THE ARCHITECTS' JOURNAL

THE ARCHITECTS' JOURNAL
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The Editor will be glad to receive MS. articles and also illustrations of current architecture in this country and abroad with a view to publication. Though every care will be taken, the Editor cannot hold himself responsible for material sent him.

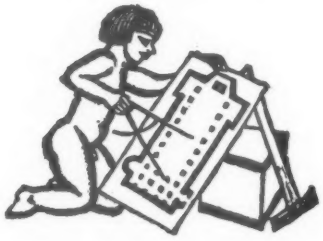
THURSDAY, JANUARY 8, 1942. NUMBER 2450 : VOLUME 95

PRINCIPAL CONTENTS

The fact that goods made of raw materials in short supply owing to war conditions are advertised in this JOURNAL *should not be taken as an indication that they are necessarily available for export.*

Owing to the paper shortage the JOURNAL, *in common with all other papers, is now only supplied to newsagents on a "firm order" basis. This means that newsagents are now unable to supply the* JOURNAL *except to a client's definite order.*

★*In common with every other periodical and newspaper in the country, this* JOURNAL *is rationed to a small proportion of its peace-time requirements of paper. This means that it is no longer a free agent printing as many pages as it thinks fit and selling to as many readers as wish to buy it. Instead a balance has to be struck between circulation and number of pages. A batch of new readers may mean that a page has to be struck off, and conversely a page added may mean that a number of readers have to go short of their copy. Thus in everyone's interest, including the reader's, it is important that the utmost economy of paper should be practised, and unless a reader is a subscriber he cannot be sure of getting a copy of the* JOURNAL. *We are sorry for this but it is a necessity imposed by the war on all newspapers. The subscription is £1 3s. 10d. per annum.*



from AN ARCHITECT'S *Commonplace Book*

"And they built a tower (the Tower of Babel) neither sparing any pains, nor being in any degree negligent about the work; and by reason of the multitude of hands employed in it, it grew very high, sooner than anyone could expect. . . . It was built of burnt brick, cemented together with mortar made of bitumen, that it might not be liable to admit the water."

Josephus, Book i., Chap. iv., 3.

NEWS

NEW YEAR HONOURS FOR ARCHITECTS

The King has conferred the Order of Merit on Sir Edwin Lutyens, President of the Royal Academy.

MR. T. P. Bennett, Director of Works, Ministry of Works and Buildings, has received the C.B.E.

IRISH NEWS

The Architects and Engineers Assistants Society have held their first meeting at the Metropole Hotel, Cork. The temporary president, Mr. S. O'Neill, welcomed the prospective members and proposed that a committee be elected. The following were elected: Messrs. S. R. O'Neill (President), E. J. O'Connell (Hon. Secretary), S. P. O'Mahony (Hon. Treasurer), J. L. Devli, M. F. Crawe, A. MacNamara, Miss M. Fitzgibbon.

Mr. W. H. H. Cooke, outgoing president, at the annual meeting of the Royal Institute of the Architects of Ireland, referred to the Architects' Registration Bill which is to come before the Eire Parliament. He said he doubted if any benefit would accrue from it. It would, however, help to obtain reciprocal recognition with the thirty-three other countries which had registered.

Mr. L. F. Giron was invested as President and the following were elected on the Council: Messrs. E. D. Buckley, J. V. Downes, J. M. Fairweather, T. F. Inglis, H. H. Hill, A. E. Jones, S. Leonard, C. D. O'Toole and T. F. Straham. Hon. Treasurer, Mr. A. G. P. Meldon. Hon. Secretary, Mr. J. O'Gorman (re-elected).

ON THE AIR

On January 25 at 6.45 p.m. Architecture without Tears by W. G. Newton, M.C., F.R.I.B.A.

INSTITUTE OF STRUCTURAL ENGINEERS

The following candidates were elected to membership on December 18 last:—

Studentship

Buxton, R. C., of Cambridge.
Indoe, G. A., of Bath.
Moodie, P. D. S., of Nottingham.
Steward, P. R., of Ipswich.
Wright, P. G., of Loughborough.

Graduateship

Lance, A. G. S., of London.
Maclear, G. H. M., B.SC., of Germiston, South Africa.
*Mockridge, P. J., of Oxford.
*§Woodward, J. C., of Dudley, Worcs.

Associate Membership

Bell, C. H. (Captain, R.E.), A.M.INST.C.E., of Edinburgh.
‡†Koo, M. T., of London.
Murphy, V. A., A.M.INST.C.E., of Wellington, New Zealand.
†Pietrkowski, J., of Palestine.
†Sodersteen, K. A., of Sydney, Australia.

Associateship

Brown, E. R., L.R.I.B.A., of Swansea.
Maclean, A., B.A., A.R.I.B.A., of Glasgow.
Moore, W. B., of London.
Nuttall, H., A.R.I.B.A., of Eastbourne.

Membership

Barker, C. F., of London.
Howl, F. W., of Carlisle (Deputy Commander, R.E.).
Macaulay, T. B., B.SC., A.M.INST.C.E., of Glasgow.
Thompson, E. C., L.R.I.B.A., of Leeds.

*—Transfer from Studentship.
‡—Transfer from Graduateship.
§—Passed Graduateship Examination.
†—Passed Associate-Membership Examination.

NEW ORDER

Building and civil engineering labour is very scarce and the Minister of Labour and National Service (after consultation with the Minister of Works and Buildings) has made a new Order to assist him in ensuring that labour is placed where it is most required and that it is used economically in the national interest and as fairly as may be to all concerned. It will ensure that an employer does not collect and transfer from one job to another a labour force to which he has no exclusive claim, thereby possibly denuding a district and preventing other efficient but less fortunate contractors from securing the labour needed to complete important work.

The Building and Civil Engineering (Restriction on Transfer) Order, 1941, provides in general that no building or civil engineering employer may transfer an employee from one site to another without the permission of the National Service Officer; but there are certain exemptions to enable employers to move key workers and men in special classes of trade which demand mobility and also in certain emergencies. The jobbing builder may be given special permission to move his men from job to job within a limited area; but this will be permissible only on the authority of the Minister of Labour and National Service and it is important that any employer wishing to do this should make early application to an Employment Exchange.

Whenever a man's employment is terminated notification of the fact must be made at an Employment Exchange without delay both by the employer and by the man, subject to certain exemptions. In

c o v e n t r y b u i l d s

After the war began, the housing shortage in Coventry became more acute and it was decided, despite wartime difficulties, to proceed with the building of the houses most urgently needed. Preparations for doing so were continuously and severely impeded by shortages first of one material and then of another, each of which compelled the Architects' Department of the Council to work in terms of new constructional methods and new knowledge of effects of blast. The first of these schemes is now finished: it is the Canley Estate, which was officially opened by the Mayor of Coventry. Above is a photograph of one of the houses, showing the porch, front door and adjoining living room window. Note the pierced screen, concrete canopy covered with asphalt and glazed tiles. Further details of this scheme and of the City's new air raid shelter scheme are given elsewhere in this issue.

this way it will be possible for the Ministry of Labour and National Service to keep track of the location of building and civil engineering labour and to put it to the best use.

Further details of the scope and working of the Order are set out in a leaflet entitled "Control of Building and Civil Engineering Labour," which can be obtained free at any Employment Exchange.

PAINT

The Minister of Supply has made an Order, operative from December 26, relating to the acquisition, disposal, treatment, use and consumption of paint, lacquer or varnish containing tung oil, oiticica oil, stillingia oil, drying oil made from castor oil, or thickened or mixed oil of which any one or more of these oils is an ingredient.

The Order prohibits the disposal of such paint, etc., by the manufacturer thereof except under licence, or unless the person acquiring the paint, etc., is party to a Government contract or sub-contract and acquires the paint, etc., for use directly in the fulfilment of that contract or sub-contract. Similar restrictions apply to the treatment, use or consumption of such paint, lacquer or varnish by the manufacturer.

Applications for licences should be made by letter to the Raw Materials Department, Ministry of Supply, Warwick. No licences for civil use will for the time being be issued in respect of paint, etc., containing these oils.

Copies of the Order, which is entitled the Control of Paint, Lacquer and Varnish (No. 1) Order, 1941, may be obtained from H.M. Stationery Office (price 1d.), York House, Kingsway, W.C.2 or through any bookseller.

COLLECTION OF RAILINGS

London is setting this country a fine example in the collection of iron railings for use in the national war effort. In Hyde Park and Kensington Gardens, St. James's Park, and the Green Park the work of removal will be completed this week. A start will then be made on the railings in and around Regent's Park and the private houses adjoining it. At the same time the City Corporation will begin the removal of railings in its own square mile of London.

Schedules of railings within their jurisdiction have been received by the Ministry of Supply from most of the 95 boroughs of the Greater London area. Sixty of these

★ *Order of Merit for Sir Edwin Lutyens in New Year Honours* page 17

★ *New Order made by Minister of Labour and National Service to ensure that building and civil engineering labour is placed where it is most required* page 17

★ *City Corporation to begin removal of railings in its own square mile* page 18

★ *956 Architectural Competitions held during last twenty years* page 23

boroughs are taking down the railings by direct labour rather than through contractors, and over the whole area there has been a considerable increase in the amount of labour made available for the work. This factor has been mainly responsible, especially during the past three weeks, for some advantage which London has over the rest of the country in the important work now being reviewed.

In the City official notices have been posted announcing that the removal and collection of railings began on January 5. The term railings, in the more expansive phraseology of these notices, embraces "unnecessary iron or steel railings, posts, chains, bollards, gates, stiles, etc.," all of which will be "removed and collected for use in the national war effort in iron and steel works and foundries." It is hoped (the notice adds) that owners will be prepared to make a free gift of their railings to the nation, but those wishing to claim compensation may obtain the appropriate form from the City Engineer.

TIMBER

The Ministry of Supply is conducting a review of the rates of remuneration to Timber Quota Holders, but this review will not be completed before the end of the current Quota period (December 31, 1941). It has accordingly been decided that the validity of the existing Quota authorizations shall be extended to January 31, the terms and conditions remaining unchanged.

It is not at present proposed to issue new Quota authorizations and those now in the possession of Quota Holders will therefore be valid during the period of the extension.

