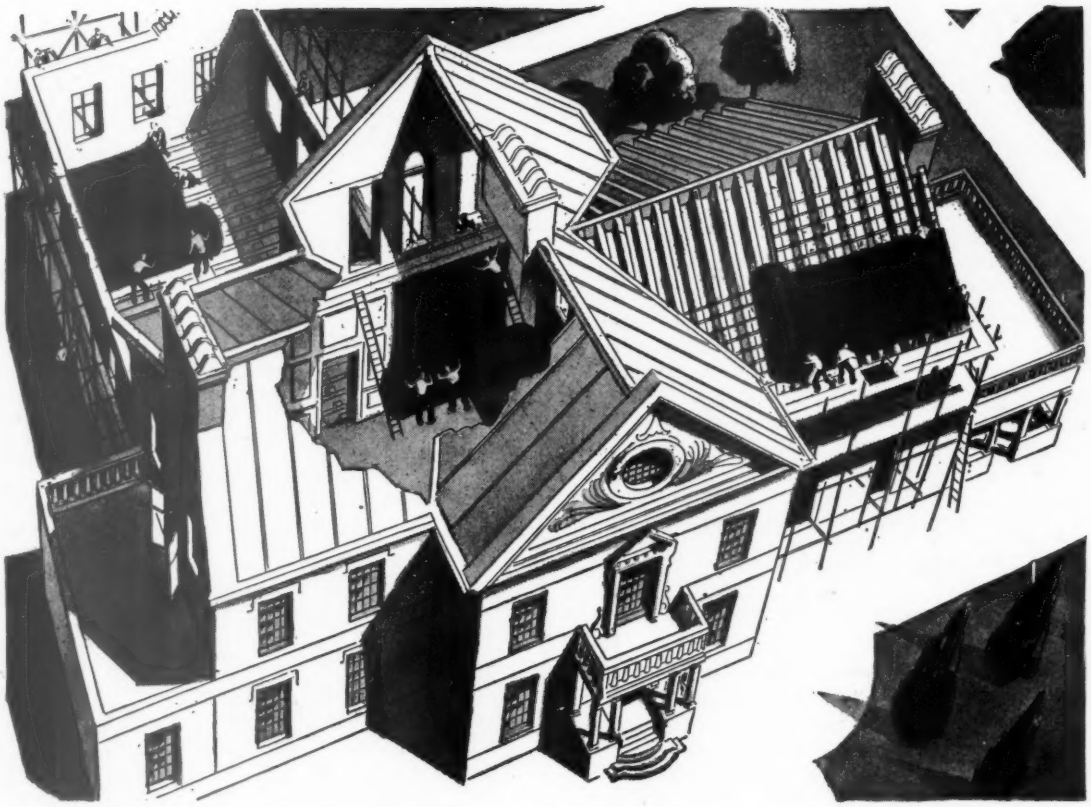

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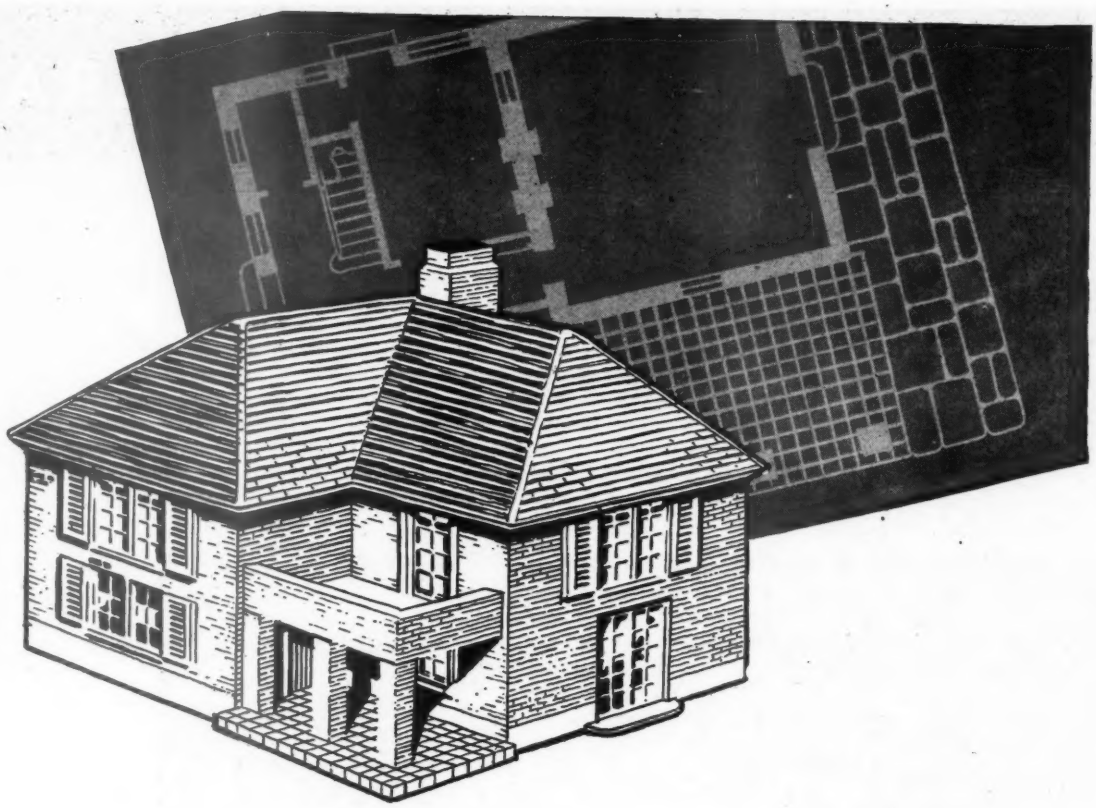

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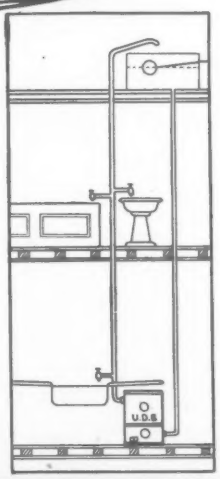

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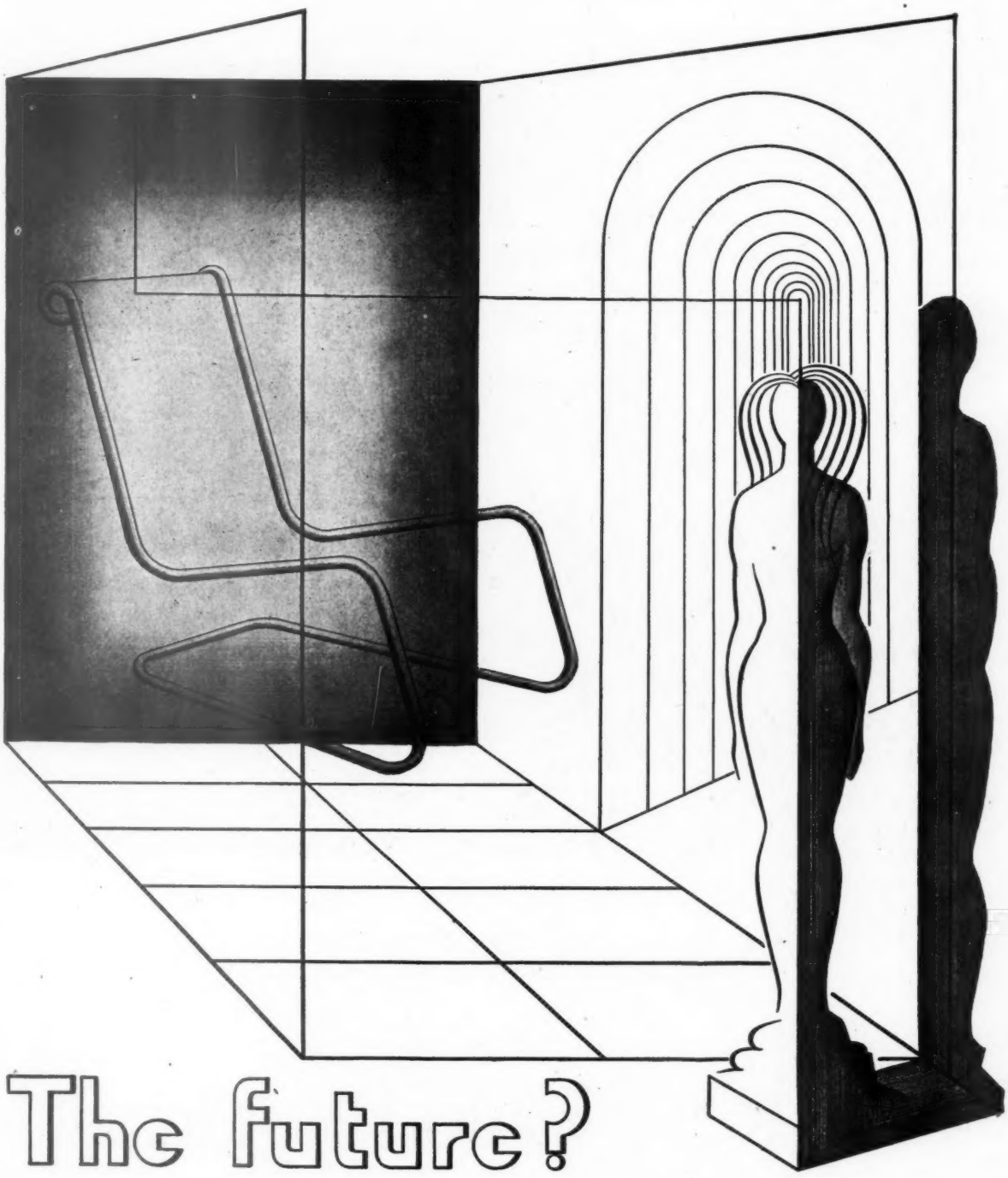

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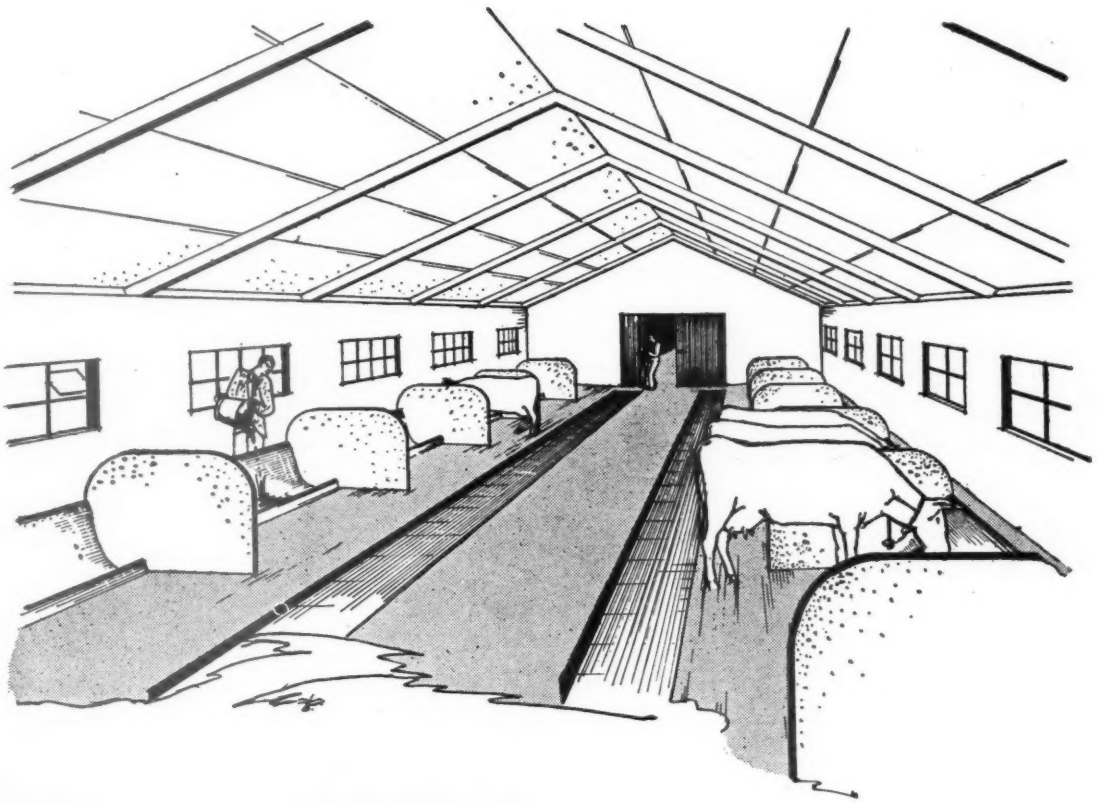

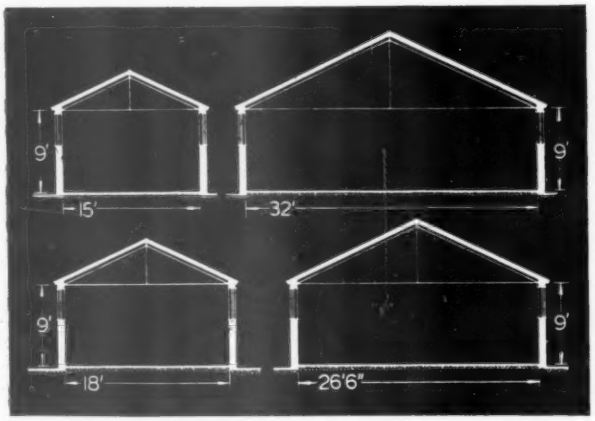

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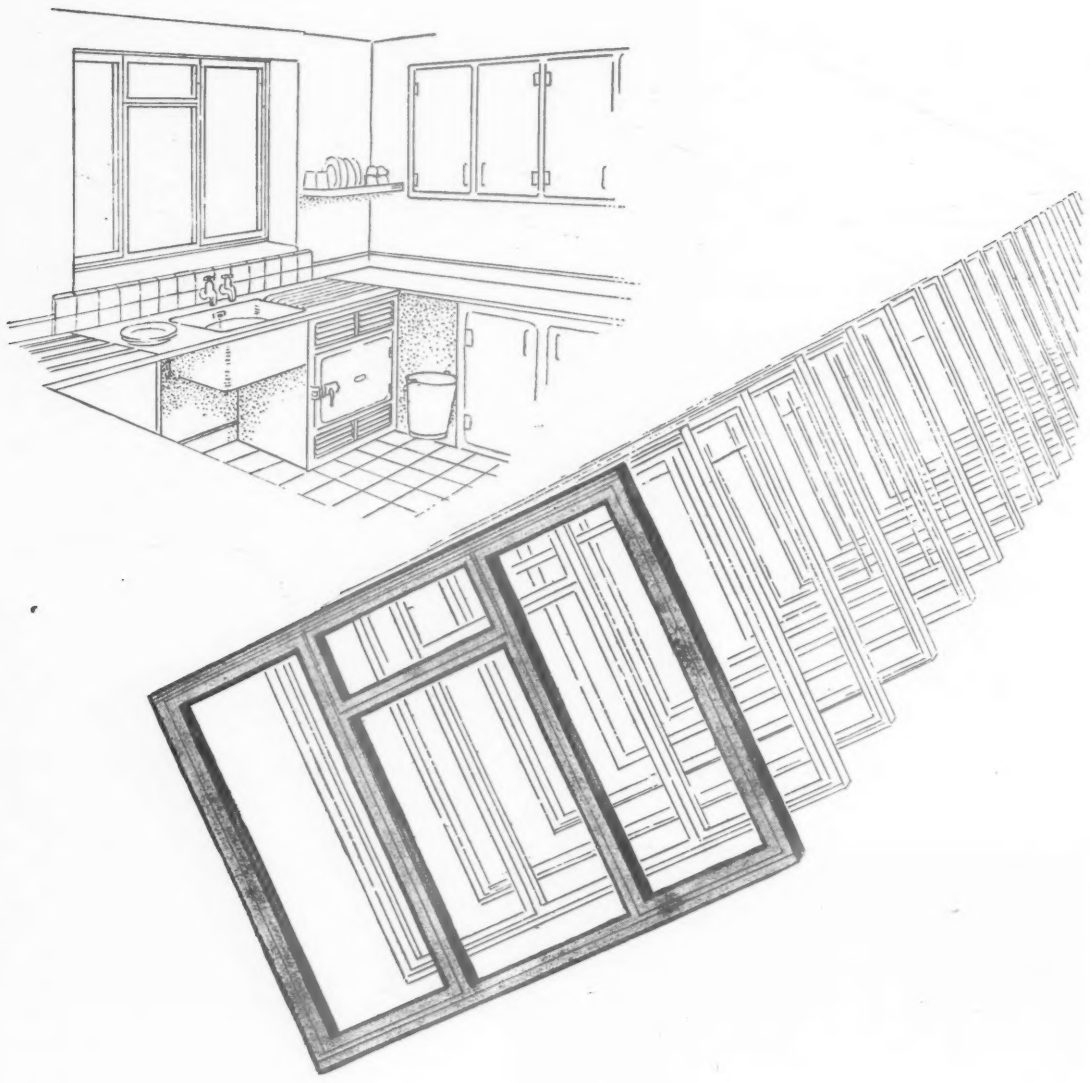

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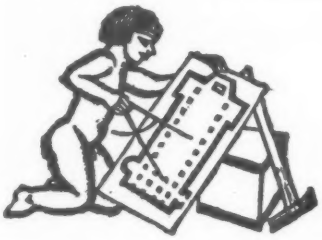


DIARY FOR AUGUST SEPTEMBER AND OCTOBER

Titles of exhibitions, lectures and papers are printed in italics. In the case of papers and lectures the authors' names come first. Sponsors are represented by their initials as given in the glossary of abbreviations on the front cover.

