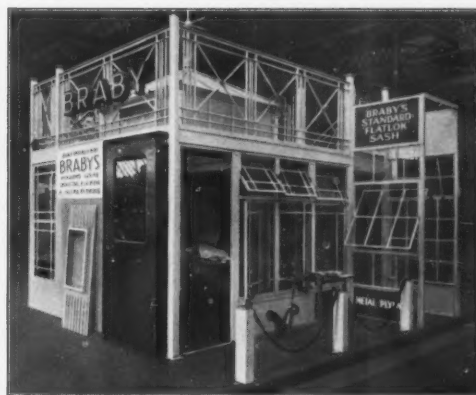
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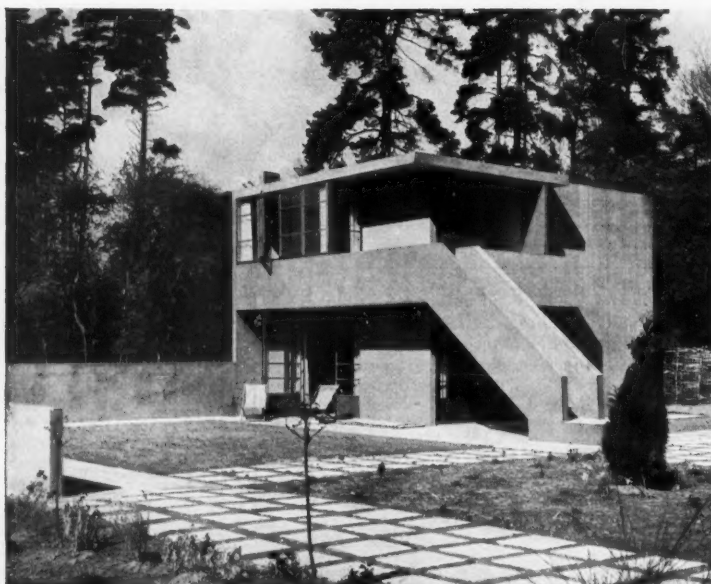
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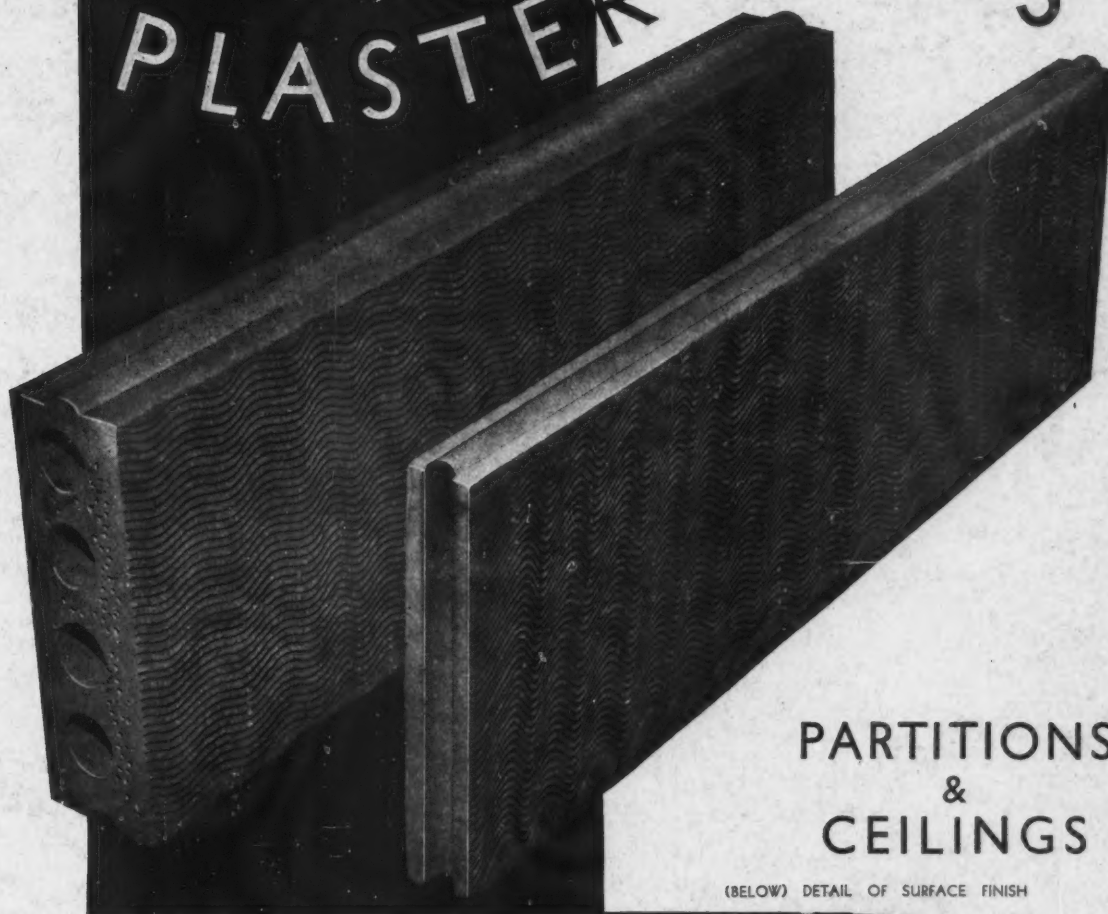