LECTURE

Mr. Roy G. Townend, representing the Chairman of the War Damage Commission, will give an address on "The Administration of the War Damage Act" to The London and Home Counties Branch of the I.A.A.S., at 75, Eaton Place, Westminster, on Saturday afternoon, January 17, 1942, at 2 p.m. All interested are welcome. Tickets on application to the Branch Hon. Secretary.

COMPETITIONS

WHAT part will architects play in the rebuilding of England? That is a question many of them must be asking themselves today and there can be few who are altogether happy about the reply they expect. So far no change in the status quo has even been suggested and we must therefore expect things to go on from where they left off in much the same way as before.

Where did we leave off? The answer to this question is only too well known if the date of the break is taken as 1939. Just before the war the approximate total value of building work executed each year was £255,000,000 and slightly less than half of this was in the hands of architects; the half which escaped them being from the point of view of town and country planning very much the more important of the two because the bulk of it was speculative and municipal housing covering large areas at low densities, and representing the cheapest types of construction.

So much for the work that architects failed to do. Mr. Edward Lewis, A.R.I.B.A., in an article printed on page 23 has completed the picture by analysing in a most interesting way the work that architects *were* doing and comes to the astounding conclusion that one-fifth of the profession, during the 20 years that preceded this war, were permanently engaged in what he calls waste paper work, i.e., on submitting unsuccessful entries for architectural competitions. He makes the assumption that 1,265 out of every 1,898 competition entries completed were one-man entries and the remaining 633 double entries (a very conservative estimate), and calculates on this basis that a total of 37,960 architects must each have spent 4½ months working on competition designs between the years 1919 and 1939—which represents about 14,319 man years!—and that the result of all this activity was 700 winning designs quite a number of which were never built. When one takes into consideration the fact that some competitions undoubtedly employed many more than two men and that a number of architects made competitions their life work and were frankly unemployed between whiles, these figures, admittedly rough, give a truly remarkable picture of the phenomenon—by no means limited to the architectural profession—of unemployment coupled with short supply.

Mr. Lewis concludes that the competition system is to

blame and urges the R.I.B.A. to curtail the number of competitions and in some cases the number of entries and the number of drawings required as well. At the same time, he suggests, they should encourage the establishment of regional architect centres with the double purpose of organizing local architectural education and propaganda and also maintaining regional registers of architects through which introductions to clients could be effected and an impetus given to a wider and fairer employment of architects as a whole.

One reflection to which these suggestions give rise is that after the war there may be no private work to distribute. The volume of official architecture has grown and is likely to continue growing in the abnormal conditions we must expect during the first years of peace. The position of independent architects* vis-à-vis private clients may well turn out to be very much less important for the profession as a whole than their position in relation to central and local government departments actively engaged in building work. The latter have recently been responsible for as much as sixty per cent. of all work undertaken in the country valued at about £360,000,000 per annum.

How are we going to reconcile public control over building—over the construction, design, capacity and position of buildings—generally recognized now to be necessary in some form, with the retention of private practice believed rightly or wrongly by so many people to be the only method of securing to architects that personal responsibility without which it is impossible to create a work of art?

Is it not just possible that the competition system modified perhaps, by the abolition of prizes, and by changes in the method of appointing assessors and applied more widely than before might offer a way out of this difficulty? It allows to architects equality of opportunity and working conditions that are above the average; the programme of work is clearly stated and a reasonable time is allowed for the preparation of plans. It gives clients the best possible value for their money, and finally it gives through the assessors, who set conditions and pick winners, just that kind of public control now felt to be necessary. The great defect of the system—the ridiculous disproportion between the numbers of entrants and the prizes offered, is not inherent. More competitions would mean fewer entries for each. An arrangement which obliged government officials to state their requirements clearly in principle and then invite the submission of plans by firms of private architects might prove a satisfactory compromise; it would leave them power to set programmes and exercise a wide measure of control, while removing from their shoulders the burden of creative design which is more easily borne by experts free from departmental regulations and able to make themselves familiar with all the aspects of a single problem in a way that seems scarcely possible in a large administrative unit.

*A letter about private architects by a private architect appears on page 30.

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NOTES & TOPICS

WHERE THERE'S MUCK THERE'S MONEY

City in Decay is the caption to an aerial view of a typical bit of English manufacturing town (part of the exhibition *Living in Cities* arranged by Mr. Ralph Tubbs), which turns out to be a bit of Bradford. The caption has created something of a storm among the more prominent citizens. "City in decay," they snort. "Where there's muck there's money."*

★

Others, less certain that wealth will be accepted as an excuse for social bad manners argue differently. "No city is decaying or in any danger of decaying which has been so bold an innovator in the field of social services. A city's appearance is highly important but the quality of the life that is lived there is more important still; a fact the London highbrows sometimes overlook."

★

So says Harold Conolly, Bradford city architect, writing in the *Yorkshire Observer* under the headline *Bradford a City in Decay?* in which he cleverly points the moral while sticking up for his own side.

*Much of the muck comes out of domestic chimneys whose owners are not conspicuously rich. The Mellon Institute of Industrial Research inquiring into the subject in Pittsburg 1912, came to the conclusion that smoke cost that city £2,161,000 per annum or £4 per head.

It is unlikely that the architects responsible for organizing the exhibition intended the unfortunate caption to be given a personal interpretation. To perfervid town planners the words "City in Decay" may merely mean a badly arranged pile of bricks and mortar. But to others with less specialised understandings their meaning is obviously different—something more like depressed area.

★

All the same one can sympathize with the mayor and aldermen, and admire their spirited defence of their home town—"which heard the voice of the youthful Delius and through whose streets now held up to contumely ran the legs of the boyish Rothenstein"—without necessarily agreeing with the arguments they use, some of which have a sinister ring about them.

★

"When all is said and done," states Alderman William Illingworth, Lord Mayor of Bradford last year and a well known architect and surveyor to boot, "it is the natural thing for an industrial town that is doing its job to have a blackened appearance." I wonder if he realizes how completely Victorian that remark is.

★

Actually all London highbrows worthy of the name would count Bradford's blackness a beauty—perhaps apart from its romantic site Bradford's only beauty. What they would question is whether beauty should be achieved at such a cost. Nor is this just a pansy modern attitude. The views of tough Restoration Englishmen might surprise Alderman Illingworth. "That men whose very being is air should not breathe it freely where they may, but condemn themselves to misery and fumo praefocari is strange stupidity,"† or again "within thirty years last the nice dames of London would not come into any house or room when sea coals were burned nor willingly eat of the meat that was either sod or roasted with sea coal fire."‡

★

Present day protests are less colourful but more convincing. "The burning of raw coal is a dirty, wasteful and unscientific practice and on the grounds of public health as well as of economy it should be restricted as much as possible." The general consensus of opinion to-day is that dirt is neither healthy nor necessary. Why, then, go on calling it natural? It's time that old and discredited word—that Appeaser of the dictionary—was bowler-hatted and replaced by one better able to stay the pace.

†John Evelyn. Fumi fugium, 1661.
‡Howes, 1631.

SALE BY AUCTION

What was nice about Sherlock Holmes was that he was never at a loss. This thought was the result of studying, on the gateway of a house, a large notice announcing that Messrs. —— are now favoured with renewed instructions to SELL BY AUCTION upon the premises as above the EXCELLENT ARTICLES hereunder mentioned viz.

★

A list of assorted household goods set forth in black and white—or rather green and beige—follows, and it makes interesting reading. The lives of the owners are exposed to the public gaze like cod steaks on a fishmonger's slab.

★

Interesting Roll-top Desk; *Rich-toned Upright Pianoforte*—nothing shoddy here. *A quantity of useful and decorative Electro-plated Items*—fitness for purpose. Obviously people of taste, unless the items are wedding presents. *Table china and crockery*; *several good quality*—a bit of a let-down, this. *Laundry effects* and 7 *brass Gong plaques*—Good Heavens who lived in this place? *Odd Easy Chairs*; *Old Copper Coal Helmes* . . . and so the picture grows till we come to a stop before *Coal Purdoniums*. What are purdoniums? Even the dictionary is nonplussed.

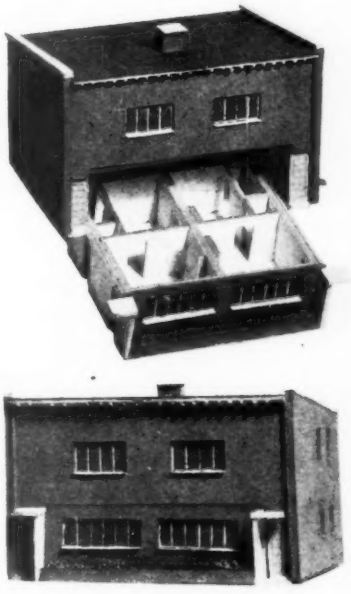
★

Not one purdonium, mark you, but several. The picture of the family remains incomplete. Holmes wouldn't have been baffled by a purdonium. He would have written a monograph on the subject while still a boy. Look, Watson, it's there on the second shelf, underneath the hypodermic and just behind last Thursday's