AYLESBURY. *When We Build Again.* (Sponsor, TCPA, in collaboration with Messrs. Cadbury Bros.) SEPT. 4-8

Town and Country Planning Association Conference. SEPT. 6

BUXTON. *When We Build Again.* Exhibition and Film. (Sponsor, TCPA, in collaboration with Messrs. Cadbury Bros.) OCT. 14-21

CARDIFF. *When We Build Again.* Exhibition and film. (Sponsor, TCPA, in collaboration with Messrs. Cadbury Bros.) SEPT. 16-23

CARLISLE. *Living in the Country.* Exhibition. (Sponsor, HC.) AUG. 24-SEPT. 2.

CHELMSFORD. *The English Town: Its Continuity and Development.* Exhibition. And *When We Build Again.* Film. (Sponsor, TCPA.) SEPT. 1-9

CLECKHEATON. *Homes to Live In.* Exhibition. At the Central Library. Guide lecturer, Miss Ivor Jones. (Sponsor, BIAE). AUG. 24

DURHAM.—*The English Town: Its Continuity and Development.* Exhibition. (Sponsor, TCPA). OCT. 4-18

When we Build Again. Exhibition and film. (Sponsor, TCPA, in collaboration with Messrs. Cadbury Bros.) NOV. 11-18

GREENFORD. *When We Build Again.* Exhibition. Speaker, Miss E. E. Halton. At 8 p.m. on September 14. (Sponsor, TCPA, in collaboration with Messrs. Cadbury Bros.) SEPT. 14-16

LONDON. *American Housing in War and Peace Exhibition.* At the RIBA, 66, Portland Place, W.1. The exhibition, prepared by the Museum of Modern Art in New York, brought here by the US Office of War Information at the request of the Council of the RIBA, tells the story of American housing before and during the war. Photographs, diagrams and text show the work of the US Government Housing Agencies and private organizations in the various fields of housing in cities and in rural areas. The exhibition demonstrates the high quality of the dwellings erected, the new materials and new methods of construction that have been used in wartime building. Many of the solutions and experiments are relevant to British post-war problems of providing housing for temporary occupation while permanent houses are going up. Pictures of several large schemes of permanent town building completed before the war and largely inspired by legislation and planning in Britain are also included. The designer of the exhibition at the Museum of Modern Art is Mrs. Mary Cooke, who worked for government housing authorities in Washington after her return in 1935 from Britain, where she worked with the architectural firm Tecton. AUG. 24-26

Chartered Surveyors Institute General Meeting. At 12, Great George Street, Westminster, S.W.1. The discussion will be resumed on the address, delivered at a previous meeting in July, by Sir William Jowitt, K.C., M.P., Minister without Portfolio, on *The Government's White Paper on the Control of Land Use.* 3 p.m. AUG. 28

Judith Ledeboer. *Design for Dwellings.* At 2, Savoy Hill, W.C.2. Chairman, Professor Patrick Abercrombie. (Sponsor, TCPA). 1.15 p.m. SEPT. 7

John Charrington. *The Place of Solid Fuel in Town and Country Planning.* At 2, Savoy Hill, W.C.2. (Sponsor, TCPA.) 1.15 p.m. SEPT. 21

Sir Albert Howard. *Fresh Food and Town Planning.* At 2, Savoy Hill, W.C.2. Chairman, Lord Portsmouth. (Sponsor, TCPA.) 1.15 p.m. OCT. 19

A. W. Kenyon, Chairman of the RIBA Central Planning Advisory Committee. *The National Plan.* At the RIBA, 66, Portland Place, W.1. (Sponsor, RIBA). 6 p.m. NOV. 14

T. P. Bennett. *The Architect and Organization of Post-War Building.* At the RIBA, 66, Portland Place, W.1. (Sponsor, RIBA). 6 p.m. DEC. 12

NEW MALDEN, SURREY. *The English Town: Its Continuity and Development.* Exhibition. At the Public Library. (Sponsor, TCPA.) AUG. 24-26

NORFOLK. *Your Inheritance.* Exhibition. (Sponsor, HC.) AUG. 24-SEPT. 30

SPALDING, LINCS. *The English Town: Its Continuity and Development.* Exhibition. (Sponsor, TCPA.) DEC. 4-16

STOCKPORT. *When We Build Again.* Exhibition. (Sponsor, TCPA, in collaboration with Messrs. Cadbury Bros.) AUG. 24-26

STRETFORD, MANCHESTER. *When We Build Again.* Exhibition and film. (Sponsor, TCPA, in collaboration with Messrs. Cadbury Bros.) SEPT. 30-OCT. 7

SUDBURY, SUFFOLK. *The English Town: Its Continuity and Development.* (Sponsor, TCPA.) SEPT. 21-30

SWADLINCOTE. *The English Town: Its Continuity and Development.* Exhibition. (Sponsor, TCPA.) OCT. 24-NOV. 8

NEWS

THURSDAY, AUGUST 24, 1944
No. 2587. VOL. 100

Though no feature in the JOURNAL *is without value for someone, there are often good reasons why certain news calls for special emphasis. The* JOURNAL'S *starring system is designed to give this emphasis, but without prejudice to the items which are often no less important.*

★ *means spare a second for this, it will probably be worth it.*

★★ *means important news, for reasons which may or may not be obvious.*

Any feature marked with more than two stars is very big building news indeed.

Mr. Louis de Soissons A.R.A. has been appointed the Imperial WAR GRAVES COMMISSION'S ARCHITECT FOR ITALY

Mr. de Soissons is now visiting that area to advise on the planning and construction of the cemeteries in liberated territory no longer the scene of active operations. A Canadian by birth, he served in the last war. His work includes Welwyn Garden City, Harehills Library, Leeds, the Haig Memorial Homes at Morden, and large country houses such as St. Paul's Waldenbury, and Megginch Castle, near Perth. He is also architect to the Duchy of Cornwall.

A Farm in Dovedale and Three Cottages at St. Agnes have been GIVEN TO THE NATION

Mr. W. E. Battersby, of Alstonfield, Ashbourne, has purchased and granted to the Trust restrictive covenants over 156 acres of New Hanson Grange Farm, Dovedale. It lies in the centre of much National Trust property. Mr. Battersby has already given similar covenants for a farm overlooking Thorpe Cloud and Dovedale Gorge. The second gift is of the last three typical Cornish cottages in St. Agnes. The cottages, built of local stone and roofed with small tiles, have been presented by the Miss A. M. and H. M. Bulkley, subject to their life interest and that of a third sister.

From AN ARCHITECT'S *Commonplace Book*

MORRIS FOLLY. [*From* The Pre-Raphaelite Tragedy, *by William Gaunt* (*Jonathan Cape*)]. As the material products of the company were fabricated out of an illusion, it is the less surprising that the illusion was more important than they were. The Pre-Raphaelite values were maintained—the triumph of imagination over matter upheld. This explains a puzzling circumstance—that Morris would go to endless pains to make a practical thing—and, when it was furnished, entirely ceased to care whether it was practical or not. The Red House, " the small Palace of Art of my own," was a prime example. " Divinely uncomfortable," " gloriously uncomfortable," were the terms of praise given to it by those who stayed there. A similar trifling miscalculation to that which made the settle so uncommonly large had resulted in the house being uncommonly cold. It was planned in the hot dry summer of 1859. Recking naught of the winter, Morris and Webb made it face north, towards an exposed plateau. The windows, moreover, gave a mediæval but small amount of light. Cold, dark and for the ordinary purposes of life inconvenient as it was, none of these drawbacks affected Morris in the slightest degree. The Red House to him was in every respect perfect.

Mr. Robert L. Martin, who SIMPLIFIED THE NAMING OF LONDON STREETS, is retiring from the LCC.

To eliminate duplications of names, more than 3,000 streets had to be given new titles to remedy complaints from postmen, firemen, ambulance drivers and others, who frequently went to the right street but the wrong district. Mr. Martin has served the LCC for 40 years, for 15 years as Chief Clerk of the Architect's Department. His job of supervising street renaming occupied three years and entailed a great deal of research with a view to associating new names with local history. This meant visits to parish churches, examination of local memorials and delving into archives. His first puzzle was how to deal with the many High-streets and High-roads. It would have been impossible to eliminate so important a name, but a simple solution was found by prefixing the name of each particular district. Mr. Martin previously worked with Mr. Topham Forrest, a former LCC architect, in Shakespearean research in London. They discovered the site of the Globe Theatre on Bankside, and also revealed that Shakespeare was closely connected with the old Blackfriars Theatre.

Owing to recent developments the RIBA Exhibition of Contemporary British Architecture has been POSTPONED. Entry forms already received will be retained by the RIBA and the senders notified in due course of the revised date of the Exhibition.

To town plan the North Middlesex Region, NINE COUNCILS MAY CO-OPERATE

Preliminary arrangements have been made for nine Middlesex Councils to be represented on a Joint Town Planning Committee for the North Middlesex Region to co-ordinate post-war development schemes. Certain adjacent authorities in Herts may also be represented. The Middlesex Councils are Tottenham, Hornsey, Wood Green, Finchley, Friern Barnet, Southgate, Edmonton, Potters Bar and Enfield. The Herts authorities which may be invited to join the Committee are Barnet, East Barnet and Cheshunt Councils. The object of the Committee will include the preparation, adoption and submission to the Ministry for approval of a comprehensive planning scheme for the whole area covered by the constituent authorities. It will also deal with subsequent variations and problems in relation to boundary planning and differences on these problems between the authorities concerned, and the co-ordination of the planning proposals of each area.

Owing to the approaching completion of the main Constructional Programme of Aircraft Production Factories, Mr. B. H. Colquhoun, with the consent of the Minister of Works, relinquished the post of DIRECTOR-GENERAL AIRCRAFT PRODUCTION FACTORIES in that Ministry on July 31, in order to resume private practice. The Directorate of Aircraft Production Factories will in future be in charge of Mr. W. R. Watson, Principal Director.

Mr. John S. Walkden, Head of the School of Architecture and Department of Town Planning of the Edinburgh College of Art, has been appointed Head of the School of Architecture, Town Planning, Surveying and Building of the REGENT STREET POLYTECHNIC, London.

An article by the President of the USSR Academy of Architecture, broadcast by Moscow radio, stated that the RESTORATION OF DESTROYED TOWNS and villages now forms the primary work of the Academy, its Institutes and workshops.

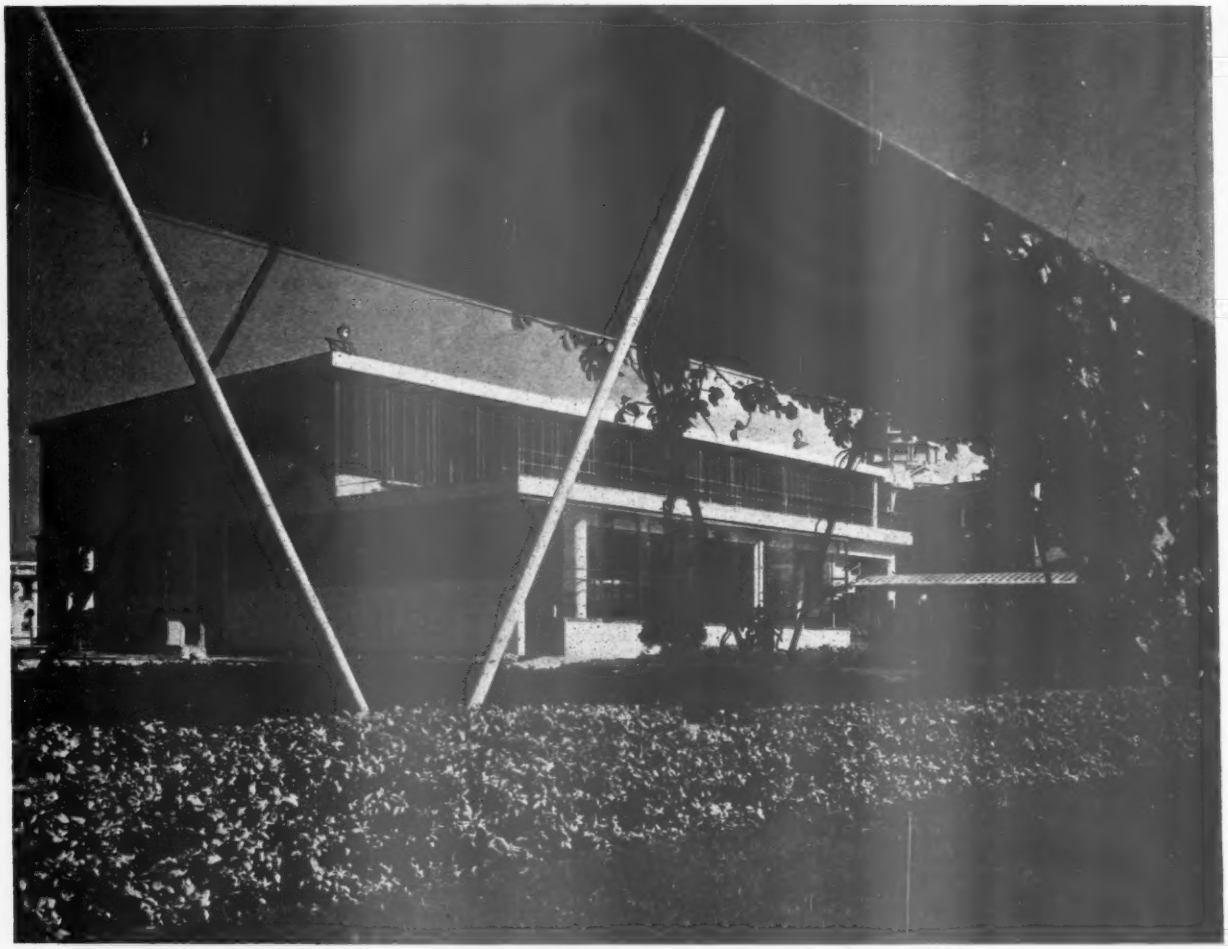
We must, he says, not merely restore, mechanically replace, but create more beautiful towns, architectural compositions and buildings than we possessed before. In remaking our cities, destroyed by the Germans, more beautiful and more splendid, we must widely utilize the historical accumulation of architecture in the entire ensemble of the city, and add still more valuable examples of Soviet architecture —the architecture of Socialist Realism. We must keep very much in mind the everyday necessities of town life, the comfort of the people who will have to live and grow up in the houses, and work and rest in factories, offices and public buildings, where all practical needs must be catered for.

During the quarter ended June 30, LOANS SANCTIONED by the Ministry of Health to Local Authorities in England and Wales totalled £1,588,647.

The loans sanctioned were: Housing, £464,881; Municipal Services (including clinics, sanatoria and mental hospitals), £323,437; Swimming Pools, Playing Fields, Recreation Grounds, Open Spaces, etc., £29,474; Water Supply, £99,311; Disposal of Waste Products (sewerage and sewage disposal and refuse destruction), £83,391; Education Services (including libraries and museums), £45,337; Air Raid Precautions, £98,530; Roads and Bridges (including Private Street Works), £29,859; Other Services (including loans to defray contributions, etc., under War Damage Act, 1941-43), £414,427.

Oakham Castle, Rutland, founded over seven hundred and fifty years ago, has been GIVEN TO THE NATION.

Oakham Castle, famed for its collection of horseshoes levied under ancient custom from every royal visitor and peer visiting the town, has been given to the County of Rutland by the owner, Capt. Hanbury, Lord of the Manor of Oakham. Horseshoes given by George IV, Queen Victoria and Edward VII are among the collection nailed to the walls. The castle was once extensive, but the only part now standing is the 65-ft. by 43-ft. stone banqueting hall, built by Walchelin de Ferrers, a descendant of William the Conqueror's Master of the Farriers, who is said to have had a horseshoe as his badge of office.