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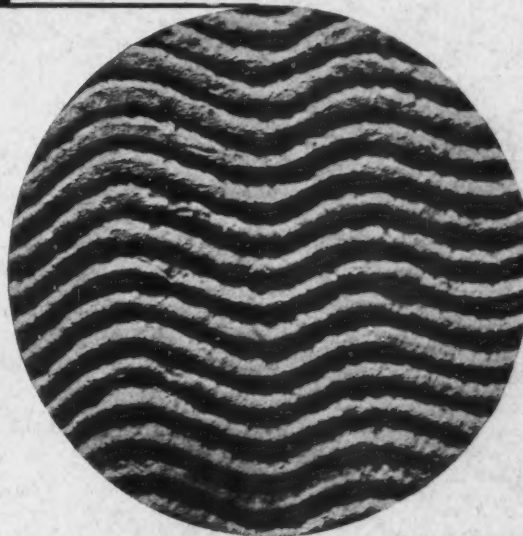
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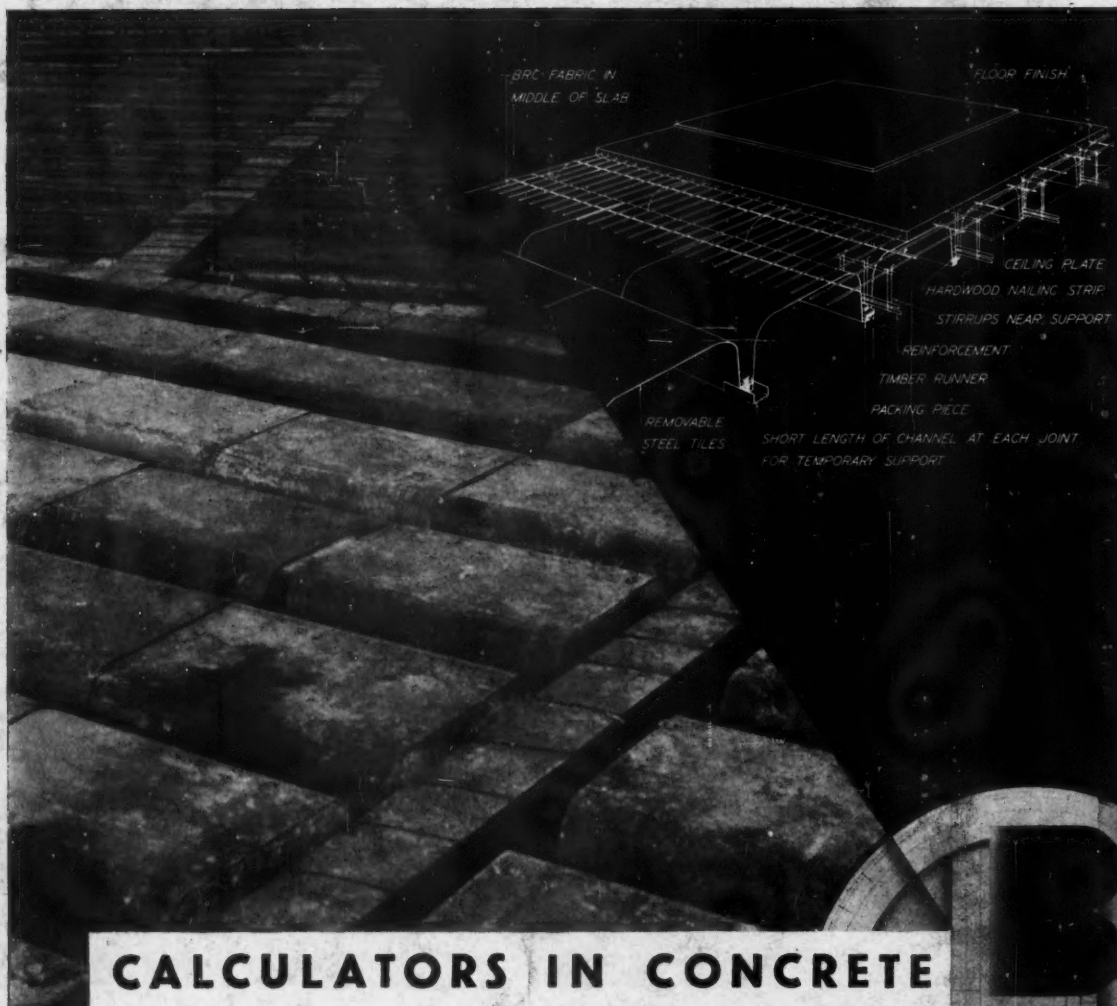
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