ASTRAGAL

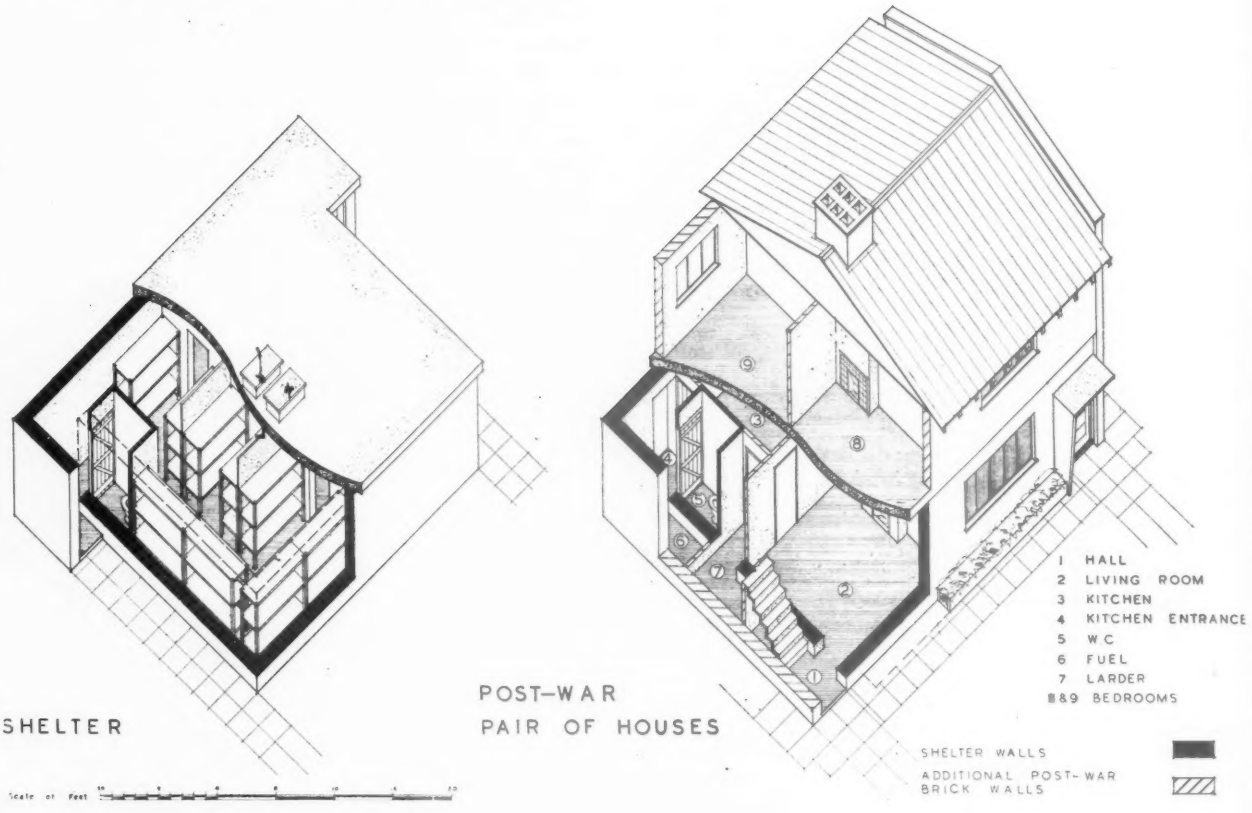
A NEW EXPERIMENT in SHELTER HOUSES

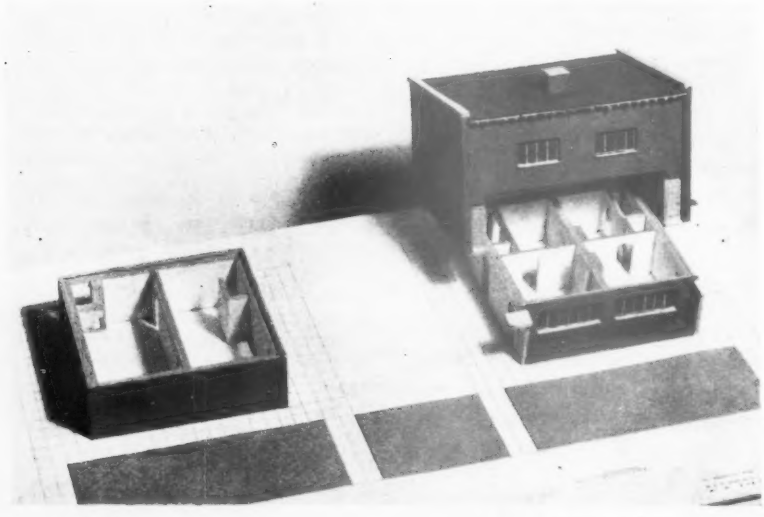
In this issue are reproduced two schemes for the City of Coventry. The one shown here is a new type of air raid shelter designed to form the lower-storey of a post war two-storey house. On pages 25-29 is the first portion of the Canley Estate, which has just been opened by the Mayor of Coventry. Both schemes were designed by the Chief Architect to the Coventry City Council (D. E. E. Gibson) and his deputy and chief assistant.



GENERAL — The Coventry City Architectural Department, working in collaboration with the City Engineer's Department, have produced a new type of air-raid shelter. Designers of the scheme were: D. E. E. Gibson (City Architect), Deputy and Chief Assistant Architects, and Gwynn H. Morris, Senior Assistant. Assistants: Miss Betty Benson, J. Thompson and J. A. Buck (City Engineer's Department).
These shelters represent a complete departure from what has hitherto been official shelter policy in that they are specifically designed for post-war use. In fact, the shelters are designed to form the lower storeys of post-war two-storey houses.

SITE—The sites on which the shelters are to be placed are distributed round the periphery of the city.





Illustrations show : Top, model of Coventry Shelter-to-House Scheme : on the left-hand side, the shelter with the roof removed. On the right-hand side it can be seen that the structure of the shelter is practically unaltered when it becomes the ground floor of the future house, except that a portion of the external walls have been removed for window and door openings. Chimney breasts, internal partitions and new finishes are also added. It also shows clearly the additional structure necessary to turn the shelter into a house. Top, The completed shelter and the completed house. On the front of the house the junction of the original shelter, with the new structure containing the first floor staircase and front door can be seen.

PRESENT POSITION—Scheme has already been approved in principle by the appropriate committees of the Coventry Council and by the Council itself; also by officials of the Ministry of Home Security and the Ministry of Health. The sites are ready and as soon as the technical details have been settled the scheme will be submitted for final approval.

A NEW EXPERIMENT IN SHELTER

Architectural Competitions and RECONSTRUCTION

A Plea for "Cooperations"

[By EDWARD LEWIS]

TOTAL PEACE will eventually demand total architecture; the control by architects of all building. Total architecture will depend on the architectural profession being organized to avoid waste, to give every ounce of its available group-energy to the nation, otherwise it will not be fitted or likely to play the part it should play in Reconstruction. In the past architects have tended to fritter away much of their group strength on mere paper work. The pre-war system of architectural competitions, annually absorbing nearly one-fifth of this superfluous group energy on directly unproductive gambling for jobs, at a time when speculative builders and others were rehousing the people in some £90,000,000 worth of ribbon development per year, was one of the most illuminating and important symptoms of the disease of disorganization affecting the architectural profession as a whole, and is a notable lesson from which to profit in the future.

What were the facts? It must be stated at the outset that there appear to be few official or other statistics available directly related to this question, but by research and inference it is possible to arrive at a reasonably close statement.

The following figures give the approximate position with regard to Competitions for the twenty years from 1919 to 1939. Italic type shows statistics compiled from figures which were actually available; those in plain type being averages calculated on the bases of the former.

1. Number of Competitions :—
   (*a*) *956 per 20 years ;*
   (*b*) 48 Competitions per year.

Of these 956 Competitions 520 only were held directly under R.I.B.A. auspices. Of the remaining 436 Competitions, war memorials and minor commercial contests accounted for 128. Of the balance of 308 Competitions for buildings proper, a large proportion were in all probability originally initiated under R.I.B.A. auspices, but subsequently abandoned before designs had been called for.

The 520 R.I.B.A. Competitions, to which the whole of the remaining notes and comments apply, came under the following categories :—

	Percentage of total per 20 years.
(*a*) Municipal : 113 Town halls, bridges, police and fire stations, clock towers	22
(*b*) Educational : 108 Schools, colleges, art galleries, universities, museums, libraries	20
(*c*) Residential : 72 Model houses and cottages, speculative and municipal housing estates, garden cities and flats ..	15
(*d*) Recreational : 49 Baths, theatres, cinemas, public houses and clubs ..	9
(*e*) Medical : 47 Hospitals, clinics, nurses' homes ..	9
(*f*) Commemorative : 43 War memorials ..	8
(*g*) Commercial : 41 Shops, offices, trade signs	8
(*h*) Religious : 28 Churches, synagogues, temples ..	5
(*i*) Miscellaneous : 19 Posters, essays, scholarship theses, specifications ..	4

These figures are included because of their significant bearing on the criticism made later in the main article regarding the waste of time and ability involved in Competition work on buildings of national urgency.

2. Number of Entries :—
   (*a*) *7,205 for*
   (*b*) *99 Competitions ;*
   (*c*) 73 per Competition ;
   (*d*) 1,898 per year ;
   (*e*) 37,960 per 20 years.

With regard to (*d*) it should be noted that the figure of 1,898 is for entries only, as distinct from competitors. A firm of two, three or more architects may collaborate on one entry. It follows that if we take a ratio of 5,000 firms and architectural departments to the total of 14,500 registered architects* (approximation supplied by the Building Industries National Council, confirmation of which is indicated by the known figures for the R.I.B.A. membership only) we may justifiably assume that about a third of the entries represented the work of at least two competitors.

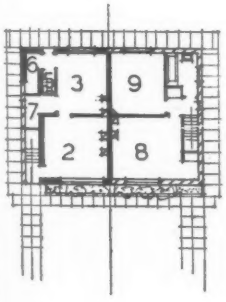
This would give us 1,898 single entries, and 633 double entries, making a grand total of 2,531 single entries, or individual competitors, per year. These figures are, of course, very conservative. They may well be greatly exceeded if we take into account the probability that not a few entries must represent the work of more than two partners in a single firm, not to mention qualified and experienced architect assistants; or of more than two members of a commercial or municipal architectural department.

Also excluded from these figures is a special entry of 3,500 for a *Daily Mail* Competition for a workman's ideal home, which may be taken as a vivid indication of the unsatisfied need of architects to deal with the problems of housing.

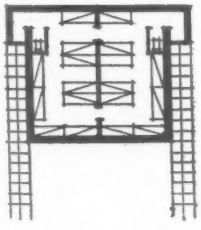
On the basis of the figures given, however, the position with regard to competitors may be summed up as follows :—

3. Number of Competitors :—
   (*a*) 97 per Competition ;
   (*b*) 48 per week ;
   (*c*) 2,531 per year ;
   (*d*) 50,620 per 20 years.

*The exact figure for December, 1940, was 13,867. It is understood that additions since then have brought the total up to approximately 14,500.



GROUND AND FIRST FLOOR PLANS



KEYPLAN : SHELTER

CONSTRUCTION—Details have not yet been settled and are at the moment under discussion with the Ministry of Home Security.

COST—Analysis of cost is as follows : — Normal shelter (50 persons), £7 4s. per head, total £360 ; Coventry shelter (60 persons), £8 9s. per head, total £508.

HOUSES

4. Winning and Losing Entries :—
   (*a*) *26 winners per year ;*
   (*b*) *52 placed per year ;*
   (*c*) 1,820 losers per year.