Design with Wings

This seaplane station at Santos Dumont Airport, Rio de Janeiro, designed by Atilio Corrêa Lima, seems to express the very spirit of flying. It is of reinforced concrete faced with travertine marble from Argentina. A wing-like canopy shades the path to the embarkation pier from the glare of the sun. The economy and lightness of this building typifies the new æsthetic which is recapturing that harmony between all man-made things and between them and nature which has been lost for four generations in a welter of visual anachronisms. This new æsthetic, born from the cleansing creed of Functionalism, is already beginning to spread its wings, to become more light-hearted by expressing its own imaginative fantasy. In the example above, the puritanical pundits of the twenties will find only an academic rationalism. The more discerning will see in it the spirit of a new romanticism.

★

The proposal first advocated in The Architectural Review that RUINED CITY CHURCHES SHOULD BE PRESERVED as war memorials is supported in the following letter in The Times for August 12 last.

SIR,—We should like to invite your attention to a proposal first advocated, we believe, by the *Architectural Review*, that a few of our bomb-damaged churches should be preserved in their ruined condition, as permanent memorials of this war. Already the authors of "A Plan for Plymouth" have taken up this idea to the extent of selecting the ruined church which, they feel, would be "a fitting memorial to symbolize the city's grief . . . ." and on April 28 your correspondence columns contained a specific suggestion for London.

There will probably be a wide measure of agreement that many of the memorials put up after the last war were unworthy of the men whose sacrifice they commemorate. That a vast gulf of feeling should have lain between the experience and the memorials was in any case inevitable. In this war conditions have been different. England has itself been in the battle and London is still in it. Could there be a more appropriate memorial of the nation's crisis than the preservation of fragments of its battle-ground?

It is proposed that work on the selected ruins themselves should be confined to the minimum essential to preserve them from further decay, but that they should be surrounded by lawns, flower-beds and flowering trees, with seats for those in search of quietness and rest. The churches themselves would in many cases also permit the use for open-air services in the summer months, for which the climate of this country is far more favourable than is sometimes supposed. Thus, in addition to the commemoration of this war's dead through the preservation of a few tangible fragments of distinction, we should be able to provide in some measure for the needs of our successors for spiritual refreshment and physical and mental relaxation.

If the general proposal which we are advocating is accepted, the question which are the most appropriate ruined churches to preserve should at once be faced. The final choice will, of course, rest with the church authorities and the appropriate committees. It is hoped that the Fine Art Commission will also be consulted. Those churches which have not been too severely damaged will no doubt be restored. Others, more seriously injured, will in many cases be restored too, on account of their local or national prestige. But others again have been so far destroyed that their restoration could be nothing more than a mockery of their former selves. Such churches must either be removed altogether or remain as ruins. If the former course were too widely adopted we believe that a potent source of emotional experience would be lost to future generations.

The time will come—much sooner than most of us to-day can visualize—when no trace of death from the air will be left in the streets of rebuilt London. At such a time the story of the blitz may begin to seem unreal not only to visiting tourists

but to a new generation of Londoners. It is the purpose of war memorials to remind posterity of the reality of the sacrifices upon which its apparent security has been built. These church ruins, we suggest, would do this with realism and gravity. While being kept as gardens suitable for meditation or relaxation, in the heart of the city, each could act at the same time as a specific memorial, one to the seamen of the convoys, another to men of the 8th Army, a third to the air crews of the RAF., a fourth to the women in the services, a fifth to a regiment; the names of the fallen being inscribed on their ruined stones. And in the City of London one church at least should be set aside for a memorial to the thousands of Londoners who died in the blitz for whom those walls of calcined stone were once not monuments, but tombs.—Yours faithfully, MARJORY ALLEN OF HURTWOOD, DAVID CECIL, KENNETH CLARK, F. A. COCKIN, T. S. ELIOT, H. S. GOODHART-RENDEL, JULIAN HUXLEY, KEYNES, E. J. SALISBURY.

Mr. F. R. Steele, chief assistant to the City Architect of Bristol has been APPOINTED CITY ARCHITECT OF EXETER.

Mr. F. R. Steele, F.R.I.B.A., F.S.I., A.M.T.P.I., A.M.I.Struct.E.,- will succeed Mr. John Bennett, F.R.I.B.A., who retires in October. Educated in Staffordshire and articled to a Stoke-on-Trent firm, Mr. Steele was subsequently senior assistant architect under the Borough Engineer of Wolverhampton and a principal architectural assistant to the Huddersfield Borough Engineer. In 1937 he went to Bristol as Architect to the Education Committee, obtaining his present designation a year later. He is 39 years of age and had recently been on the short-lists for appointment as Borough Architect of Southampton and Director of Housing of Glasgow.

★

The housing question will DEMAND REVOLUTIONARY ACTION and the same compulsion by the State as in the running of the war if there is not to be a great uprising of the people, declared Mr. Frank Bailey.

Mr. Bailey, General Secretary of the National Union of Railwaymen Approved Society, made this statement at the annual meeting in London. Continuing, he said: In many of our big industrial centres there are streets of miserable tenements which ought to have been demolished a long time ago. I view with the greatest foreboding the reaction that will inevitably take place among the young men in the Forces when they return and find their newly married wives unprovided with homes. They have banked upon the nation giving them a square deal, and if they find themselves homeless on their return they will, as protectors of the nation, present their own Magna Carta to Parliament. All those vested interests that stand in the path of that square deal should be forewarned. Mr. Willink's statement that there is no prospect of building more than 300,000 houses in two years after the end of the European War is a tragic admission. This number will be required for bomb victims, and in addition there are, on the Government's own admission, four million families who will require homes.

DESIGN OF DWELLINGS

THE Report of the Design of Dwellings Sub-committee of the Central Housing Advisory Committee of the Ministry of Health, in short, the Dudley Committee,* is in many ways a courageous document, for it aims to raise the all-round standard of post-war housing at a time when it seems hard to convince the Government that anything except a lowering of standards is practicable.

It is pointed out that, up to the outbreak of war, municipal housing followed closely on the recommendations of the Tudor Walters Committee in 1918 and that, during the twenty subsequent years, standards and conceptions then established underwent little change. Though the Tudor Walters Report had only envisaged the erection of 200,000 municipal houses, nevertheless, 1,000,000 were erected to an inflexible pattern based on these standards and their accompanying type plans. The very scale of these activities resulted in the well-known abuses of inter-war housing estates, bad siting, lack of communal facilities, a universally applied density of exactly 12 to the acre, drabness of design and layout. The Dudley Committee is able to envisage the enormous programme of 3—4 million houses, and stresses the need, this time, for a much greater degree of flexibility and broadmindedness of execution. Type plans are not put forward, only suggestions for laying out the kitchen-eating arrangements,† and it is sincerely to be hoped that the innate official desire to guide by means of rigid and usually obsolete type plans is dead.

As a guide to local authorities, this report cannot fail to be beneficial, always provided the recommendations do not, in turn, become fixations and to this end the really important recommendation is that good architects be employed to design and lay out the housing, for this is, in the last resort, the only way to attain adequacy in our living arrangements. It should, nevertheless, be borne in mind that one of the reasons for the mental stagnation of pre-war housing was the unimaginative attitude of the Ministry of Health itself, and behind it, the power which held the purse strings. One must hope that the recommendations of its own advisory committee will now bear fruit at the centre.

Main emphasis in the technical part of the Report is laid on the necessity for adequate living space, for, it is argued, accessories and fittings may be added later, but if the initial space is inadequate, the house very soon becomes obsolete; 900 ft. super is regarded as a minimum basis for a three-bedroom house, such a figure giving something over 300 ft. super of actual living area. Comparison with pre-war Tudor Walters standards indicates a substantial gain, and as a profession we should give all our support to the new suggestions.

The Committee has a good word to say for maisonettes and, on the whole, comments fairly on the question of houses versus

* *Design of Dwellings* (issued by MOH and published by HMSO, 1s. 0d.).

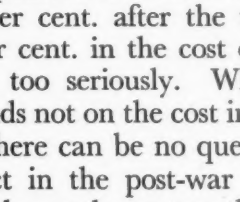
† See page 138.

flats, but the idea still persists that flats cannot be provided with garden amenity, an idea that the cellular type flats of le Corbusier ought long ago to have dispelled. Curiously enough, this is the first official report which openly advocates lifts in flats, and the Quarry Hill experiment in the provision of tenant-operated lifts is favourably commented upon. The LCC, with a solitary and antiquated experimental lift to its credit, would do well to ponder on this part of the report.

It is pointed out that building costs will probably be up by 100 per cent. after the war as compared with a rise of only 30 per cent. in the cost of living index, but this should not be taken too seriously. Whether we can afford houses or not depends not on the cost in money, but on our ability to produce, and there can be no question of our increased resources in this respect in the post-war period.

An able supplement on the broader planning aspects of housing, contributed by a Study Group of the Ministry of Town and Country Planning,* concludes the report and introduces a welcome breadth of vision on this aspect of housing which, it is to be hoped, local authorities will take well to heart.

* See page 149 for summary.



The Architects' Journal
War Address: 45, The Avenue, Cheam, Surrey
Telephone: Vigilant 0087-9

NOTES & TOPICS

NEW STOCKHOLM HOSPITAL

Describing the new General Hospital in Stockholm, the Södersjukhuset or Southern Hospital, in the *Anglo-Swedish Review*, Mr. E. Hummelgren writes: "The entrance hall to the hospital is of huge proportions. It holds about 2,000 people, which number represents the estimated maximum of visitors to the patients. This hall is provided with a post-office, a café, a papershop, a tobacconist's and a flower-shop; it also has a crèche for children, with a nurse, where visitors can leave their children."

"Another practical arrangement for visitors is that the corridor leading to the ward he is to visit is painted in the same colour as his admission card. . . . In order to diminish the risk of infection the hospital is built in such a way that personnel and patients from one clinic or ward never have to pass through another department."

*

The kitchen arrangements are interesting. From a central kitchen, situated on an upper floor, food is conveyed in a half-finished state to 11 branch kitchens, where cooking is completed, and diet food prepared. From there it goes by lift to the various wards. When finished the hospital will have cost about £3,000,000.

*

Below the building, 20 feet down in the solid rock, a bomb-proof underground hospital for 2,500 people has been built, where 1,000 bed-patients can be treated for a month without communication with the outside world—a fact that might be taken either as an expression of realism or as a cynical comment on the hopes of future world peace by a nation that has managed to avoid war for the past 135 years.

*

One of the people who worked on the early stages of the job was an English architect, Mr. Eric de Maré. "If the job is as good as it sounds," he writes, "the result is partly due to the very thorough research that preceded the designing and building. I certainly enjoyed the months I spent on the work in Stockholm, where I had gone by an *au pair* arrangement with a young Swedish architect. We were a very cosmopolitan crowd in Cederström's office, for the boss believed in collecting data, ideas and brains from every part of the world. For instance, a partner in a big Boston firm of architects specializing in hospitals had been brought over—doubtless at enormous expense, judging by the cigars he smoked—with a whole truck-load of information."

*

"One of the best memories of those days," continues Mr. de Maré, "was the trip I made with others of the staff in Cederström's sailing boat around the Stockholm archipelago when, in between bouts of bathing or of that highly scientific navigation which is the delight of the Swedes and at which they are adept, we would discuss the job over platefuls of *smörgåsar* in the bay of some lovely islet. To one who has since become inured to the time and progress attitude towards architecture, that was a delightful interlude. I wondered at the time if it was all really a game, but according to the result it certainly wasn't."

*

"My second vivid memory is of Cederström himself, a great personality of colossal physique and equally colossal enthusiasm. A whole floor of the office building where we worked was used as a kind of experimental laboratory where full-scale models of type rooms were erected and where all kinds of equipment were tried out. I like to recall the picture of the giant Swede sitting there and demonstrating with intense concentration and vigorous mime how a water closet should be placed to function with most benefit to the user, quite unaware of the embarrassment of a group of bureaucratic-looking ladies from some organization or other (the LCC, I believe) who were standing by."

FOAMED SLAG PIONEER

The Chief Architect of Glasgow, Mr. J. H. Ferrie, whose prefabricated system was illustrated in the JOURNAL

last week, deserves credit for his pioneering efforts in foamed slag concrete, an important material of the future which is at last arousing considerable interest.

*

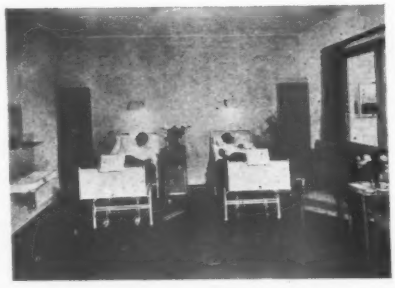
It should be placed on record that Mr. Ferrie was the first architect in this country who had enough confidence in foamed slag concrete to apply it to housing in a big way, and who had the courage of his convictions to experiment with that material at a time when anything but brick for houses was taboo.

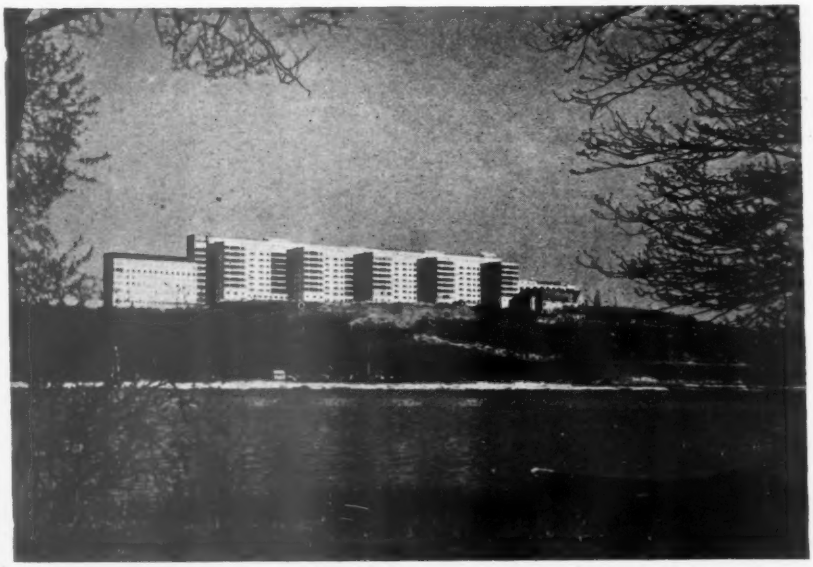
*

He first applied foamed slag in a block of four houses cast *in situ* at Carntyne, a suburb of Glasgow, and after watching these buildings carefully for over a year he recommended to the Corporation the use of the material in a large housing scheme of 1,300 houses. It was not an easy job to obtain the Corporation's consent, but eventually the decision was carried.

*

The war frustrated this scheme after all the preliminary work on roads and sewers had been completed, but neither Mr. Ferrie nor his colleague, Mr. Kerr, were discouraged. During the war they have evolved a system of prefabrication in foamed slag concrete which is likely after the war to be a great help in easing Glasgow's serious housing shortage by rapid building.





The new General Hospital in Stockholm opened this year, described by Astragal on the facing page. Above, a general view from the south-west. Top, a room in one of the wards. No room contains more than 4 beds.

POETS' CORNER

from

PUBLIC FUTILITIES LTD.

To the Editor: A.J.

Dear Sir, we find it hard to understand
(While wishing to be courteous and patient),
The disagreement with our scheme to hand
For building Durham Power House on land
Fronting on and usefully adjacent
To the Cathedral, as at present planned.

We have, however, other schemes in mind
For which we trust there will be less objection;
For York some giant gasworks are designed
To go before the Minster and behind,
While for Canterbury we conjecture the erection
Of some oil tanks, the very largest kind.

At Salisbury our sewage scheme is based
Upon an eminently practical proposal
For dumping in the Cloisters all the waste
Within a cesspool in the Gothic taste;
Where else, we would inquire, could such disposal
Be cheaply and conveniently placed?

Our plans for Chichester and Lichfield comprise
Radio aerials fastened to the spires;
For Ely, Wells, and Gloucester we advise
Transformer stations of a modest size
Beneath the crossings or inside the choirs,
Treated, of course, with suitable disguise.

And now, Sir, since your attitude toward
Most Reconstruction schemes has been defined,
And since, Sir, progress cannot be deplored,
Will you with pen take up for us the sword?
Yours faithfully, Aedificabus Blind.
(Secretary to Cathedral Gadgets Board).

ASTRAGAL

LETTERS

ROBERT A. FORD, F.I.A.A. & S.

HERBERT TAYLER, A.A., DIP. (HONS.), A.R.I.B.A.

DAVID J. GREEN, A.A., DIP., A.R.I.B.A.

PERCY J. WALDRAM

Farm Cottages for Lothingland R.D.C.

SIR,—The Journal for July 27 has an article on page 57 recording the Lothingland R.D.C's protest against the high cost of building four of the (Government sponsored) farm-workers' cottages. This cost, £1,300 for each cottage, is very disturbing and fills one with apprehension. Lothingland is not an isolated instance of these high costs, and it appears that builders are taking them as a basis for current building work, with the result that private clients are staggered at tender figures.

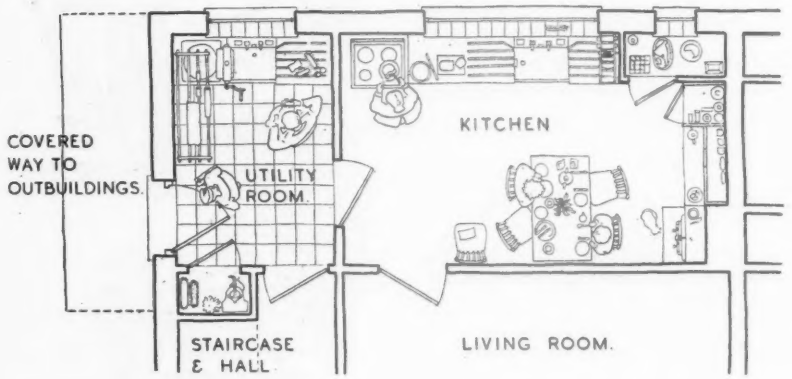
Within the past month I have had tenders in for farmworkers' cottages for private clients, £10 per annum MOH subsidy sanctioned; alterations and improvements to existing cottages, £100 MOH grant sanctioned, and a transport catering café improvements. None of this work is proceeding, as the clients say they cannot face the loss of their capital, and I agree with them.

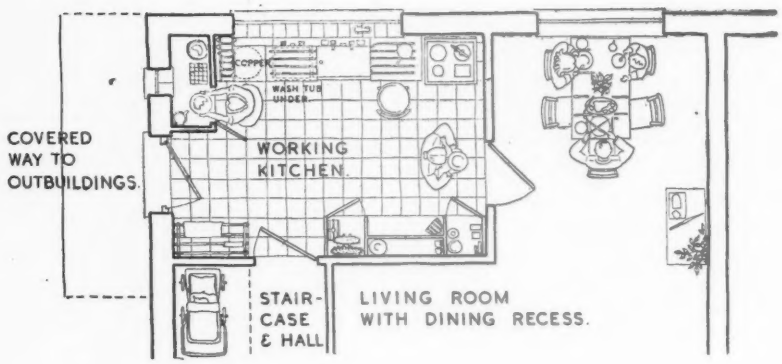
I may be wrong, but it seems to me that the Government's policy of having the promised 3,000 cottages erected by Rural District Councils and scheduling them as Emergency Building Work has something to do with these abnormally high building costs, and there is no blinking the fact that they are abnormal.

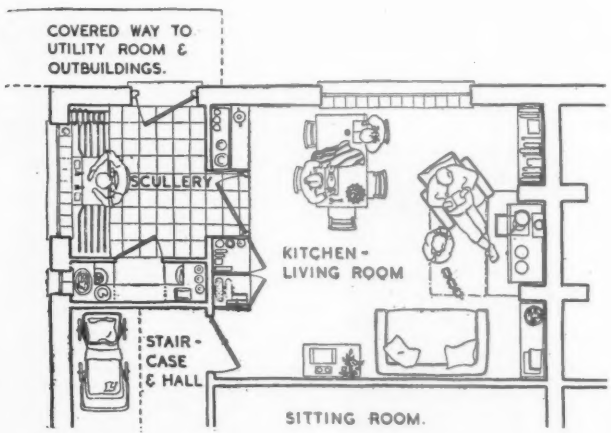
Paragraph 149 on page 32 of the Ministry of Health's recent publication, *Design of Dwellings*, indicates that I am not the only one who is disturbed, and, as this paragraph states, there is no doubt that very little building work can be done unless by some means building costs can be brought to bear a reasonable relationship to the general cost of living.

Can you suggest any line of action? If nothing can be done, clients who have

GROUND FLOOR LAYOUTS







Three alternative suggested arrangements for the division of the ground floor for a two-storey, three bedroom house with accommodation for five persons published in Design for Dwellings, ***the report recently issued by the Dudley Committee for MOH*** (*HMSO*, 1s. 0d.). ***The minimum aggregate area in each case is*** 330 ***sq. ft. In the top arrangement, dining space is included in the kitchen. In the centre, laundry arrangements are in the kitchen, and dining space (which if in a recess should be not less than*** 8***ft. wide) is in the living-room. In the bottom layout, the kitchen and living-room are combined, a scullery is added and the utility room (in addition here to the*** 330 ***sq. ft.) would be in the out-buildings. Some general points are: the living-room should not be less than*** 10 ***ft. wide between chimney breast and opposite wall. The fireplace should not be built in the corner of the room. The hall should be large enough for hanging coats, etc., and for a pram. The staircase should not have winders, and hall, landing and staircase, should allow for the easy moving of furniture.***

work to be put in hand will be frustrated and the outlook for the private architect very uncertain.

ROBERT A. FORD.

Hereford.

SIR,—We wish to correct some inaccurate information, published in your Journal for July 27, about four farm workers' cottages erected at Blundeston, Suffolk, for the Lothingland R.D.C.

The houses are reported, via *The Daily Telegraph* and the Rector of Blundeston, as costing £1,300 each, *exclusive of the cost of land*. We designed the houses, and give the following facts:—

The contract cost per house is £1,008 *including land*, fees, water supply, septic tanks and site works. As you know, MOH instructed that all tenders for the 3,000 agricultural cottages were to be based on local wage rates, and to exclude the cost of transporting workmen. Labour is very short in Lothingland, and consequently men had to be transported daily from Norwich, a more highly rated area. The cost of this will probably amount to about £200 per house by completion, making an all-in total of £1,208.

Furthermore, these houses are by no means the most costly in the programme as is implied. Many others which we have personally inspected have cost more and offer far less in the way of amenities.

We have taken great pains to improve upon the MOH standard plans and specification, improving amenity and at the same time effecting some remarkable economies by more sensible construction and planning. Housing experts, including Mr. T. B. Oxenbury, the County Planning Officer for East Suffolk, have been much impressed by these houses.

What then was the purpose of the Council's protest? Simply to draw attention to the inadequacy of the Government grant towards the cost. Some other Councils have decided to charge a low rent, meeting the difference between this and the economic rent out of their own funds. Rents are therefore no guide to the cost of the houses.

We are sure that a progressive paper like *The Architects' Journal* would not knowingly wish to hinder the cause of, may we say, progressive architecture (and architects) by reprinting sensational but untrue snippets of news from the daily papers; or be classed in the same category as Haw Haw, who has we understand discussed this item at some length.

The Rector has since withdrawn his statement about the cost, but this has evidently not been considered amusing enough for anyone to publish. No doubt to achieve further publicity we should have to arrange a murder in the parlour or possible a visitation from David Copperfield's ghost from the famous rectory nearby.

HERBERT TAYLER.
DAVID J. GREEN.

Lowestoft.

The Sky Factor Value of Windows.

SIR,—In your issue for August 17 (page 130), your reviewer states that "Mr. Waldram has frequently modified his well-known method of daylight analysis by computing window data and putting it in tabular or graphical form."

May I be permitted to point out that the method has never been modified, but remains as first published in 1923.

Devices for extending its sphere of usefulness and simplifying its application to practical problems in fenestration can scarcely be described as modifications.

PERCY J. WALDRAM.

London.

★This supplement started out with a series of articles on the groundwork of physical planning. Now that chances of realization are drawing near, it will try to record notable developments in theory and practice so that they may be assessed in relation not only to other aspects of physical planning but to the whole picture of national reconstruction.

PHYSICAL PLANNING SUPPLEMENT

Above is an air view of the City of London in 1935, showing the roads converging on the space before the Bank of England, the Royal Exchange and the Mansion House. This is the centre of the banking zone—the financial heart of the Empire, where land values are the highest in Britain. In the following article, the first part of which was published last week, the author, H. J. Crone. P.A.S.I., A.M.T.P.I., points out that a solution of the problem will only be found in a system which takes account of social values, There is no doubt that unless a way is soon found out of the present deadlock created by distorted land values, the whole progress of planning in Britain will be obstructed.

LAND VALUES

by Henry J. Crone

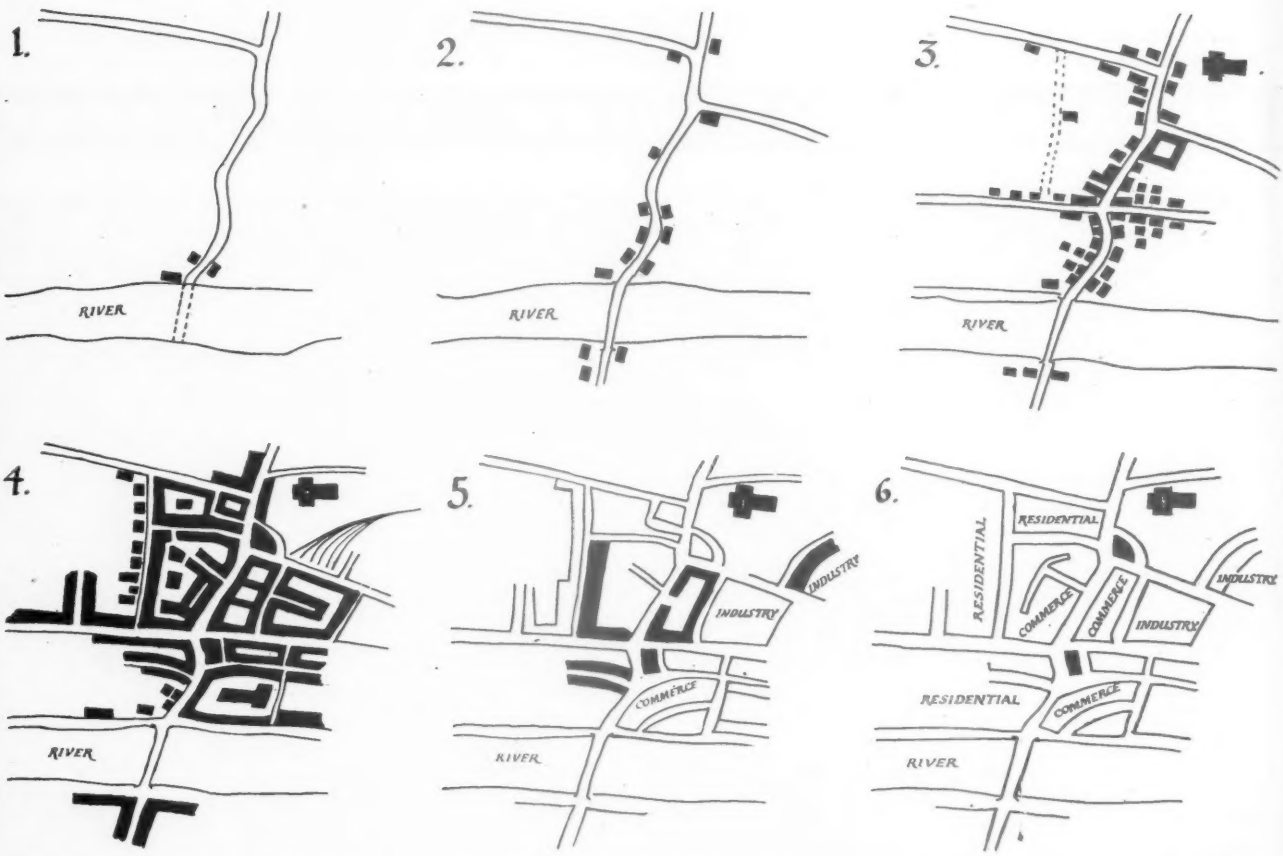
Part Two—Social Aspects

In a previous article I drew attention to the fact that we are in a transitional period where the old scale of values is giving way to a new social scale of values. Previously, and even yet, the value of land is considered according to the rent it can yield to whoever owns it; in the future land will be valued according to its importance to the social well-being of the community. There may be many more aches and pains before the transition is complete, but it is most certainly taking place.

The physical planner is in a unique position to control and direct this tendency. His interest in planning must come from a keen interest in his fellow men, and if he is a planner in the full sense that interest is already directed toward improving their lives by providing a better stage on which to play them. Provided he faces up to the realities of the area and still keeps his vision undimmed, he can so canalize future development that the upward surge of humanity is accelerated in that area over which he presides.

How can the planner do this? There are five heads to that answer:—

1. Values must be plotted, analyzed and their significance understood.
2. The ultimate scheme as visualized must be studied against what exists to find the points of divergence and how values will hinder their solution as straight planning problems.
3. The steps to convert the existing lay-out to the ideal must be studied and worked out in detail.
4. The stages of 3. must be estimated in terms of both cost and return in amenity.



The sketches above show (1—4) the stages of land development which have led to the present state of land values and (5—6) the author's proposals for the first two stages of a solution to the land values problem, based upon a community concept of best land use. (1) is the plan of a fishing settlement near a ford. Land being almost unlimited has little or no value. (2) when a bridge is built the area becomes important as a river crossing and traffic is attracted. A town begins to grow and land values rise. (3) the town becomes a trading centre. A cathedral is built. More and more people are attracted to it and land within its boundary is guarded closely by the owners. (4) increased values lead to intensive development of every site and industry is spattered wherever it can find room. The narrow streets remain hemmed in by high values. The centre is left to commerce, industry and those too poor to escape from the old and now badly situated houses. (5) by zoning for industry and commerce the areas shown shaded are released for redevelopment and the claims for compensation can be pinned down to specific cases. (6) the zoning pattern completed, floating values can be fixed and the new arrangement of values can be tabulated.

5. Temporary compromises between cost and available finance must be made, but in such a way that the ideal is made more, rather than less, possible.

It is in the last three stages that physical planners have a great opportunity. At present certain difficulties inherent in our social system are regarded as impassable obstacles in the path of good planning. These very bogeys can be agents of progress.

the bogies

The first of the difficulties is compensation and betterment, and it would be untrue to imply that this is not a serious obstacle. Its very seriousness, however, forced our legislators to set up the Uthwatt Committee. That Committee have, in their report, provided the means for planners to speed the change-over to a more social consideration of this problem.

The Uthwatt Report rejects nationalization for various stated reasons. Two reasons not stated have obviously weighed with the Committee:—

(*a*) Such a step is not in accordance with the nature of British people.

(*b*) Even if a method could be devised to satisfy (*a*), the time is not ripe for this great change.

The Report does, however, put forward two far-reaching proposals in the acquisition of development rights, and the periodic levy on increases in value. Whether or not these proposals become law, if the planner brings out in his analytical surveys how far they will help toward a better use of the land, he will win support for both the proposals and for his scheme.

It is possible, if values are plotted, to show that planning which improves an area redistributes value but does not destroy it. That in turn will show clearly that:—

(*a*) Certain changes are due to community action.

(*b*) That value in the form of rent which is lost by the creation of open spaces is offset by better living conditions, which in turn improve the value of other parcels of land.

(*c*) It will demonstrate in a realistic manner that values are re-distributed, not destroyed, and that therefore the amount of compensation due must have caused an equal amount of betterment within the area.

When studied in conjunction with the other bogey, the pattern of ownerships, this will bring out a very significant fact which is, that so long as private enterprise has a monopoly of profitable land transactions and the state or local authority is left to handle the non-profitable transactions, compensation will exceed betterment; this is inequitable, since betterment does follow the non-profitmaking land uses such as roads, sewer way-leaves, public gardens, etc.

The answer, if community well-being is to be achieved, is

that we must either have State-owned land, or the landowners and users must together finance—by payment of betterment—those non-profitable uses which produce a return in kind but not in cash.

laying the bogies

By establishing the facts to prove the above, the physical planner will make people much more conscious of the interdependence of land parcels. Through time it will be seen that using land rightly is more important than the possible profit and, as people grow more and more aware of these facts, the old criterion of value will mean less, while the new conception of land well used will take its place.

This question of ensuring that land is well used is not new. Prior to the industrial revolution landowners, great and small, had a consciousness of social obligations. The percentage of people owning their own homes was relatively greater and yet the friction was much less. To-day few people are conscious of any obligations to the community and the sanctity of individuality has been carried to absurd lengths. At present legislative measures are used as a brake on individual rights, and if the Uthwatt Report is made law and left there, it will tend to establish a bureaucratic control of the environment wherein society and each individual are always at loggerheads.