These figures are given on the basis of winner and two places, which were found to apply to the large majority of Competitions. With regard to (*a*) however, it must be remembered that in all probability a certain percentage of winning designs do not get actually built. They are postponed or abandoned for a variety of reasons.

Though it was not found practicable to obtain evidence in support of this contention beyond indications that in the immediate pre-war years this percentage was high, it may safely be assumed that the figure of 26 winners, so far as the actual carrying out of the designs was concerned, should be treated with some reserve.

5. Winning and Losing Competitors :—
   (*a*) 35 winners per year ;
   (*b*) 70 placed per year ;
   (*c*) 2,426 losers per year ;
   (*d*) 700 winners per 20 years ;
   (*e*) 1,400 placed per 20 years ;
   (*f*) 48,520 losers per 20 years.

Regarding (*a*), (*b*) and (*c*), the percentages of the total yearly competitors are respectively 1.3, 2.6 and 96.1. These figures by themselves are significant enough. But they also show that during the twenty year period under review the whole of the profession (14,500 registered architects) could have been engaged nearly three and a half times over on unsuccessful Competition entries.

The folly of this wasted paper architecting may be gauged side by side with the actual activities of speculative builders and others during the same period.

6. Value of Prizes :—
   (*a*) *£148,708 for*
   (*b*) *329 Competitions ;*
   (*c*) £452 per Competition ;
   (*d*) £11,752 per year ;
   (*e*) £235,040 per 20 years.

These figures represent an average prize of about £150 per successful entry, including those placed. Winning entries, however, usually receive approximately fifty per cent. of the total prize money, the ratio for three places usually being half, third, sixth. For the 20 years under review this would mean £117,520 divided between the winners, and £117,520 between the placed.

Even assuming that all the winners had their designs carried out, we must conclude that the £117,520 divided between the placed would have been better and more productively spent, over the 20 years concerned, on architects' fees for nationally urgent work actually built.

7. Value of Contracts :—
   (*a*) *£9,591,200 for*
   (*b*) *709 Competitions ;*
   (*c*) £87,992 per Competition ;
   (*d*) £2,287,792 per year ;
   (*e*) £45,755,840 per 20 years.

These figures are discussed later in the main part of the article.

8. Number of Assessors :—
   (*a*) *430 for*
   (*b*) *255 Competitions ;*
   (*c*) 44 Assessors per year ;
   (*d*) 880 Assessors per 20 years.

These figures are included because they have a bearing on the suggestion which follows with regard to planning fair distribution of Reconstruction work among architects. It would seem that architects sufficiently able and experienced to assess the work of fellow members of their profession on practical issues as important as those resulting from Competitions, would in many cases be better and more practically employed on official and committee work in connection with the running of a distributive organization.

9. Average time elapsing between original inception of Competitions and final assessing :—
   (*a*) approximately 4½ months.

This figure, though not so high as might have been expected, suggests that in the aggregate considerable time lag must occur between the initiation of much nationally urgent work and the settling of designs, which would largely be obviated if the bodies and authorities concerned went directly to their architect.

With these detailed figures in mind, let us now consider their bearing on the national picture as a whole. The R.I.B.A. Journal for July 17, 1939, in an article entitled "The Proportion of Building Work executed by Architects," pointed out that the approximate total value of annual (now pre-war annual) building was £255,000,000. Of this sum only £125,000,000 was designed and supervised by architects. Of this £125,000,000 worth of architected work the figure of £2,287,792 (see detailed note 6 above), just under 2 per cent. of the yearly total, resulting from Competitions, was by itself inconsiderable, but against it must be set the startling indication that annually competing for this small amount of work were some 2,531 architects, nearly one-fifth of the entire profession, *and this at a time when by our own confession over half the total annual building was not in the hands of architects at all !*

The article went on to point out that if speculative and municipal housing were to be excluded from the reckoning, architects would control 85 per cent., as against the then 49 per cent. of total annual building, but since speculative, private and only partially architected municipal housing together accounted for some 48 per cent. of the total, the effect of this statement was merely a reminder of the failure of architects, so many of whom were meanwhile wasting time on Competitions, to have any real say in the core of the country's architectural problem, namely re-housing. If such conditions continue to prevail after the war, the prospects both for architects and for architecture will be gloomy indeed.

I therefore submit that in order to prepare for the country at any rate some opportunity of a fairer, wider, more economical, more efficient working of its architects upon Reconstruction building than would be possible under the above conditions, the Architectural Profession must without delay (1) REFORM AND LIMIT THE SCOPE OF ARCHITECTURAL COMPETITIONS ; and (2) ADD SOME FORM OF MUTUALLY DISTRIBUTIVE AND CO-OPERATIVE ORGANIZATION TO THE WAYS BY WHICH THE PUBLIC OBTAIN ARCHITECTS AND ARCHITECTS OBTAIN WORK.

As regards (1) it is suggested that three kinds only of Competitions : (i) Open ; (ii) Limited ; and (iii) Selective, should be recognized by a Central Competitions Committee drawn from the R.I.B.A. and other bodies, and from the Architects' Registration Council.

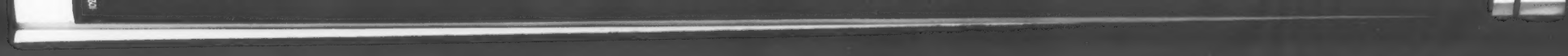
(i) Open to all and any number of architects. A full series of drawings, reports, estimates, etc., would be required in the usual way. The number of this kind of Competition would be limited to five a year.

(ii) Limited to not more than ten architects of acknowledged or demonstratable experience and/or ability on the particular subject. A full series of drawings, reports, estimates, etc., would be required in the usual way. The number of this kind of Competition would be limited to ten a year.

(iii) As (i), except that three finalists only, all assured of adequate payment by prize money, would be chosen from a preliminary three day sketch contest of all entrants to complete the full series of drawings, reports, estimates, etc., in the usual way. The number of this kind of Competition would be limited to fifteen a year.

As regards (2), the beginnings of such an organization already exist in the R.I.B.A. and kindred bodies which in the past have distributed work to their members, resulting from enquiries made to them for architects by public bodies or private persons. It would seem, however, that the practice has been handicapped from a wider application by insufficient co-ordination between the various architectural societies, by lack of leadership, and by the fact that the most important of the societies, the R.I.B.A., dispensed such benefits only from London. But if regional architect centres could be established, from which local architectural education and propaganda could be organized, and containing regional registers of architects through which introductions between architects and clients could be effected, surely a swift impetus to the wider and fairer employment of architects as a whole would result.

Regional town and country planners and local authorities could draw upon



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GENERAL CONSIDERATIONS & PRINCIPLES OF DESIGN IN WELDED STEEL, Nº 12

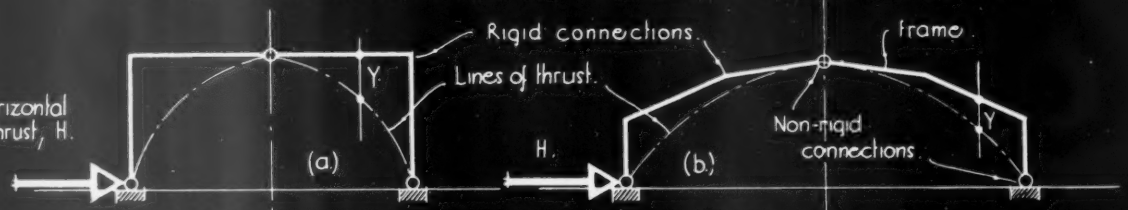


FIGURE 1 (a & b) : STATICALLY DETERMINATE SIMPLE (THREE-HINGED) FRAMES

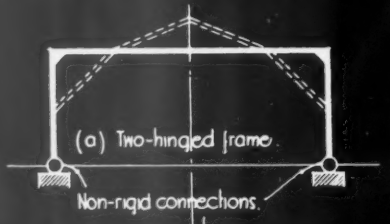
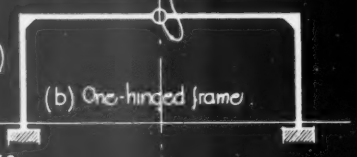


FIGURE 2 : (a, b, c & d) STATICALLY INDETERMINATE SIMPLE FRAMES.



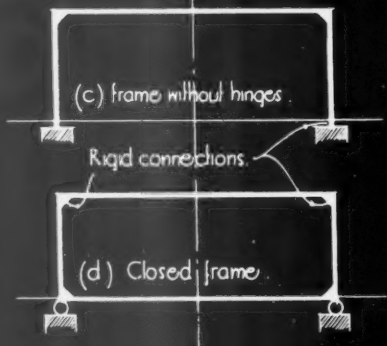


FIGURE 3 : (a & b) FRAMES RUNNING OVER SEVERAL PANELS.

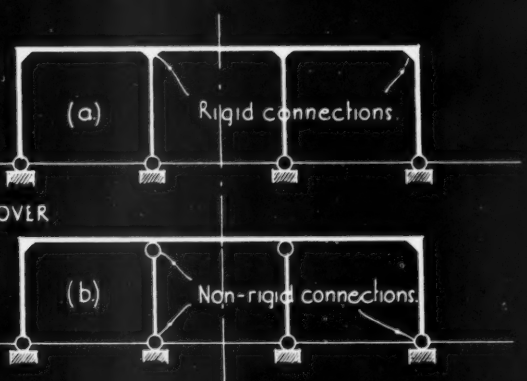
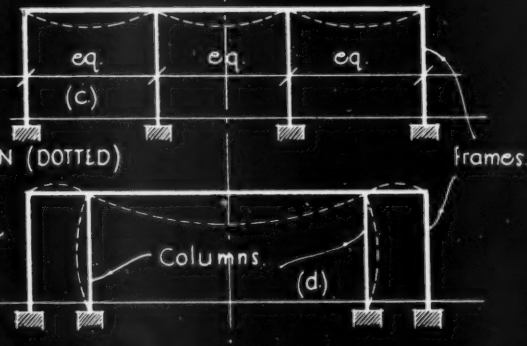


FIGURE 3 : (c & d) COMPARATIVE DEFLECTION (DOTTED) FOR EQUAL & UNEQUAL SPANS.