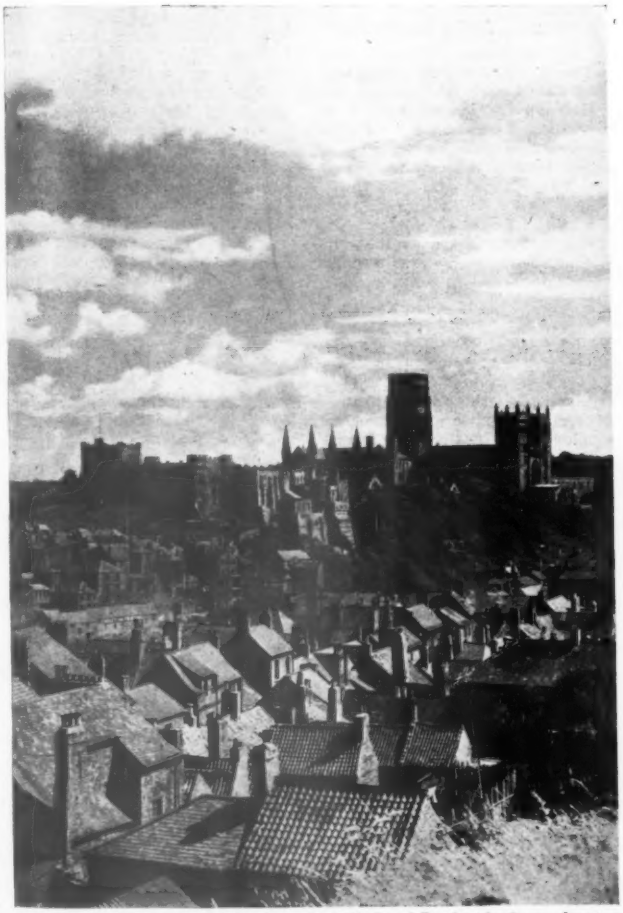
the planner's job

The planner can go much further than mere legislative control. It lies in his power to help people to visualize a new environment; he can demonstrate the possibilities for a fuller individuality by showing that each person grows up best within a family, that the family can only attain full maturity in a balanced community of which it is an integral part. Finally, he can demonstrate that the control of land by isolated individuals and their exclusive rights therein are not an organic development. He can also show how seriously such rights hinder organic growth in a community.

These lessons must be taught if we are to avoid another twenty years of indifferent planning, or its dangerous opposite, regimentation. The planners must take the public into their confidence; they must make a stand for the right answers as such and not as planks in party platforms. They must show the difference between present attempts and the ideal which they know is possible. People must become conscious of the urgency of the planning case so that both locally and nationally opinion will demand planning of a high order.

PLANNER'S SCRAPBOOK

This feature which will appear in the Physical Planning Supplement from time to time will present items of interest to planners from all over the world.



Above is the famous view of Durham Cathedral and Castle, the bone of contention between the industrial developers and the custodians of cultural inheritance.

CATHEDRAL *versus* POWER STATION

the facts

A considerable conflict of opinion has arisen over the planned erection of a new power station on the outskirts of Durham.

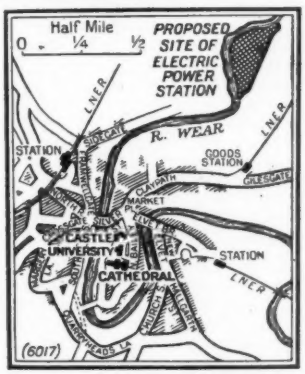
The facts of the case are shortly these : The North-Eastern Electric Supply Company intends to build a generating plant costing £3,500,000, at Kepier, a building complex which would include two chimneys 350 ft. and three cooling towers 260 ft. high. The two existing power stations in the county, Dunston to the north and Norton to the south, are supplying to full capacity already, and a new plant would benefit industrial development in mid-Durham.

The city council regarded the scheme as an important item in the fulfilment of the Government's employment policy, which favours the introduction of new industries into distressed areas. The project was considered to bring great advantage to Durham, for it would create employment in its erection, and the supply of electricity would in fact attract new forms of industry. The stipulation was made, that the building should be designed in harmony with the surrounding landscape, and that the emission of steam should be controlled.

attack

Against this scheme, the Bishop, the Chapter, the University, and the Durham Preservation Society lodged an appeal for a public enquiry with the Minister of Town and Country Planning. The contention was that the new power plant would seriously impair the amenities of the city and ruin the view from the railway of the cathedral and the castle, which has hardly a rival in Europe.

The appeal was given further strength by a series of utterances from sources outside Durham, which voiced national concern over the matter. The Master of Trinity, G. M. Trevelyan, writes in a letter to the Editor of *The Times* of July 14 : " . . . During the war great depredations have been made for military purposes on many places that were being preserved for beauty, some by the National Trust. It was impossible in many cases to raise any objection to the action taken because this war is far more important even than the preservation of beauty. But the Durham case, whatever its merits, is totally different. The proposal has nothing to do with the war, but is an earnest of the postwar planning of the island, in which we are told the State will take a hand. **It is the hope of many that in that planning considerations of amenity and national dignity are to have a place beside considerations of utility. Unless utilitarians are ready sometimes to make sacrifices amenity will go by the board."**



The Times

Above is a sketch plan of Durham showing the site of the proposed power station.

To the point of the amenity destroying character of the new power plant, Mr. Thomas Sharp makes the following observations in a letter to *The Times* of July 24.

" SIR,—Almost all your correspondents on the subject of the proposed power station at Durham base their objection to the proposal on the ground that the building will mar the famous half-minute view from the railway.

"There are other and more important reasons.

"The buildings will be prominent in the view in many parts of the city. They will be seen from the Palace Green, for example; and they will be right in the line of the view from the west door of the cathedral. They will also figure prominently in the whole series of views from public places on the bowl of low hills that rises just beyond the cathedral peninsula on the south-east, south, and west. These views of the cathedral are at least as fine as that from the railway. But while, in connexion with the railway view, the objection to the power station is that it is competitive with the cathedral at the opposite end of the panoramic view, here the objection is that the view of the cathedral itself will be jeopardized; for from these places the chimneys, and probably the cooling towers, will be seen beyond the cathedral, lifting high above it, sometimes just to one side, sometimes rising grotesquely out of the roof, always confusing and destroying the nobility of its outline.

"What is chiefly wrong with the buildings is their scale in this setting. In some other place they may make a notable addition to industrial architecture. Here they can only be an outrage. It is useless to promise that some distinguished architect will be employed to dress them. Not Michel Angelo himself could fit them into this setting!"

defense

Answering the critics, Alderman J. W. Foster, chairman of the Finance Committee of the Durham County Council, said in a statement to the Council on July 26:

"... The view of Durham from the railway is, without doubt, particularly beautiful, especially if one chooses not to see the slum clearance areas that intervene. **It seems that the conscience of the nation and indeed of the Church, is more easily stirred by the prospect that this view may be marred, than it was by the poverty and despair which before the war ruined the lives of this country's inhabitants and which the project will do something to redress.**

"In the welter of destruction being wrought about us I am not unmindful of the need to preserve from damage those scenes of beauty which escape the ravages of war, nor do I forget that in Durham Cathedral and Castle we hold a part of our national heritage in trust for posterity. One cannot, however, ignore the claims of this generation that we do all in our power to prevent a repetition of the former wholesale unemployment and distress and thereby to restore the economic and social life of the community. This must be the first object in view, for the lives of a million people depend upon the restoration of the industrial balance and prosperity of this county. The power station is obviously a step to this end, for electricity is the life blood of existing industry and especially of the modern light industries which must be established to leaven the basic heavy and export industries of the county.

"By all means let the proposed site be subject to the fullest examination so that if it is practicable an alternative location may be adopted and any possible violation of the view avoided. If, however, the Kepier site is, in the opinion of the experts, the only possible situation, this council must take all steps to marshal its resources so that in the advent of a local inquiry the powerful opposition working both in the open and behind the scenes may be answered by a body of opinion of equal or greater weight, prepared to put the claims of the people of this county to a life of economic security above the claims of those ill-informed critics who view Durham from the railway, or indeed the Cathedral and Castle."

conclusion

If the suggested site should prove the only feasible—fortunately there are many who believe that with the easy transport of electricity alternative sites could be found away from Durham and nearer the coalfields—and if a new power plant is essential to the prosperity of the district, a decision will have to be reached at Durham on issues of more than local significance.

The case of Durham shows the sort of problem that planners come up against when they proceed from the drawing board to operate in grounds that are not virgin, but have a cultural and social case history of great complexity. Responsibilities like these cannot be shouldered by the planners alone, but have to be shared by the community at large. From this viewpoint the appeal for a public enquiry lodged with the MOTCP should be most welcome.

MIDDLESBROUGH SURVEY

Mr. Max Lock, planning consultant of the Middlesbrough Corporation, has initiated a tradition of democratic planning in making the inhabitants of Middlesbrough participate in the planning of their town. He has asked every twentieth householder to give 90 minutes of his time to answer a very full questionnaire on the subjects of occupation, family structure, age groups, desired improvement in home and town, favoured distances between home and work, church, shopping, amusement, etc.

Through the collaboration of the MOTCP he has been lent the services of MOI's Wartime Social Survey organisation to conduct this enquiry. The answers, representing the views of about 14,000 households, are the raw material on which the first stage of the planning work is to be built, and they will form a valuable guide to the formulation of the actual planning proposals that are to follow the civic diagnosis. MOTCP in its turn will find in the enquiry valuable data for planning elsewhere.

Apart from this, Mr. Lock has succeeded in enlistening the help of a large number of citizens, of schoolboys and girls, who are to help with the school census, the traffic census, and the atmospheric pollution survey. Co-operation has been willingly given by all official departments of the town government.

Under these happy circumstances, the plan for Middlesbrough should be something to look forward to. The method could be adopted and improved upon by any town or country district, which regards improvement of its locality not only as an arduous duty, but also as a stimulant to its community life.

AUSTRALIAN EXHIBITION

An exhibition "Houses and Towns to live in," designed by the Architects' Panel of the Housing Commission of Victoria, attracted 25,000 visitors in Melbourne, and is now touring the country towns of Victoria. Its aim is to show that living conditions in the towns are far from perfect, and that they are remediable by public action based on information.

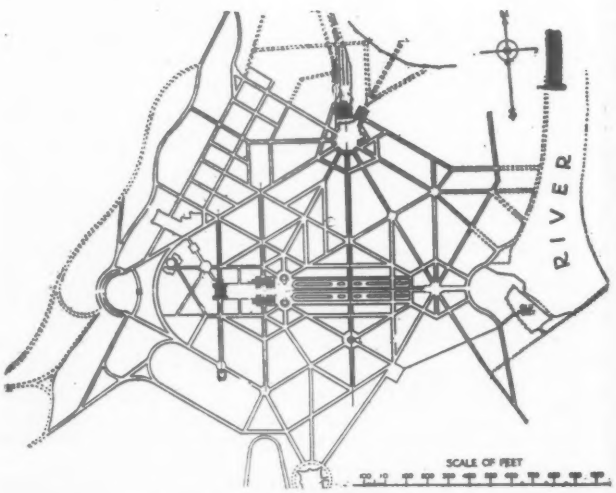
The exhibition sets out to give some of that information, in an ambitious programme which shows the urban scene resulting from unplanned development, as well as suggestions for future planned development. The neighbourhood unit principle is explained,

Above, the Australian Exhibition in preparation. Left to right, Mr. Frank Heath, ARIBA, Member of the Architects' Panel of the Housing Commission of Victoria, Dr. Ernst Fuchs, Eng.D., Chief Architectural Assistant and Mr. C. L. Lipsett.

and demonstrated by a model showing a unit in detail. Other subjects covered are: a functional, regional organisation for Victoria as against the existing administrative boundaries; Swan Hill, Victoria, an existing town replanned; suggestions for the future development of Melbourne with park system and agricultural belt; land subdivision and estate development; a programme for housing, work, recreation and transport; the house of 1946, and the efforts of the Housing Committee of Victoria (constituted in 1938) to deal with the slum clearance problem.

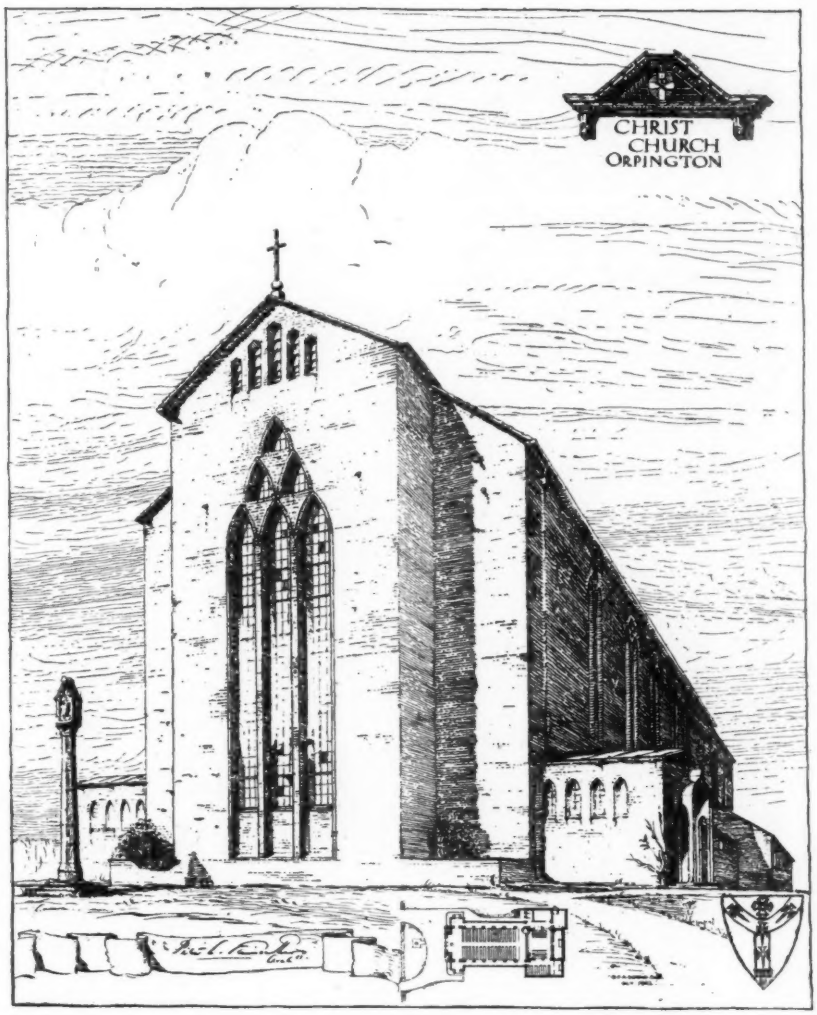
PLANNER'S QUIZ

Can you place this town pattern? Its historical background, the form of social organisation underlying it, the town planning approach employed, the locality?



Answer in the next Physical Planning Supplement.

Right: A perspective by D. P. A. Downs.



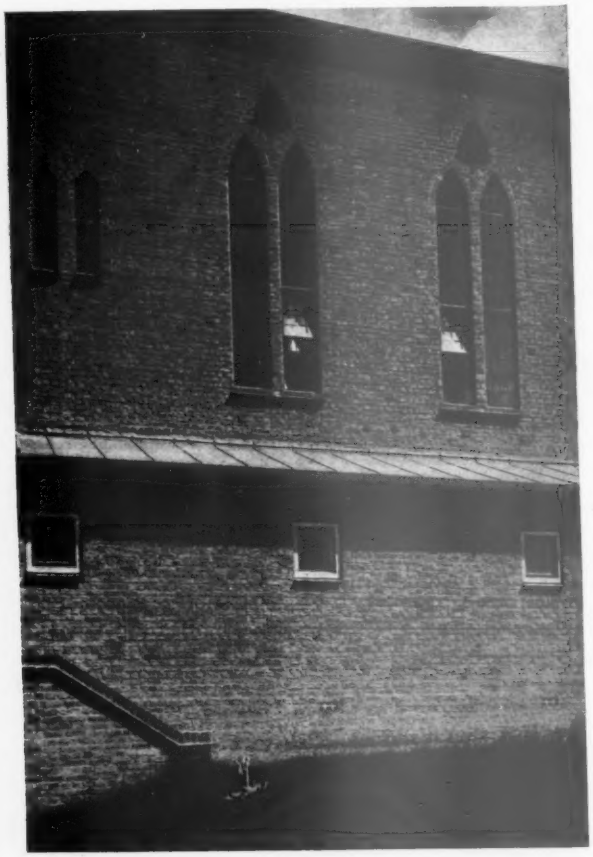
CHURCH

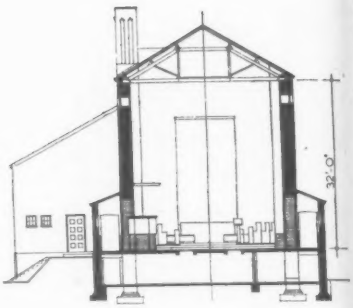
AT ORPINGTON, KENT

BY PITE, SON AND FAIRWEATHER

Christ Church has been erected on a site in Charterhouse Road, on a portion of which a temporary parish hall had been erected previously, space also being provided for a vicarage house later, when funds permit. The ground falls rapidly from the road at the south and towards the north, and this fact led to the departure from the normal orientation. The main entrances being required as near the road as possible, resulted in the chancel occupying the north end of the site. The church is a simple structure of brick with a timber roof carried on queen-post trusses and covered with thick Welsh slates—the line of the roof being carried through from end to end without a break. Funds did not permit any elaboration of detail and, unfortunately, led to some curtailment of the scheme by the omission of one bay of the nave and the baptistry at the road end, the vestries and the morning chapel. Temporary vestries are, however, provided in the space beneath the chancel which later will serve as a useful meeting room. The church is planned as a simple nave with passage aisles separated from the nave by a series of plain pointed brick arches and square piers. All facing bricks were imported from Holland prior to the war. They are full-size bricks of a particularly attractive colour and texture, specials being used for the window jambs, mullions and the simple traceried heads. The interior of the church is finished in a rough textured plaster, and owing to the height and continuous roof treatment, possesses a simple dignity which is most attractive. The internal fittings, comprising the choir stalls, communion rails and table, lectern, etc., are carried out in English oak kept the natural colour. These and the Clipsham stone pulpit

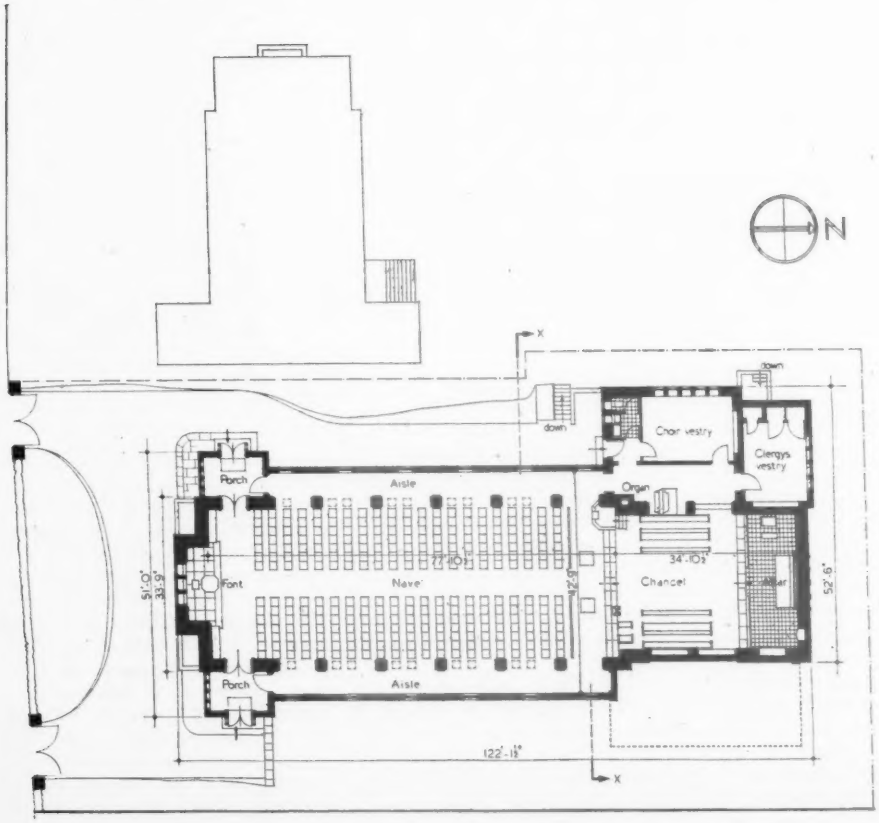
CHRIST CHURCH ORPINGTON, KENT





were executed by the general contractors, Messrs. Chapman, Lowry & Pullick, to the architects' design. Seating is now provided for 300 persons, the ultimate total being 400 when the church is completed. The cost, apart from fittings, approximated £7,000.

For names of Sub Contractors, see page xxxii.



Scale $\frac{1}{16}$" = 1' 0")

scale 10 8 6 4 2 0 10 20 30 40 50 of feet

Top left: a detail of the exterior. Left and above: plan and section. Facing page: an aisle.

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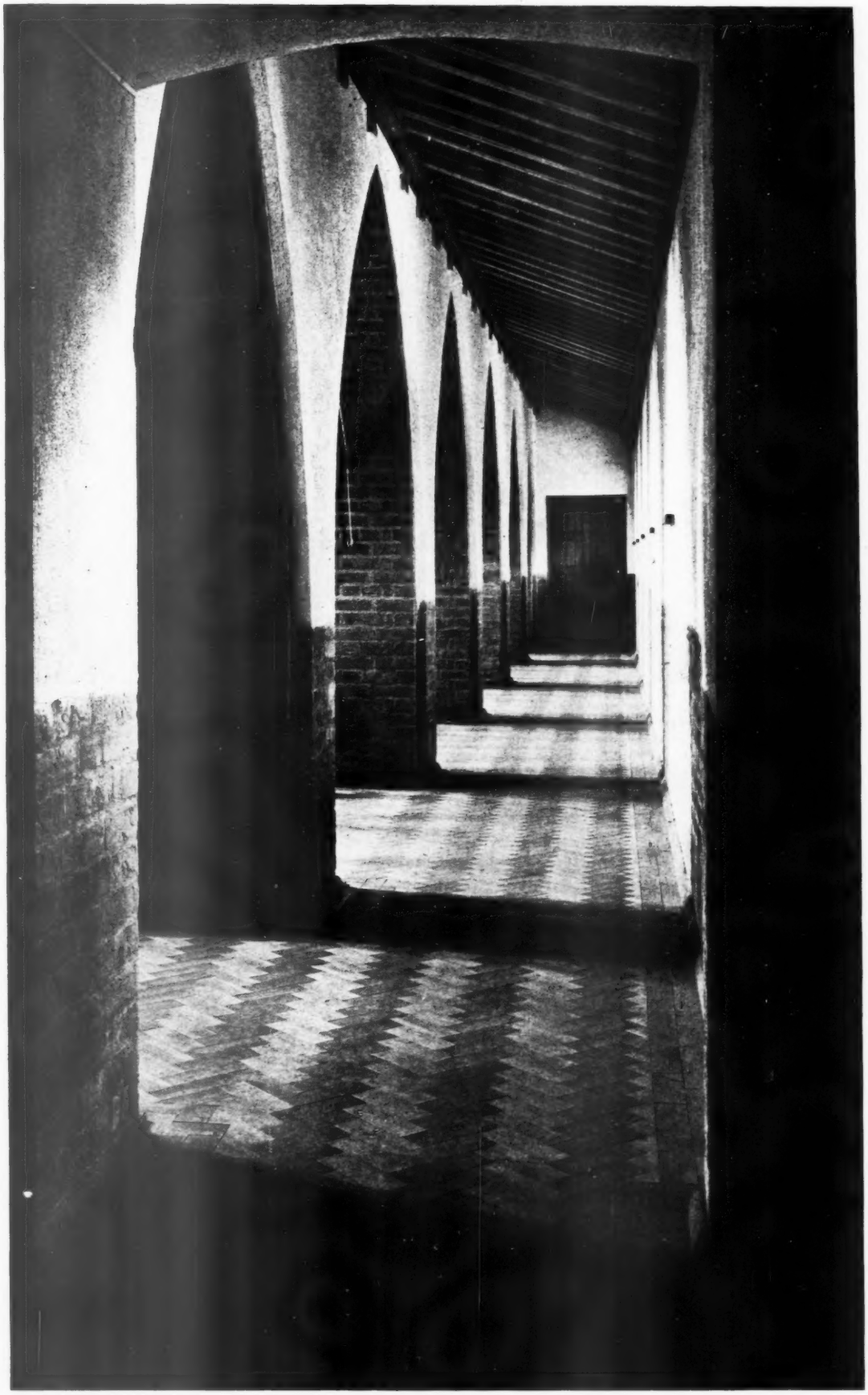


Above left : looking from the chancel towards the altar. Right : a glimpse of the font and nave through one of the arches. Below : the font and two of the arches leading to the aisle.

CHURCH AT ORPINGTON, KENT

INFORMATION CENTRE

The function of this feature is to supply an index and a digest of all current developments in planning and building technique throughout the world as recorded in technical publications, and statements of every kind whether official, private or commercial. Items are written by specialists of the highest authority who are not on the permanent staff of the Journal and views expressed are disinterested and objective. The Editors welcome information on all developments from any source, including manufacturers and contractors.

STRUCTURE

1567 *Aesthetics and Engineering*

A NEW APPROACH TO THE AESTHETICS OF ENGINEERING STRUCTURES. *D. T. Lloyd Jones.* (*Journal of the Institution of Structural Engineers, published lecture, March, May*, 1944, *pp.* 101-114, 197-212.) Aesthetics of buildings governed by specific laws capable of enunciation and of being practised as an applied science. New forms must be rational development of properties of material of construction, and of functional elements of design. Functional concept of structures.

Our age is striving to find a new basic formula for the control of æsthetics. If engineering work is to have its rightful part in it, it must express in structures more than their utility, it must disclose the mind behind the function. Bitter conflict has raged between two rival schools of thought, the Traditionalists and the Functionalists, in which the Traditionalist is the exponent of Art, the Functionalist the adherent to Science. But even Art with all its claims to freedom remains connected with Science. Constructional necessity lies at the root of all design, for no composition can be entirely happy which is insincere from the constructional point of view. In the author's definition " the constructional motif is the manner of use of a material or the distinctive pattern which constructions in it follow, which is dependent on the rational development of its properties." To design intelligently and effectively in any material, one must realise its susceptibilities, must feel its reaction to change of form, in short, must think in the material, as one must absorb the idioms of a foreign tongue or speech if it is not to be a caricature. The constructional motif is also the grammar of æsthetics which gives due place to equilibrium, balance, punctuation, continuity, the repeat, and all the terms the weaver of patterns employs. It is fatal to use the motif of one material in another, such as bold cantilever forms and corner windows, proper in reinforced concrete, in, say, brickwork or masonry. The engineer is first and foremost concerned with the function of a structure, and the idea behind an engineering structure is the expression of its function to the point of becoming an exultation of it. It is not true, however, that functional design will tend to stereotype the æsthetics of structures. The elements of functional design are manifold, there is the greatest freedom in the planning, and in the disposition of the units of construction, to provide endless variety. What must be aimed at is the functional excellence of the unit in its appearance, in which decorative artifices may be used if they are symbolic of function.

Structures fall into two main categories: gravity structures and elastic structures. They must either be framed up with free pin-joints, all members comfortably under their loads in the direct line of stress, in which position they are not required to keep a look-out for compound or secondary stresses, or the greatest degree of fixity possible must be found, which limits the range of deformation and makes the whole assembly more elastic whilst imparting to it a corresponding stiffness.

The connections between all this and æsthetics seem remote until it is realised that " in the philosophy of engineering all sciences are facets of the same fundamental laws from which there is no escape, as every species will react true to type, and will display in outward form its inform characteristics." If engineers will but think in the same way as structures must think and feel they will not go far wrong.

Engineers to-day must feel ready to break out of the prison of traditional buildings, where external walls are load bearing and the strongest part of a structure. In mushroom and umbrella constructions external walls may be regarded merely as weather curtains. Extension in any or all directions becomes an easy matter, and will enable engineers to design many new types of structures reflecting not merely scientific advance but the changing moods and mind of man.

These are only a few thoughts picked out of the paper in which the author approached his subject, which was the common basis of appreciation of beautiful buildings. It is a pity that it was not possible to include in the reprint some of the great number of illustrations which the author showed when delivering his lecture of types of structures which show the functional concept well, or, on the other hand, are instructive by obvious faults.

1568 *Combustible Foundations*

FOUNDATIONS IN COMBUSTIBLE MATERIAL. *W. C. Andrews.* (*The Structural Engineer, February*, 1944, *pp.* 53-65.) Structures founded on substrata containing combustible elements require special precautions. Examples of remedying damage caused by fire in subsoil.

A large number of structures, chiefly industrial in character, are founded on ground containing combustible material and have been constructed without regard to this condition. The dangers are not fully realized. Fires may start either by the nature of the materials themselves or by the addition of heat of industrial processes from above. Many tips formed by the deposit of waste products from collieries and steelworks contain a proportion of unburnt material in the form of coal or other carboniferous products and sulphides. In all tips of this nature a slow but continuous process of oxidation takes place even at atmospheric temperature. The heat generated by this process may be dissipated as fast as it is produced. Under certain conditions, however, the heat produced may exceed the heat transfer causing a local rise in temperature. This accelerates the chemical action so that the temperature rises at an increasing rate resulting eventually in spontaneous combustion. The construction of a building may increase the initial temperature.

In most cases it will be known that the material on a site has been tipped. In addition to the usual investigation of the load-bearing conditions it is necessary to have the material from the borings chemically analysed. If shown to contain combustible elements, further investigation of the temperature of the substrata should take place. Control of temperature is particularly important in the case of buildings in which heat is added to the soil (boilers, furnaces, kilns, etc.).

Apart from the danger of the destruction of buildings by the direct action of fire, a secondary effect is the increase in the void ratio of the subsoil with the consequent reduction in its bearing capacity.

Where there is no sign of incipient fires in the subsoil ordinary piled or raft foundations are suitable. The precautionary measures to be adopted in other cases are based on the exclusion of air from the ground either by enclosing the area by an airtight barrier or by the reduction of the void ratio of the affected parts. For both, the cheapest and simplest method is by cementation.

Many methods have been tried to combat underground fires that occurred under buildings through the neglect of precautionary measures. If the combustible area is small it may be completely removed and replaced by inert material. For larger areas the obvious solution would seem to be the application of water, but unless complete flooding can be achieved over a long period, the application of water will be useless and will ultimately increase the fierceness of the fire. This has been proved by actual trial with large-scale fires. The probable explanation is that the water washes away the fine material and thus increases the void content of the subsoil.

Trenching and sand filling for circumscribing the fire has almost invariably been unsuccessful. The injection of inert materials, such as sand, has cooling and blanketing effect, but if heating occurs again, the conditions are not much better than before the filling.

The safest method is the use of cement grout injected under pressure, either alone or in conjunction with a suitable inert material. In certain cases the entire permeation of the fire zone and its surroundings by the injection of limestone dust is very efficient.

Success in extinguishing underground fires, just as with ordinary fires, depends on the rate at which the materials are injected. Even small fires under boilers can require injections at the rate of several hundreds of tons per week.

In a factory built on a refuse tip and containing a number of high temperature furnaces, the 15 in. thick reinforced concrete floor, cast on the ground, cracked and the steel stanchions began to settle. It was found that a large part of the tipped material had a high combustible content which had caught fire and was extending rapidly. It took 18 months to complete the measures to remedy this state of affairs. Over considerable areas the ground had shrunk away from the floor as much as 9 in. In some borings temperatures up to 280°F. were recorded. Cement or limestone dust injections were the principal remedies used, but in some cases it was thought advisable to underpin the stanchions and support them on piles.

HEATING and Ventilation

1569 *Heating in Flats*

DESIGN FACTORS. *H. Swaine.* (*Heating and Ventilating Engineer, March*, 1944, *p.* 344.) Heating services in flats. Low-pressure hot-water systems with central plant usually adopted. Avoidance of pipe-borne noises. Hot-water storage.

In multi-storey flats, heating, hot-water supply and ventilation services will usually be provided from a central plant. For heating, low-pressure hot-water systems are usually adopted; and the central plant should be capable of maintaining a temperature of 55°F. in the bedrooms and 60°F. in all the other rooms. A small coal, gas or electric fire in the living-room is desired by many people. To avoid pipe-borne noise, no pipe should be common to two flats directly, i.e. it should not pass through a party wall, and solid sites should be chosen for pipe-runs. It is usually best to arrange that the lavatories, kitchens and bathrooms should be vertically above one another; but the bathroom of "A" flat should not adjoin the bedroom of "B" flat. Pipe-sizing and the circulating pumps need careful consideration in order to obviate noise.

Hot water storage may conveniently be zoned, as is done with the mains. If the system is split into vertical sections, the main storage will be at the bottom, with a buffer storage tank of 40-50 gallons at the top. The average demand is likely to be about 20-25 gallons morning and evening; and this is also the probable peak. Storage should be about three-quarters of the peak demand. The actual usage of hot water in any flat can be limited by the use of separate storage and a calorifier with, say, a 3-hour recovery period.

Separate boilers are required for heating and hot-water supply. Automatic firing leads to quieter running, and is easier for thermostatic control. Care is necessary to eliminate boiler noises.

1570 *Insulation*

ENGINEERED INSULATION. *C. O. Mackey.* (*Prefabricated Homes, July*, 1943, *p.* 12.) Economic thickness of insulation. Vapour wall barriers. Heat capacity for walls.