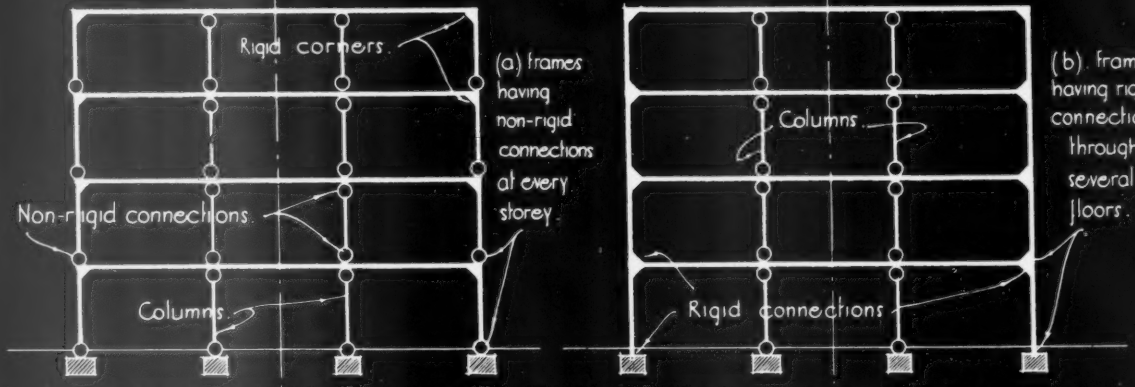


FIGURE 4 (a & b) : APPLICATION OF MULTI-PANEL FRAMES TO MULTI-STOREY BUILDINGS.

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INFORMATION SHEET : STEEL FRAME CONSTRUCTION, 66 : WELDING Nº 22

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INFORMATION SHEET

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STRUCTURAL STEELWORK

Subject : Welding 22 : General Considerations and Principles of Design in Welded Steel : No. 12, Welded Frames (*b*).

General :

This series of Sheets on welded steel construction is a continuation of a preceding group dealing with riveted and bolted construction, and is intended to serve a similar purpose—namely to indicate the way in which economical design as affected by general planning considerations may be obtained.

Both the principles of design and the general and detailed application of welded steelwork are analysed in relation to the normal structural requirements of buildings. The economies in cover and dead weight, resulting from lighter and smaller steel members and connections, are taken into consideration in the preliminary arrangement of the building components in order to obtain a maximum economy in the design of the steel framing.

This Sheet is the twelfth of the section illustrating the general considerations and principles of design in welded steel, and is the second Sheet on the subject of welded steel frame construction.

Design :

Simple frames may be either statically determinate or indeterminate. A frame is determinate if it has three hinges—that is, the reactions and bending moments can be determined by the laws of equilibrium. Actually a line of thrust can be constructed for any load through the three hinges, see Figures 1*a* and 1*b*, and if all the loads are vertical the bending moment at any point is $M = Hy$ where H is the horizontal thrust and y the vertical distance of the line of thrust from a point on the frame.

Application :

The use of hinges, while convenient from the point of view of calculation and erection, often gives unsatisfactory results for the bending moments, and the stiffness of the building is sometimes reduced. In such cases, two-hinged or one-hinged frames, or frames without hinges are employed, see Figures 2*a*, *b* and *c*.

Intricacies of calculation, as well as the stiffness of the construction, are increased as the number of hinges is reduced. From the point of view of economy, it is usually worth while in welded construction to provide a stiff frame, even if extra time has to be spent on the design. In order to avoid the rigid connection between steel and foundation which the frame shown in Figure 2*c* would demand, and the large foundations which would be required, a frame as shown in Figure 2*d* (closed frame) is substituted.

Shape :

The number of points at which a system is indeterminate does not depend on the shape of the frame. For instance, the frame dotted in Figure 2*a*, as well as the one shown with full lines, is statically indeterminate at one point. To avoid the repetition of complicated calculations, formulae have been worked out for the most usual shapes of frames which occur, some of which are given in the following Sheet of this series.

Multi-Storey Construction :

For multi-storey buildings frames are generally more complicated in shape than those shown in Figures 1 and 2. Frames may run over several panels, see Figure 3*a* and *b*. The beams, in every case, are rigidly connected to the end columns, while the connections to the centre columns may or may not be rigid. Even if they are rigid, for purposes of calculation they can still be considered as hinged if the spans are about equal. If several of these multi-panel frames are arranged on top of one another, the calculations involved are no more complicated; but if a frame is carried rigidly through many storeys the number of points at which the system is statically indeterminate becomes very large, and in this case approximate calculations have to replace more exact ones. See Figure 4, *a* and *b*.

Previous Sheets :

Previous Sheets of this series on structural steelwork are Nos. 729, 733, 736, 737, 741, 745, 751, 755, 759, 763, 765, 769, 770, 772, 773, 774, 775, 776, 777, 780, 783, 785, 789, 790, 793, 796, 798, 799, 800, 801, 802, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 816, 819, 821, 822, 823, 824, 826, 827, 828, 830, 832, 836, 837, 838, 839, 840, 842, 843, 845, 847, 848, 849 and 850.

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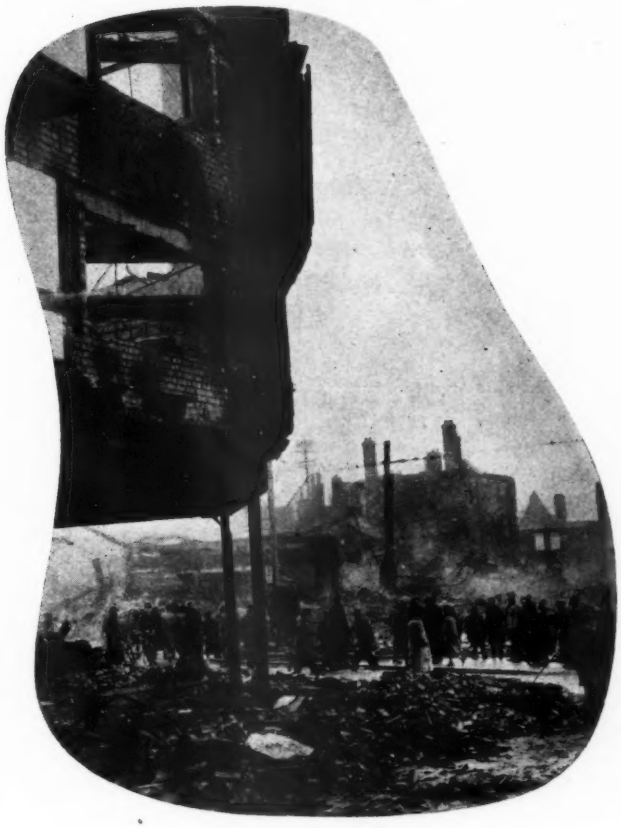
the registers, perhaps allocating certain architects or groups of architects resident in the particular districts for definite jobs of " detail " in the wider national schemes. In this way the registers would also be of use to the central government or planning authority, and through it to the whole country, in helping the national Reconstruction building programme to be put smoothly into architectural effect.

Fresh professional legislation would, of course, have to be devised to ensure the fair administration of what would be, in effect, an informal Architects' Employment Exchange, a distinctive and logical development of the R.I.B.A. Assistants' Register which has long been in operation. In this and in other ways such a system would provide a means, albeit an informal means to begin with, of keeping some check on ruinous gold-rush tactics by all architects when the time for rebuilding comes, of avoiding top-heavy allocations of work to certain sections of the profession at the expense of other sections, and of giving particularly younger talent and ability sooner, more frequent, and more regular chances of doing useful work than is afforded by private practice with its flimsy support of Architectural Competitions.

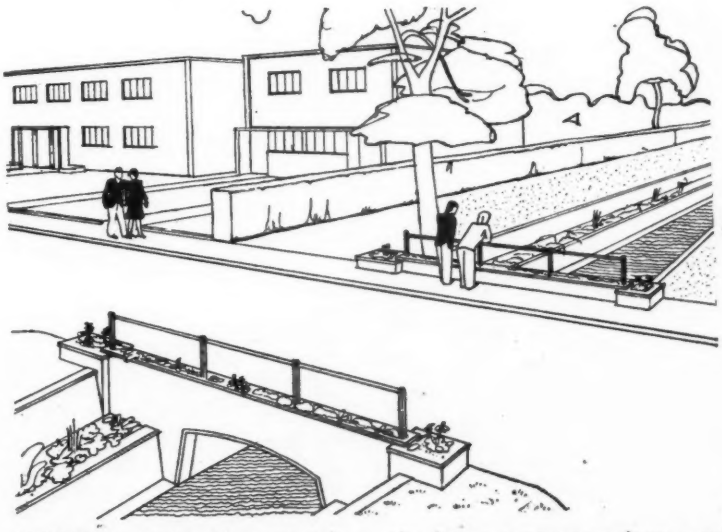
In any event the indications are that the urgently needed further recognition of the architect's position from without, such as legislation towards organized and total control by architects of all building, depends very largely upon (i) the growth of some such framework from within ; and (ii) immediate action, in order to be ready for the country when peace returns. Let the R.I.B.A. give a lead. If financial considerations should prove stumbling-blocks, let the R.I.B.A. appeal to all sections of the subscribing public. Why should hospitals and medical research centres have the monopoly of our Nuffields ?

Finally, though it is beyond the scope of this article to speculate on how a reconstructing government should design its grand plan, or how settle the relationship of architects to the different kinds of planners, we must demand to know how the role of the architect is to be defined and assured in the grand plan as a whole. Is the architectural profession to be left out in the vague and obsolete cold of private or salaried practice and Competitions, while other spheres of the national life are carefully rationalized ; or, as we hope, will all architects, in order to cope with the post-war spate of rebuilding, be organized into a group compact, efficient, economical, in which each member knows his or her place, and is reasonably assured of his or her personal contribution to post-war architecture ?