The author points out that about half the heat loss from a house takes place through the walls and roofs and half through the glass and on account of ventilation. It is well known that each additional inch of insulation does not reduce the seasonal heat loss by the same amount, although the increase in cost is more nearly constant. There is therefore an economic limit to the thickness of insulation; and tables are given for this limiting value for a number of American cities, taking into account the cost of the insulation, the heating load and the type and cost of fuel used. (The figures suggest that in England, with insulation costing 6d. per sq. ft., it would be worth while to aim at a heat transmittance coefficient of about 0.15 B.T.U. per sq. ft. per hr. per deg. F.).

Besides the insulation value, other properties are of importance—weight, resistance to water vapour transmission, surface properties and heat capacity. Condensation is unlikely to occur on the inside wall of an insulated house, but may occur within the wall itself. It may therefore be necessary to provide a vapour barrier with some insulating materials. Aluminium primers, flat paint on plaster, asphalt paint on plywood, asphalt-coated paper are good barriers; and they are best applied to the warm side of the wall.

The outer surface of insulating panels should be weatherproof; but as regards the emissivity, the requirements for summer and winter are conflicting. The heat capacity of the wall is important for intermittent heating, and also from the point of view of summer comfort. A table of the desirable heat capacity for different walls for occupancy at various times of day is given, but in general it may be said that for rooms occupied during the day, a high heat capacity is desirable, while a low capacity is wanted for rooms used at night.

1571 *Electricity Supply*

ELECTRICITY SUPPLY, DISTRIBUTION AND INSTALLATION. (*Journal of the Institution of Electrical Engineers, Part I, March*, 1944, *p.* 104.) Report of the Sub-Committee 3 of the Post-War Planning Committee.

The recommendations include:

(i) The extension of 4-wire, 3-phase, 400/230-volt supply as a standard system throughout the country, as part of an urgent post-war National Industrial Plan.

(ii) Agreement by undertakings on a standard length of underground service cable (or equivalent overhead service line in rural areas), which they would be prepared to lay free, is recommended.

(iii) Tenants of farms should be allowed to recover wiring costs from the landlord, as in Scotland.

(iv) The extension of the two-part tariff.

(v) Basic changes in the IEE Wiring Regulations, and their change into a code of basic safety regulations and a separate code of good practice.

(vi) The extension of inspection by undertakings, and the extension of the scope and numbers of BSS dealing with apparatus.

1572 *Coal*

HAS COAL A FUTURE FOR SMALL-SCALE USES? *J. G. Bennett.* (*National Builder, March*, 1944, *p.* 167.) Discusses coal economy of various fuels. 16 per cent. of heat in original coal now used in domestic heating. Technical developments will lead to improvement. Future coal fires will be smoke consuming.

Mr. Bennett states that when either coal, gas or electricity is used for domestic purposes, on the average, at present, some 16 per cent. of the heat in the original coal is utilized. He envisages technical developments in appliance design and coal processing which will lead to a substantial improvement on these figures, and looks forward to future figures of 45 per cent. for raw coal, 33 per cent. for gas and 24 per cent. for electricity. Thus as regards coal conservation, there is nothing to choose between the different fuels at present, and coal should be better in the future.

Solid fuel has the advantage from the point of view of consumer stocking to meet peak loads. The costs of distribution, per therm, are least with coal. Gas and electricity still have advantages in respect of convenience. Future coal fires will probably be smoke-consuming. He concludes that the present balance of consumption is unlikely to change much.

1573 *Coal Processing*

POST-WAR COAL PROCESSING. *G. M. Gill and J. Roberts.* (*Gas Journal, January* 19, 1944, *p.* 82.) Effect of increase in coal processing after the war.

Authors point out that the coal industry sells coal not only to the domestic market, but also to its principal competitors in this field—the producers of gas and electricity. Coal processing may have advantages, and if the coal producers encourage it, it will be at the expense of the house-coal trade (an important source of revenue), and they will not therefore do so unless persuaded to in the national interest. Such encouragement would mean the sacrifice of a valuable market; and a possible solution would be a reduction in the price of house-coal with a corresponding increase in the price of coal to the processing industries. This course might hamper the expansion of gas and electricity. The smoke from raw coal is a great source of waste, and if smoke production were made an offence, the gas industry would be prepared to pay more for the coal it used. The authors argue that the fact that bituminous coal is not smokeless is really a national advantage, since valuable by-products can be derived. They suggest that the use of 1 ton of raw coal provides employment for six men for one day; but if this ton were processed in gasworks, employment would be provided for 11 men. This is claimed to be an economic advantage as is also the reduction of smoke which would follow. The extra employment is created by extracting the smoke-producing constituents from the coal.

Considerations of health, comfort, efficiency, etc., demand the utmost expansion of the gas industry. Coke is used more efficiently than coal, but the price to the consumer should not be appreciably greater than that of coal. If the 35,000,000 tons of domestic coal are to be replaced by coke and gas, an additional 20,000,000 tons of coal must be carbonized. A considerable advance could be secured by extending the large and efficient gas works and by the establishment of a gas grid; no great difficulty in expansion would then arise. The task of replacing the whole of the domestic coal with smokeless fuels has no technical difficulty: the greatest obstacle lies in the conservatism of the masses. Legislation to encourage the use of smokeless fuels would be of assistance, when it can be demonstrated that the demand can be met without hardship to the consumers. Increased carbonization would also make a useful contribution to our fuel oil requirements and to the raw materials for the plastics industry.

1574 *Use of Heating Systems*

LESS FUEL V. COMFORT. *M. F. Blacktin.* (*Heating, Piping and Air-conditioning, October*, 1943, *p.* 547.) Points to note in getting best out of existing heating and hot-water supply systems. (Also largely applicable to new equipment.)

1575 *Control Systems*

AUTOMATIC CONTROL FOR HEATING AND VENTILATING PLANTS. *J. Brown.* (*Air Treatment Engineer, March*, 1944, *p.* 34.) Briefly discusses characteristics and uses of various types of control systems for temperature and humidity.

ACOUSTICS and Sound Insulation

1576 *Sound in the Cinema*

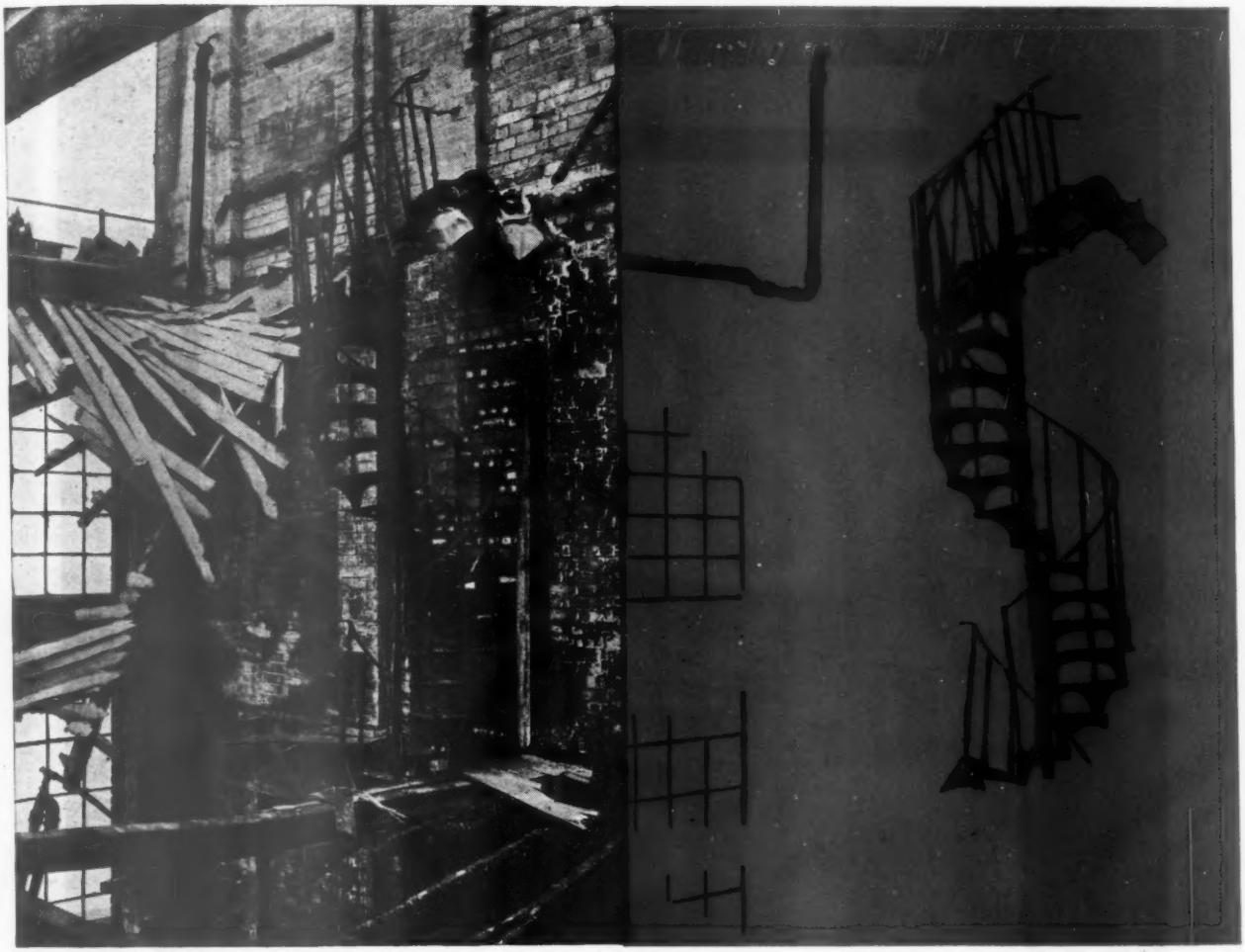
CINEMA SOUND QUALITY. *J. Moir.* (*Wireless World, November and December*, 1943). Design of the Cinema and its relation to quality of reproduced sound.

The work of the author and his collaborators has as important a bearing on cinema design, and the design of other auditoria, as any acoustic work in recent years. His main point is that the quality and intelligibility of reproduced sound (and presumably of direct sound) is found to depend substantially on what is heard in the first few milliseconds rather than on the whole sound and its reverberation. The length of reverberation, which for many years has been a guide to designers, has several times been shown to be far too rough a guide to produce good design, though it may avoid some of the worst results. Its weak point is that it tells nothing of what happens between the beginning and end of a sound. The present author describes a new method of analysis by which it has been possible to examine more carefully those aspects that affect quality. In the main they are:—

(*a*) The direct sound and the main reflections must come from roughly similar directions.

(*b*) No reflected sound paths should exceed the direct path by more than 45 ft.

The author discusses the effect of these points on design, and illustrates good and bad cases which he has examined. The design suggestions merit most careful attention on the part of architects.



This is the result of a pre-war fire

Why did the staircase and drainpipes survive?

A fire-resisting material?

These are the things that survived

Because they were made from an old, tried, trustworthy material that's as modern as anything produced by the laboratory this century.

More than that — a material that not only resists heat, but has greater resistance to corrosion than either wrought iron or steel, and has vast strength in compression.

IT MUST BE A CAST IRON PROPOSITION— IT IS

THIS IS ONLY ONE OF THOUSANDS OF PROOFS THAT

CAST IRON CAN TAKE IT

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1577 **Plague of Moths**

Q *A client of ours closed his house at the outbreak of war. He subsequently made arrangements for storing a lot of clothing, bed linen, etc., in one large room which was afterwards shut up. This particular room has recently been entered and is found to be completely covered with moths, with most of the clothing destroyed and the moths so prolific that they are even found in open joints in the floor boards, etc. Would you kindly advise us as to the best method of destroying this plague?*

A The first and obvious treatment is to remove and burn any articles which are no longer of value.

For treatment of individual articles, any of the following are efficacious:—

1. Turpentine used as a spray will kill all stages of moth with which it comes in contact and will act as a deterrent for some time, but it may stain fabrics or cause colours to run.

2. Paradichlorbenzene can be used as a fumigant providing the temperature of the room in which it is used is kept at or above 70°F. Paradichlorbenzene crystals (about 2 or 3 pounds for an armchair) should be crushed as finely as possible and scattered freely over the surface of the article and into crevices, etc. The article should immediately be covered up tightly with a number of blankets or similar coverings to prevent the fumigant from diffusing. In the case of a chair or similar article the blankets should reach the floor with an ample margin on all sides. The article should be left in this condition for several days.

3. Baking for three hours at a temperature of 140°F.

4. Cold storage. This takes time and is probably not practicable at the present time.

For the treatment of a complete room, fumigation is the best method. Rock sulphur can be burnt in shallow tins at a rate of 6 lb. to 1,000 cu. ft. of air space, or 1 lb. and ½ lb. candles can be used. Water should be placed below the burning sulphur to minimize fire risks. The room should be tightly sealed and should remain so for 24 hours. This method is liable to bleach fabrics and wallpaper and to tarnish metals.

An even more effective fumigant is hydrocyanic acid gas, but it is a deadly poison and must only be handled by experts.

1578 **Small Theatres**

Q *Can you recommend any book or books which deal with small theatre practice?*

A We would recommend the following books and publications:

The Architect and Building News, February 14, 1936, p. 216: *The Arts Theatre, Cambridge*, by G. L. Kennedy and F. B. Nightingale.

The RIBA Journal, December 20, 1937, p. 180: *The Scene Designers' Requirements in Planning Small Stages for Play Acting*, by Richard Southern.

The Architect and Building News, January 25, 1935, p. 134 *The New A.D.C. Theatre, Cambridge*, by H. Tomlinson & W. P. Dyson.

Stage Setting for Amateurs and Professionals, by Richard Southern (Faber & Faber).

Planning and Lighting the Stage in Small Halls and Little Theatres, by C. A. Wilson & C. H. Ridge (The British Drama League).

SOCIETIES AND INSTITUTIONS

Speeches and lectures delivered before societies, as well as reports of their activities, are dealt with under this title, which includes trade associations, Government departments, Parliament and professional societies. To economize space the bodies concerned are represented by their initials, but a glossary of abbreviations will be found on the front cover. Except where inverted commas are used, the reports are summaries, and not verbatim.

MOTCP

Site Layout

The following is a précis of the REPORT OF A STUDY GROUP OF THE MINISTRY OF TOWN AND COUNTRY PLANNING ON SITE PLANNING AND LAY-OUT IN RELATION TO HOUSING, which is included in *Design of Dwellings*, reviewed in this week's leading article (HMSO, 1s.).

HOUSING AND PLANNING

The establishment of a right relationship of houses to each other and to their environment, is as important as the provision of dwellings which are good in themselves.

In considering the housing needs of a particular area, therefore, regard must be paid to the conditions of the region or district of which that area forms a part, and must be based on an adequate survey.

(1) *The internal redevelopment of existing towns.* Here, unquestioned acceptance of the old pattern as the basis for the new is likely to perpetuate central congestion and bad development.

(2) *The extension of existing large towns.* Serious consideration should be given to the preservation of green belts or wedges as a means of limiting the continuous growth of existing large towns. The preparation of short-term housing programmes without reference to a regional survey, will merely encourage continuous and unrelated growth.

(3) *The creation of new towns.* The creation of satellite towns should be considered where there is economic justification for them.

(4) *The extension of existing small towns.* Where this takes place great care should be taken to plan the old and new development so as to produce or preserve a sense of community.

In general, planning schemes should restrict the area to land immediately available for housing, to a total more proportionate to need, and should aim at promoting houses of *all* types, where required.

NEIGHBOURHOOD PLANNING

The sense of forming part of a recognizable community or neighbourhood is essential to the well-being of the town dweller, but during the last century or more of rapid town growth, this sense has largely been lost. It can be, to some extent, restored by the creation of neighbourhood units, the ideal population of which should not normally be greater than 10,000 living in an area where every house is easily accessible to the neighbourhood centre. The density of such units will vary according to the nature of the development, from 30 persons per acre in open development areas to 100 persons per acre in the central areas of large cities. Within the neighbourhood a variety of dwellings should be provided so that the neighbourhood is made up of several minor groups of development. A desirable size for a minor group would be 100-300 families. Flats should be placed next to open space and near the neighbourhood centre. Accommodation for single and old people should be in a similar position. Open space should be disposed in close relation to the dwellings, so that the park pattern would also provide a system of safe pedestrian ways. Some open space should be sited on the fringe of the neighbourhood. Primary schools and nursery schools should be near to the centre of the residential area they serve, while secondary schools may be sited on the outskirts. Every house should have shops within a quarter of a mile's walking distance.

A table is included in the report giving the suggested minimum land areas required for different purposes for neighbourhood units at varying densities.

The Report discusses the relationship between building densities and desirable standards of space about individual buildings, and suggests that in future more scientific measures of density planning will be necessary.