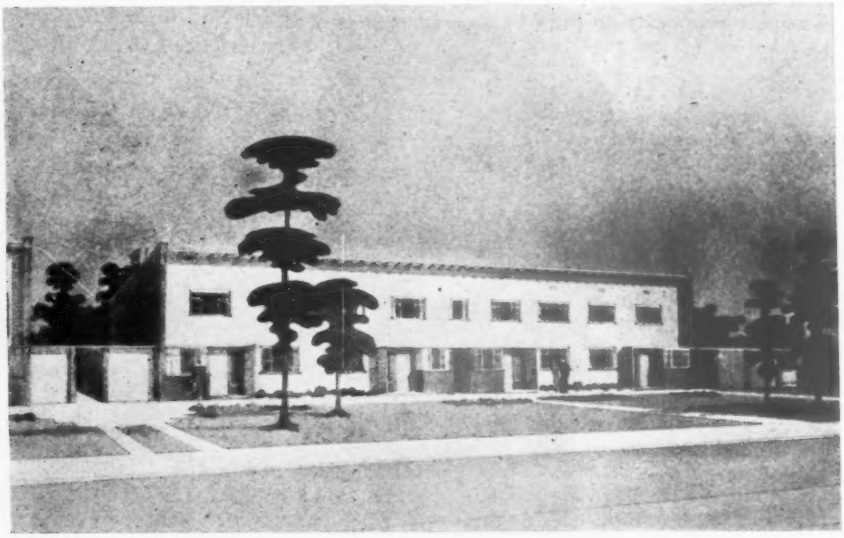
This is one of the acid tests by which plans for Reconstruction should be judged.



COVENTRY



GENERAL—In April last we published plans and drawings showing the progress being made with the development of Coventry. This development is being carried out in two forms : a general long-term plan for the improvement of the whole of the city, and an immediate plan for supplying urgent housing needs. The first blocks on the Canley Housing Estate in the latter programme have now been completed and were officially opened last month. The Canley housing scheme is the latest achievement to reach completion and, for a time at any rate, Coventry is compelled by shortages of material and labour to call a halt to its housing schemes. Hostels and shelters have more urgent priority.



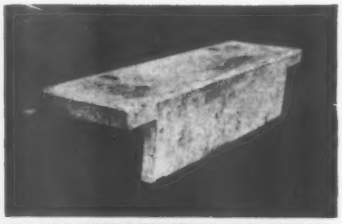
Above, two views of the preliminary scheme and a general view of the main elevation. Facing page, left, one of the precast concrete stair units used throughout the scheme : the lugs are built-in (note blocks let in for stair carpet holders), and column at back door; clay pipes are used as permanent shuttering. Right, view of porch showing space for perambulator.

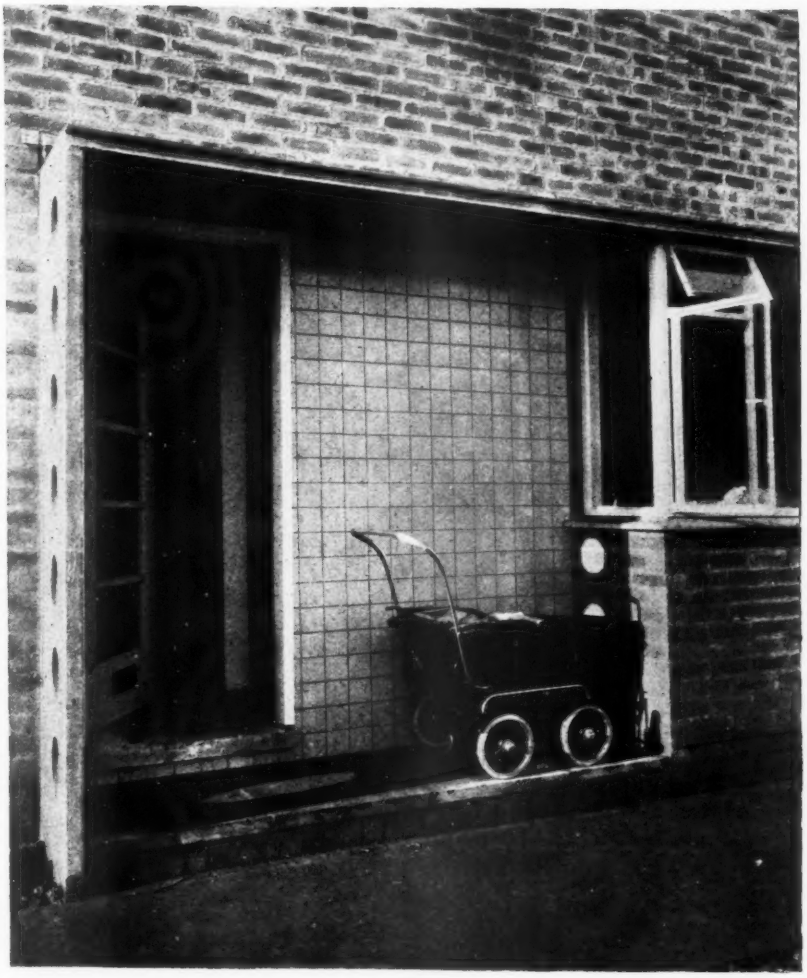
CONSTRUCTION — Before the schemes were put in hand a great range of constructional methods were examined. Those finally adopted appeared to offer the best compromise between durability, good appearance and materials available in war-time. It will be noticed that the use of reinforced concrete stairs, first floors and roofs is the main departure from peace-time practice in small housing. Walls : 11 in. brick. Partitions : 4½ in. brick. Ground floors : 6 in. lean concrete, 3 in. hollow tiles set in this when green, 2 in. fine concrete, wood composition blocks and quarry tiles. First floors, roofs : Myko concrete. Wall finish : plaster. Roof finish : 3-ply bituminous felt and gravel. Ceilings : plaster-board. Staircases : precast concrete. Doors : flush with metal trim. Windows : steel casements. Guttering and down-comers : asbestos cement.

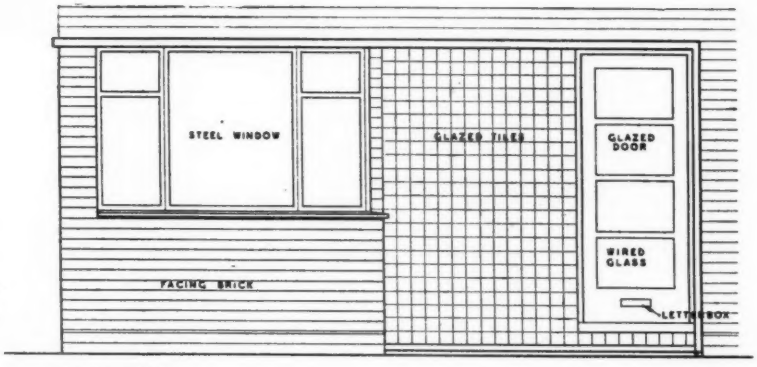
EXTERNAL FINISHES—The front doors are of different colours, some blue, some white, some light terra cotta, and the colour of the tiling differs with each block of houses, pastel shades of yellow, blue and green being used. Window frames are painted a light cream, which is set off by the russet of the pointed brickwork and the biscuit-coloured tiled sills. The front doors are glazed and there is space for the perambulator adjoining the front door; accentuation is given to the canopy by the dark line of the asphalt covering, and the precast concrete screen which gives lateral protection to the front door. A narrow flower bed is planned below the parlour window. The bed is formed by cutting back two of the paving flags and is intended to receive creeping plants. On the rear elevation the parapet is stopped off and replaced by a gutter. The free standing column by the back door is cased with earthenware pipes to ensure a lasting finish and the colour of the pipes is in contrast to the green doors to the kitchen and w.c.

CANLEY

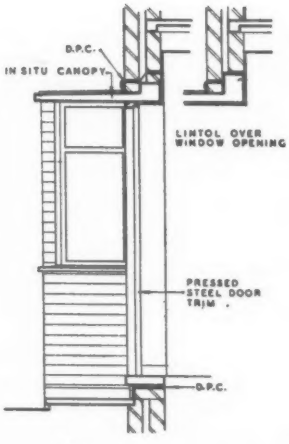
SERVICES—*Gas and electricity.*—Meters are housed below the stairs and gas points are provided in the kitchen and in bedroom 2. The electrical points are shown on the plan and, in addition to lighting points, 15-amp. power points are provided in the living room, parlour and kitchen. On the first floor, there is a 15-amp. point at the side of the linen cupboard, the point being placed in this position to serve the whole of the first floor. All plugs and switches are let in flush with the wall, thus eliminating any risk of damage through moving furniture, etc.