ROAD LAY-OUT AND PARKING

Both exaggerated "landscape" lay-out of streets which curl in imitation of country-byways and rigidly geometric lay-out in which the sensible use of land is sacrificed to the creation of patterns which cannot be appreciated except on paper or from an aeroplane, should be avoided. Within a general rectangular form it is possible to include much diversity. It is unsatisfactory to design a road pattern and then fit the necessary buildings to it. The buildings and their approaches must be thought of together. Various types of lay-out, including the cul-de-sac, loop-way and the square, deserve more consideration than they have had in the past. A variation worthy of notice is one in which the houses may have a much smaller individual garden which abuts on to a communal garden.

England has already more cars in relation to road mileage than any other country in the world, and provision for car-parking should therefore be on a generous scale. Not all the land reserved for this purpose will need to be brought into immediate use.

ARCHITECTURAL FORM

There are greater architectural opportunities in houses in terraces than in semi-detached blocks, though the Report recognizes that the semi-detached and detached types of houses have advantages. The important thing is to secure good grouping, including large-scale grouping, so as to secure either a harmonizing or a carefully-

designed contrast of form and material. In future, provision of garages for *all* types of houses must be considered.

"Probably the greatest individual obstacle to the creation of successful urban landscape effects in domestic streets is the obiquitous front garden wall or fence," says the Report. It is recommended that wherever possible this should be omitted, at any rate where development is continuous.

RIBA

Council Minutes

The following are notes from the Minutes of the RIBA Council.

Appointment of Hon. Officers and Committees for the Session, 1944-1945 : The following Hon. Officers were appointed :— *Vice-Presidents :* Mr. T. Cecil Howitt, D.S.O. (Nottingham), Mr. Stanley C. Ramsey, Mr. A. Leonard Roberts (Winchester) (Chairman of the RIBA Allied Societies' Conference), Mr. J. Hubert Worthington, O.B.E., M.A. (Arch.) (Manchester). *Hon. Secretary :* Mr. Michael Waterhouse, M.C., B.A. Oxon. *Hon. Treasurer :* Mr. L. Sylvester Sullivan. The Council also appointed Committees for the Session 1944-45.

Appointments : British Standards Institution: Committee on Concrete Floor Tiles : Mr. Harold E. Moss (F). *RIBA Representative on Ministry of Works Committee on Standardisation of Materials for School Buildings :* Mr. P. W. Hubbard (F). *RIBA Representative on Executive Committee of National Baby Welfare Council:* Mrs. K. W. Farms (A). *RIBA Representative on National Council of Women of Great Britain: Housing Sectional Committee:* Miss G. W. M. Leverkus (F).

Income Tax on Subscriptions and Retention Fees : On the recommendation of the Salaried Members' Committee, the Chartered Surveyors' Institution is to be invited to join the RIBA in submitting a considered case to the Board of Inland Revenue with the object of securing a rebate on the payment of all salaried members' subscriptions and registration retention fees, a concession which has hitherto been granted only to private practitioners.

Relationship between Men's and Women's Salaries.—The Council approved a recommendation from the Salaried Members' Committee that representations should be made against the present practice of subjecting the salaries of women architects in Government service to a 20 per cent. cut, grade for grade. The attention of the Treasury is accordingly to be directed to the fact that Clause 7 of the Notes appended to the Institute's Scale of Annual Salaries for Architects stipulates that the Scale should apply irrespective of sex provided that the duties, responsibilities and services rendered are identical, and that the Institute strongly support the principle of equal pay for equal work.

Obituary : The Acting Secretary reported with regret the death of the following members and students : Charles Saunders (Retd. F), Cecil Alexander Sharp (Retd. F), Herbert Lionel Thornely (Retd. F), John Edwin Yerbury (Retd. F) (Mr. Yerbury was a past member of the Council), John Nigel Grey Bruce (A.) (Killed on active service), Willie Wrigley (A.), Ernest Alfred Dakin (L), Paul Marcel Dorkins (Student), Eric Williamson (Student) (Killed on active service). Messages of sympathy have been conveyed to their relatives.

BBC

Liverpool Cathedral

July 16, on the BBC Home Service. Talk, FORTY YEARS A-GROWING, on the building of Liverpool Anglican Cathedral, in connection with the thanksgiving festival held the same day in the cathedral to celebrate the 40th anniversary of the laying of the foundation stone on July 19, 1904. Taking part in the talk were Canon C. F. H. Soulby, the Dean's Proctor; Colonel A. C. Todd, Chairman of the Building Committee; Owen Pittaway, Clerk of Works; William Meredith, foreman mason; the recorded voice of Sir Giles Gilbert Scott, R.A., the architect of the cathedral.

C. F. H. Soulby : Forty years ago next Wednesday, July 19th, the foundation stone of Liverpool Cathedral was laid by King Edward VII. Forty years a-growing, and it will need another 15 years at least for its completion.

Fifty-five years seems a long time—but Liverpool Cathedral will be the fourth biggest church in Europe. Only St. Peter's, Rome, Seville and Milan are larger.

The other day a girls' school party was shown over the building.

One little girl, writing afterwards a letter of thanks, said: "When I looked up into the great space I felt like a shirt button on the floor."

But the vast interior never looks gaunt and cold. The red sandstone of which the Cathedral is built is warm and "generous."

And when the organ floods it with sound, we find it beautiful for music. It has the largest organ in the country, one of the largest and finest in the world.

On that memorable day, July 19, 1904, every one in the crowd must have remarked on the youthfulness of the architect, now Sir Giles Scott—he was only 21 when chosen—the youngest ever to begin building a cathedral.

I'm sorry he is unable to be with us to-day, but a recording was made this past week and this is what he said:

Sir G. G. Scott : To be engaged upon the erection of one building for a continuous period of 40 years must fall to the lot of few architects. Fortunately, I started my professional career with Liverpool Cathedral, and it is more than 40 years since I first began on the Competition Drawings for the building. In this long period I have naturally had many opportunities for reconsideration and revision, and the design as now built bears no resemblance to the design that won the Open Competition in 1902.

It has all been a thrilling experience, full of interest and even excitement. I think the most exciting moments are those when the time comes for the removal of builders' scaffolding. These obscure all view of the parts covered, and their removal in a comparatively short time gives one's first general view, with all the joys and disappointments associated with all art.

The main portion of the building now existing, which, by the way, consists of only about three-quarters of the completed design, was built in two periods, with a temporary wall dividing the two portions. This allowed the first portion to be used, while the second one was being built. The removal of this temporary wall, thus throwing the two parts into one vast whole, was another most thrilling moment.

The length of time spent upon the erection of the Cathedral has enabled me to draw with my own hand every detail of the building. Many people do not realize that an architect has to supply to the builder drawings of all mouldings and carved details, drawn full size. When the size of this building and the elaborate nature of some of its parts are realized, it is surprising, even to myself, that I have had time to do it all, but one can do a lot of drawing in 40 years. The area of paper I have covered must be staggering; the size of some of the drawings necessitates their being drawn on the office floor; it is fortunate I have not developed housemaid's knee.

Although, as I have said, the design has been continually revised, it has always possessed certain characteristics, one of which was aptly described recently by an American officer, who called it Space Gothic. What he meant can be understood by anyone standing inside the building and looking around, when he will see only wall surfaces, with no rows of detached columns and arches forming the open arcades usually found in cathedrals and churches. Why I adopted this treatment I do not know, except that I like vast modelling of surfaces. I doubt if any artist uses his conscious reasoning—he obeys a sub-conscious urge, feels rather than thinks his way forward.

A cathedral presents a problem differing from most that an architect has to solve. The practical requirements are few and simple, but appeal, both æsthetic and emotional, in the best sense of that much abused word, is an essential requirement, dominating all others. Whether Liverpool Cathedral provides that atmosphere which it has been my main object to create, I do not know, but I do feel that this is more important and fundamental than questions of architectural style that seem so important to some people. Architectural styles come and go, but the fundamental qualities of art are common to all styles. Whatever may be its qualities, the decision to erect such a building is remarkable for what we look upon as a materialistic age, and it might well be said that this building gives expression to the strong spiritual forces of human nature which cannot be repressed. I like to think of Liverpool Cathedral as one of the first buildings of a new age—an age which we hope and believe will bring a higher appreciation of non-material values.

C. F. H. Soulby : On Wednesday next, the actual day of our 40th anniversary, the great veteran of the Cathedral Building Committee, Sir Frederick Radcliffe, will look back on a unique work, that of raising funds, and of interpreting to the Committee the architect's ideas and what the building of a cathedral means. His successor as Chairman is here with us in the studio, Colonel Todd.

A. C. Todd : I'll go right back to the beginning. The See of Liverpool was created in 1880, and shortly afterwards the first move to build a Cathedral was started. An Act of Parliament for its establishment was passed in 1885, but subsequently the proposal was postponed.

In 1900 Dr. Chavasse was appointed the second Bishop of Liverpool, and in 1901 the Cathedral Project was revived. A further Act of Parliament was obtained in 1902, and these two Acts established the Liverpool Cathedral Committee as the authority for erecting and endowing the building and for securing funds for these purposes.

The Committee entrusts its active duties to an Executive, and from the very commencement of the project Laymen have taken the leading part in caring for the construction of the Cathedral.

At no time has the Committee ever been short of funds to meet its obligations, and they have always looked carefully ahead, realising that the mere provision of the Cathedral was not sufficient unless the amount to maintain it and its services was also provided.

In 1924, despite the delay caused by the last war, the first portion of the Cathedral itself was consecrated in the presence of King George V and Queen Mary.

The work went on steadily, and now the Tower is approximately completed, though it cannot be finished in all its detail until after the war. There remains still to be built the Western portion of the Nave. It would be foolish to make a prophecy today as to when it will be completed, but it will be completed by some generation. And in order to ensure that the character of the building as a whole shall remain unimpaired, the Building Committee has commissioned Sir Giles to produce the plans and detailed drawings for this portion.

Forty years ago some people thought that the Cathedral was designed on too large a scale, since its floor space, of which three-quarters is already in use, will be about the same as that of St. Pauls. But this present accommodation is insufficient for the vast congregations which resort to it.

These facts, and the welcome which the great Tower affords from a distance of many miles to the vessels which approach the Port of Liverpool, are an abundant reward for the work of the Committee and for the generosity of the donors who provided the very large sums of money which have been expended on the building. They're also an encouragement to the hope of the full completion of the Cathedral when times permit.

C. F. H. Soulby : Some years ago *The Times* had an interesting article on the old stone quarries of the Cotswolds. Special mention was made of the quarries at Taynton, near Burford, and the Pittaway family concerned in working them. Our Clerk of the Works at Liverpool Cathedral comes of that good tradition of English stoneworkers. Here he is, Mr. Owen Pittaway, one of the Pittaways from Taynton.

O. Pittaway : I've been employed on the building of the Cathedral since 1906, and have seen it grow from the foundations to what it is today. Some constructional details may interest you.

The walls are faced with stone externally and internally, with solid brickwork filling. Up to date 20 millions of bricks have been used. The foundations are of solid concrete carried down to rock, at some points 50 ft. below floor level.

No steelwork is used in the walls, which are from 4 ft. to 12 ft. thick. Internally the choir transepts, undertower, and nave are spanned with groined vaulting. The apex of the undertower vaulting is 175 ft. above floor level, only 8 ft. lower than Nelson's Column in Trafalgar Square. Some of the bosses or key stones were carved out of stone 7 tons in weight.

C. F. H. Soulby : Here is another craftsman who has worked on the building at each stage almost from the start, first as mason and then as general foreman, Mr. William Meredith.

W. Meredith : Well, like Mr. Pittaway, I've been employed on the Cathedral for 38 years. The stone used in the building is a local sandstone quarried at Woolton, 6 miles away, and delivered by road in rough blocks of from 2 to 8 tons weight. Electrically driven frame saws cut the stones on the site to the required sizes ready for dressing by the masons.

Skilled masons prepare the whole of it by hand. Planing and moulding machines can't be used owing to the nature of this stone.

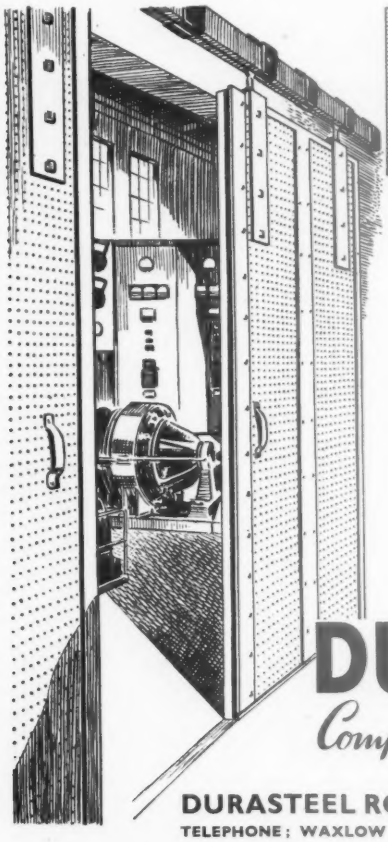
As many as 15 or more templates were required for the working of some of the more elaborate stones. Each stone when completed is lettered and numbered to denote its position in the building. It's then taken away, hoisted and fixed.

This Cathedral is a fine job. I—and all the men with me—are proud of having worked on it. It's—well, it's our life work.

C. F. H. Soulby : Regarded merely as a structure, the Cathedral should appeal to the imagination, but already, by its inspiration of both laity and clergy alike, it has proved itself an incalculable force for good, not only in the diocese, but throughout the whole Church of England.

Buildings Illustrated

Christ Church, Orpington, Kent (pages 143-146). Architects, Pite, Son and Fairweather. General contractors, Chapman, Lowey and Puttick, who also executed the stone font, church fittings, and temporary provision of electric wiring. Sub-contractors, Ragusa Asphalte Co., damp-courses, asphalte, tanking, damp-courses and flat roofs; Liversedge Reinforced Concrete Engineering Co., reinforced concrete; Roberts Adlard & Co., Ltd., roof slating; C. E. Welstead, leaded glazing and metal windows; Vigeis Bros., woodblock flooring; Improved Pipeless Heating Co., central heating; J. W. Gray & Son, Ltd., lightning conductors; James Gibbons, door furniture.



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SAMUEL PROCTER,
Town Clerk.

Town Hall,
Huddersfield.
3rd August, 1944. 729

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Applications are invited for the post of Assistant Planning Officer at a salary at the rate of £700 per annum (inclusive of the allowance for extended office hours and War Bonus), plus travelling allowance in accordance with Grade "D" of the County Council's scale, and expenses for subsistence.

Applicants should be members, or Associate members, of the Town Planning Institute, and qualifications in engineering and/or architecture will also be an advantage.

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Applications stating age, qualifications and experience, together with copies of three recent testimonials, must be received by the undersigned not later than the 4th September, 1944.

Dated 14th August, 1944.

G. ANDREW WHEATLEY,
Clerk of the County Council.

The Courts,
Carlisle. 736

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COUNTY ARCHITECT'S DEPARTMENT (WREXHAM).

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WILLIAM ROBERTS,
Deputy Clerk of the County Council.

40, Well Street, Ruthin.
15th August, 1944. 741

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ARCHITECT AND SURVEYOR, A.R.I.B.A., (30), exempt, active, seeks an Appointment with prospects; not in London. Minimum salary £520. Box 333.

ARCHITECTURAL DRAUGHTSMAN ex officer (27), requires position, 6 years' pre-war varied experience. Specimens of work available. Box 334.

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YOUTH, aged 16, seeks post in architect's office, London area. Has had about two years' training with architect, F.R.I.B.A., one year part-time student at Brixton School of Building. Available at short notice and recommended by present employer. Box 336.

ARCHITECT (Registered) seeks post as Assistant, preferably out of London. General experience in drawing office and works supervision in pre- and war-time construction, including war damage, specifications and maintenance. Write BCM/A.A. Guild, London, W.C.1. 337

ASSISTANT ARCHITECT (Registered) would like post. Qualified designer with accurate draughtsmanship. Experienced in constructional supervision, specifications, war damage surveys, etc., and carrying contracts through from start to finish. Box 338.

ARCHITECT (30), with experience in general design, detail and prefabrication, Continental diplomas, R.I.B.A. Final, desires responsible and progressive post as Assistant, preferably with view to partnership. Box 339.

YOUTH (17). Left Secondary School. Intending studying for R.I.B.A. exams. Desires employment in Architect's office. Box 343.

REGISTERED ARCHITECT, R.I.B.A. Dipl., with many years' experience of a wide range of buildings, desires permanent progressive post. Specialist in the design, adaptation and maintenance of factories. References. Exempt. Box 341.

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A R.I.B.A., with good all-round experience, desires spare time work. Box 345

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