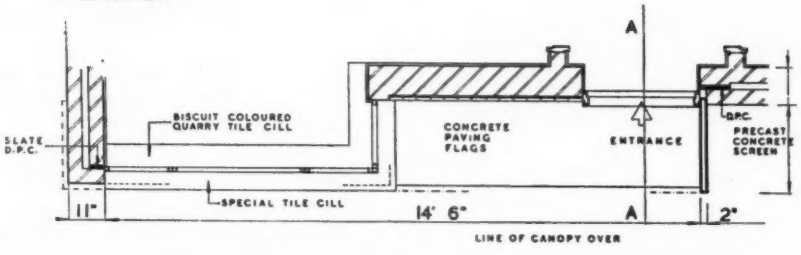




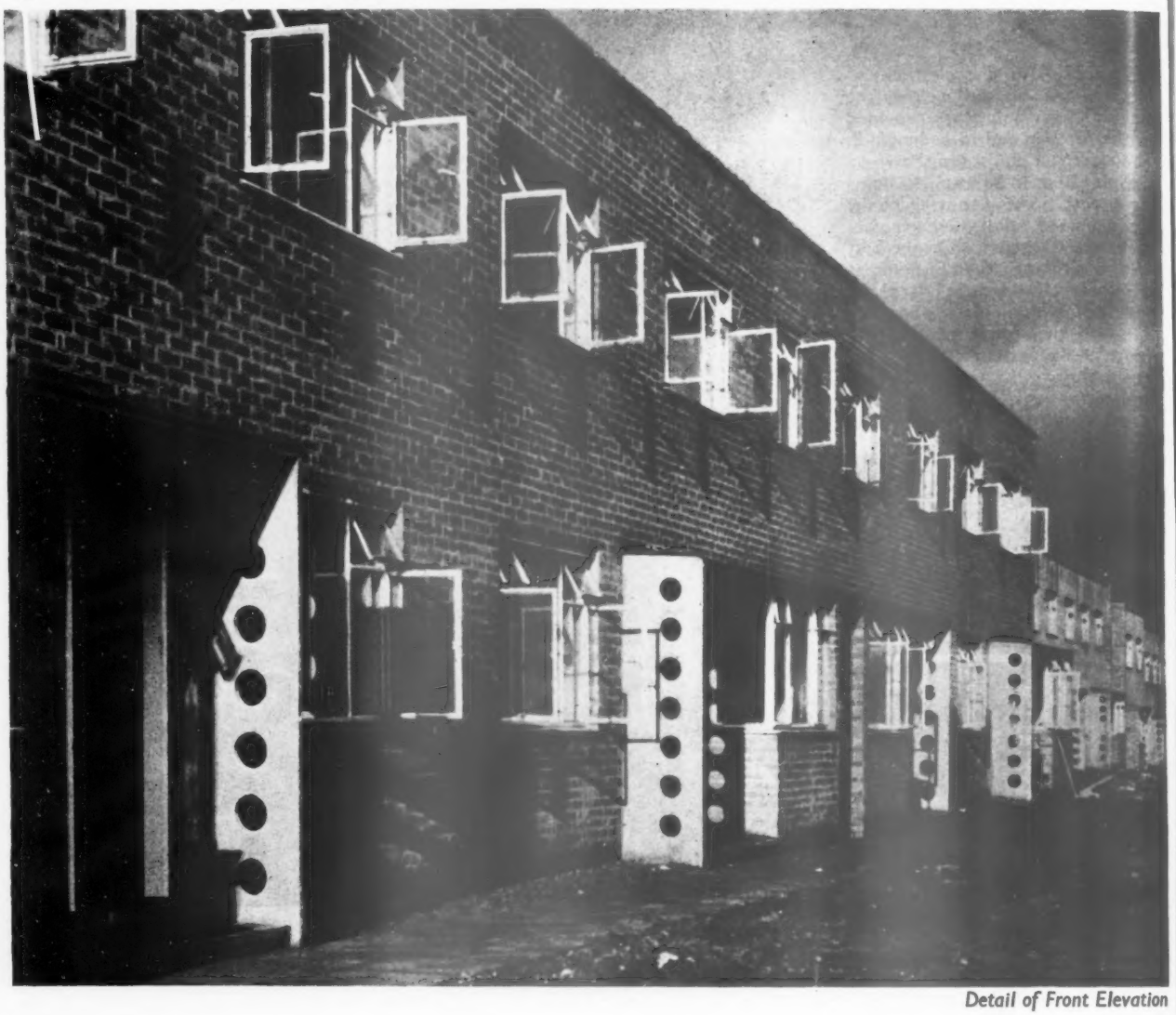


ELEVATION

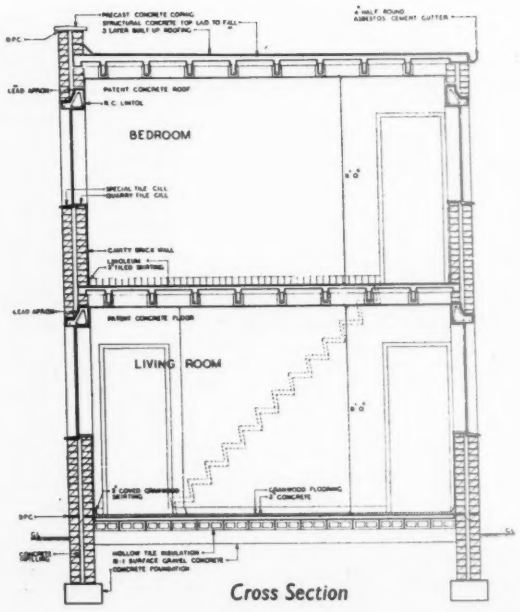




HOUSING SCHEME, COVENTRY



Detail of Front Elevation

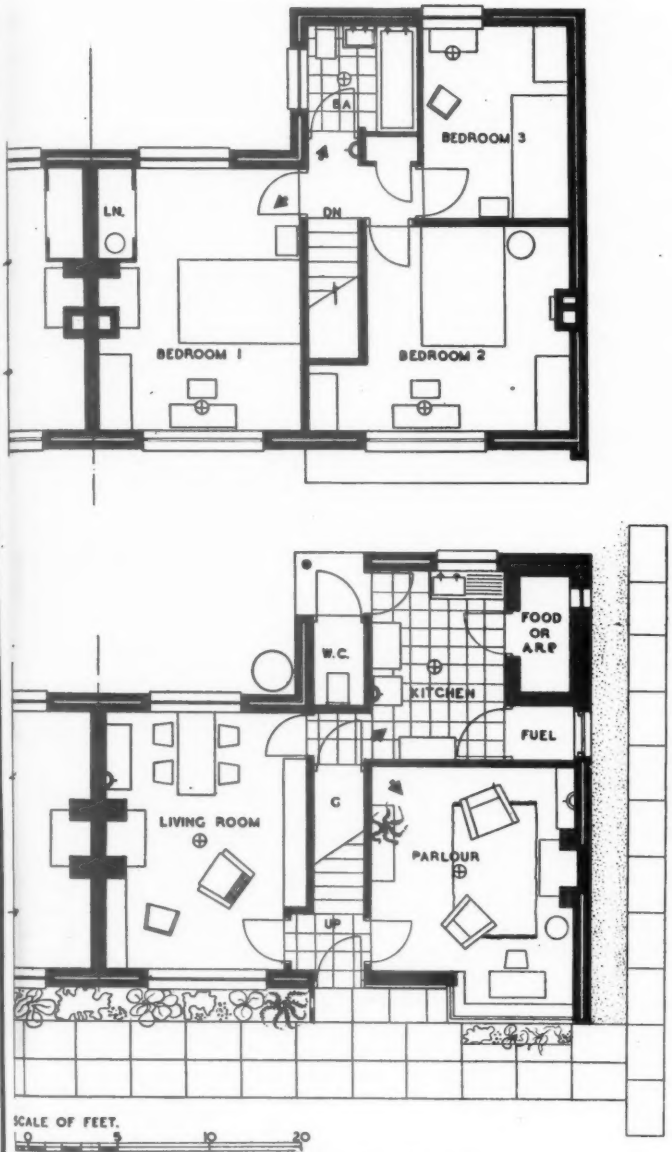


Cross Section

Hot and cold water—The Coventry water regulations do not call for a separate cold water storage tank, with the result that the cold water system is taken directly from the main. Hot water is provided by a back boiler to the living room fireplace and directly over the boiler there is a combined hot water cylinder and small feed and expansion tank situated in the linen cupboard in bedroom 1. From the cylinder, pipes run at skirting level to the bathroom and kitchen below. This simple water system eliminates tanks above the roof with attendant danger of freezing. *Water and soil disposal.*—Internal waste pipes are of lead, but the external stacks are of asbestos cement. Rain-water gutters are also of asbestos cement, and at the end of the rain-water down-pipe, a galvanized water butt is provided, complete with over-flow to adjacent gully.

EQUIPMENT AND FINISHES—The selection of the internal finishes and equipment has been determined by the following considerations: (1) Reduction of expenses to the incoming tenants, e.g. floor finishes; (2) Labour saving, e.g. coved skirtings; (3) Low maintenance and running costs, e.g. small areas of paint-work, insulated floors and roofs to reduce fuel bills; (4) Pleasant appearance, e.g. colour schemes;

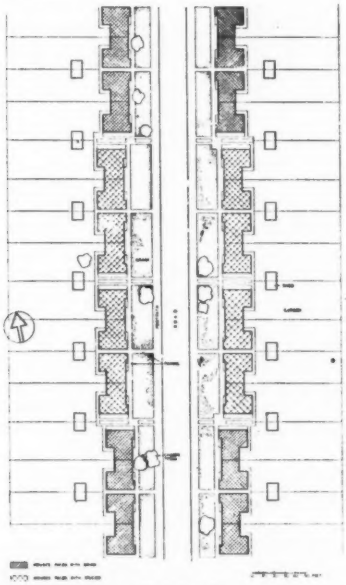
CANLEY SCHEME D

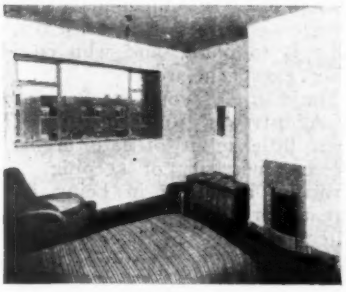


GROUND AND FIRST FLOOR PLANS

The plans are of a typical house. The lay-out plan of the scheme shows : cross-thatching, houses faced with brick; diagonals, houses faced with stucco.

Centre : A typical bedroom: view from the door. Walls are ivory, door frames pastel yellow; floor, dark brown linoleum with buff quarry tile skirting. Bottom: the parlour; view towards bay window. Walls are distempered ivory; the door frames, grey; doors, pastel yellow ; Granwood dark floor, brown; tiled cills, biscuit.





It is these considerations which are responsible for such features as : (*a*) Curtain rod holders as integral part of metal window frames ; (*b*) Floor finishes, e.g. bedrooms : linoleum with quarry tile skirtings ; living room : "Granwood" with coved skirtings ; kitchen and bathroom : buff quarry tiles ; (c) Vitreous enamel fireplace surrounds and hearths. Vitreous enamel is not so easily damaged as faience and the provision of hearths relieves the tenant of the necessity of providing fenders ; (d) Tiled internal window sills which will not stain, even if flower pots are stood on them ; (e) Concrete stairs, complete with wood plugs for fixing stair-rod holders, so that the tenant has the choice either of leaving the stair as it is or, if he wishes, laying a carpet.

DESIGNERS — The designers are : D. E. E. Gibson, City Architect, and the Deputy and Chief Assistant Architects. We are asked to state that owing to war conditions and consequent calling up and replacement of staff, it is difficult to give individual acknowledgment to the assistant architects, with the exception of Mr. Gwynn H. Morris, Senior Architectural Assistant, who has worked on the houses since the inception of the scheme.

M E *DESIGNED BY D. E. E. GIBSON*

LETTERS

EDWARD MITCHELL

C. BIRDWOOD WILLCOCKS

GERALD HAYTHORNWAITE

Self-effacement by Architects

Sir,—In a recent issue you recite the composition of the Panel to consider payment by results.

Why is there no architect included?

I suppose that this is only one more instance of the present policy of self-effacement by architects.

The architect, whatever may be the current trend of opinion, is without doubt the keystone (find a better word if you can) of all building operations.

Enquirers (if competent) can calculate; operatives can construct, but who is to plan? and who co-relates effort except the architect?

The name of your excellent journal is ARCHITECTS' JOURNAL, but I have seen little in it of late urging the present necessity of keeping private firms of architects in being for the great work they will be needed for after this war.

EDWARD MITCHELL.

Architectural Records

SIR,—The interest which has been aroused by the finding of Barry's original drawings of the House of Commons calls attention to the value of such records in the event of the buildings being damaged by enemy action or from other cause. Whilst measured drawings are not available of a number of interesting buildings, photographic surveys, such as can be easily made, are for some purposes almost as useful as measured drawings, as architects are aware who have used photography in connection with surveys of old buildings which they have had to repair or reconstruct.

Recently several county architectural records committees have been formed to obtain photographic records of buildings of merit in their areas, so that records will be available, if required.

In August memoranda on the formation of such architectural records committees were sent to the ecclesiastical authorities and the chief architectural and archæological societies in England and Wales, also to Scotland and Ireland and it was suggested that local societies interested in the matter should combine to form committees in areas in which there were no such organizations.

There has been a considerable response and steps are being taken to form several new county committees.

As this is a matter which appeals particularly to architects, many of whom already are engaged actively on the work, it is hoped that all able to do so will give the project their fullest support and take the initiative with regard to the formation of committees when advisable.

Those willing to help should communicate with the secretaries of the societies in their counties who are interested in the subject, and offer such help as they are able to give, either in organizing committees in areas in which there are none, by taking photographs, or financially. If someone can be found in each rural deanery who will organize the work in the deanery for the county committee, it will be of great assistance.

Area recording committees throughout the country are essential if the work is to be carried out systematically and efficiently. They should work in close co-operation with the National Buildings Record, which will be glad to give all the help it can in the matter.

C. BIRDWOOD WILLCOCKS.

Reading.

Impington at Work

Sir,—Major Maxwell Fry's courteous and patient reply to my contention that the comparison of Impington graced by photographic skill and Impington bereft of that aid, reveals the failings of contemporary architecture, confirms broadly, that contemporary architecture is unformed and avers that its faults are the faults of youth.

I am emboldened by this, to submit that contemporary architecture is not merely young and unformed but embryonic, and displays, for the first time in our history, those abnormalities which nature is accustomed to resolve in covert gestation.

The over-development of some functions and the retarding of others occasion abnormalities in an embryo, and the lack of mature environmental influence afflicts it with an unnatural, stereotyped form. It appears to me, that contemporary architecture evinces these characteristics of an embryo, engendered by precisely the same causes.

Sanitary excellence, in its wider and in its more particular sense; structural simplicity, and convenience, are the over-developed functions which induce abnormality in our architecture. Disregard for the existing qualities in locality, which form the manifold and varied glories of our countryside and what remains of the dignity of our towns; demonstrates the lack of environmental influence and assists the delivery of prematurely born, stereotyped architectural babies, to a bewildered and complaining parent public.

The urgency to develop those functions in architecture which delight the eye and exalt the spirit may be apparent only to a few; but the need for architecture to submit to the existing and acknowledged qualities of environment is apparent to all. Soon we shall engage in great building activity; if then we have not learnt to assess the value of locality and continue to accept without criticism our contemporary fashion of building, we must allow Convenience, Rigidity and Despair to supplant our definition of "Well building."

GERALD HAYTHORNWAITE.

Welwyn. Captain R.E.

Two ways of looking at a building

★ *WHAT is the cure for condensation forming on cold water supply mains running at roof level through factory blocks?* - - - - Q 857

★ *WHAT are the qualifications necessary to obtain a post with the Government abroad?* - - Q 859

★ *WHY should battleship lino buckle when laid on a lightly reinforced 6 in. concrete slab resting upon about two feet thick of hard dry filling?* - - Q 861

THE ARCHITECTS' JOURNAL

INFORMATION CENTRE

THE Information Centre answers any question about architecture, building, or the professions and trades within the building industry. It does so free of charge, and its help is available to any member of the industry.

Enquirers do not have to wait for an answer until their question is published in the JOURNAL. Answers are sent direct to enquirers as soon as they have been prepared. The service is confidential; and in no case is the identity of an enquirer disclosed to a third party.

Questions should be sent to—

THE ARCHITECTS' JOURNAL

45 THE AVENUE,
CHEAM, SURREY

Telephone: VIGILANT 0087

Q 856

SURVEYOR, DUBLIN.—*A contractor had entered into a contract for new buildings, additions and alterations to existing buildings, when the employers decided not to proceed with certain sections. The contractor had prepared some materials required for these sections and on handing over it has been agreed to pay for them. He further claims loss of profit for not being allowed to proceed. Against this the employers contend that the contractors' claim should be made as follows: that the variations made to the other buildings and the erection of another complete new building during the time allowed for the original contract should be set against the cost of the sections not gone on with, the difference between these forms, the basis on which the contractor can claim profit, i.e., assume the contract as £100,000, of which £16,000 has not gone on: extras and additional building amount to £6,000; the employer claims that the contractor would only be able to sustain loss of profit on £10,000. The contractor, however, claims that he should be paid on the £16,000 less the amount of materials he supplied, including his profit on same. Can you refer me to any decision on such a case?*

We advise you to study the form of contract rather than reported cases, which are frequently misleading to anyone without legal training. As a rule the Courts have no power to alter a contract, they can only interpret it or, in very exceptional cases, set it aside.

We think that the clauses of the R.I.B.A. Contract, for instance, are quite clear. Clause 9 states that "No variation shall vitiate this contract" and proceeds to lay down the method of valuing variations. If the particular form of contract used in your case allows for variations and does not provide for the payment of loss of profit in the case of omissions, we see no reason why any loss of profit should be allowed.

If the variations are such that the work, as a whole, is substantially different from that contemplated by the parties, it is possible that the Courts would set aside the contract, but it seems unlikely in the instance you have given, as the nature of the work is apparently the same and the total variation in cost only amounts to about 10 per cent. of the contract sum.

Q 857

ARCHITECT, WARWICK.—*I have experienced considerable inconvenience from CONDENSATION forming ON COLD WATER SUPPLY MAINS running at roof level through factory blocks. This condition has caused damage to products below by drippings from these pipes.*

I have in hand proposals for improved ventilation which should to some extent alleviate the trouble. In the meantime, can you suggest any immediate remedy, such as the application of anti-condensation paint.

This trouble exists both under heated and non-heated conditions of the works and recurs periodically dependent on prevailing weather conditions.

Improved ventilation may alleviate the trouble as you suggest, but it is not likely to effect a cure as the temperature of the air is likely to remain higher than the temperature of the pipes through which cold water is flowing.

Two anti-condensation paints are given below which should prove satisfactory. Alternatively, you could insulate the pipes by means of felt or similar material.

Anti-condensation paint, The Fairfield Paint Co., Ltd., London Colour Works, White Horse Lane, Mile End, London, E.1; Cork-Tex B. (anti-condensation paint), Thos. Parsons & Sons, Ltd., 315, Oxford Street, London, W.1.

Q 858

ENQUIRER, LANCS.—*I have just been asked by the rector here whether I know anything of the preserving qualities of Szerelmey Stone Liquid.*

The preservative is required for the War Memorial in this village. It is showing signs of rather rapid deterioration, perhaps due to salt in the air borne in from the sea that is only half a dozen miles distant.

In reply to your enquiry Messrs. Szerelmey, Ltd., is a firm of very good standing, and we can recommend them for any work in connection with

the preservation of stonework and also any materials supplied by them for use by a builder, providing the materials are used strictly in accordance with the manufacturers' instructions. It would be best to write to the manufacturers informing them of the stone used, the extent of the decay and any other factors such as the presence of salt in the atmosphere in order to obtain accurate advice.

It is probable that Messrs. Szerelmey, Ltd., would be able to let you have a report of the Building Research Station on their products, if required.

Q 859

ENQUIRER, LANCS.—*Can you inform me what qualifications are necessary to obtain a post with the Government abroad.*

After the war, I should like to work on a Civil Engineering Contract in one of the Colonies. I have very little idea of the procedure and still less of the qualifications necessary. At the moment I have not any recognized building certificates, but passed the School Certificate Examination, four years ago (when I left school).

The work of Surveyor or Engineer interests me and it is in this class of work that I wish to be engaged.

I should be very grateful if you would advise me and suggest the best course to take.

There are many capacities in which you could be employed. Civil Engineer, Structural Engineer, Quantity Surveyor, etc. It is possible that you might be able to obtain a position abroad as a junior assistant after a limited amount of experience, but to secure an appointment as a Civil Engineer, Quantity Surveyor, etc., you would have to be fully qualified, and passing the qualifying examinations would probably take you about five years.

We have been in touch with the Chartered Surveyors' Institution on your behalf but have been informed that it would be much better for you to write to the Secretary direct; the same applies to the Institution of Civil Engineers. The addresses are :—

The Chartered Surveyors' Institution, 12, Great George Street, London, S.W.1.

The Institution of Civil Engineers, Great George Street, London, S.W.1.

Q 860

ENQUIRER, PLYMOUTH.—*In preparing my thesis for the R.I.B.A. Final Examination I am confronted with the following question in connection with filtration of salt and fresh water for Aquarium use.*

What discharge in gals. per sq. ft. of 4 in. depth of sand is acceptable to keep the water suitable for the well-being of the specimen. Also could pressure filters be used as well as slow-sand filters.

For domestic purposes I am aware that 2 gals. per sq. ft. per hour of 4 in. depth of sand is a maximum discharge but this quantity seems small for aquaria where a limited supply of water is to be constantly circulated.

We regret that your enquiry is rather beyond the scope of the Information Centre. Although we attempt to help with all architectural and building problems, we cannot pretend to be conversant with the special equipment necessary for particular purposes.

We have been in touch with the Royal Zoological Society, who suggest that you should write to The Marine Biological Laboratory, The Citadel, Plymouth.

Q 861

ARCHITECT, IRELAND.—*A little over three years ago I had battleship lino laid on some of the ground floor rooms of a large school. The lino was laid on a lightly reinforced 6 in. concrete slab resting upon about two feet thick of hard, dry, filling. The floor is about two feet above the surrounding ground, and the site is quite flat.*

In the Master's common room, which gets no sun, but is well ventilated, the lino has buckled very badly indeed; in the library it has buckled seriously; in some of the classrooms, slightly; while in the headmaster's room, where a carpet is laid on top, not at all. All the rooms, except the first, have a south-easterly aspect and are very sunny. The lino was laid with the edges glued down.

The cause of the trouble may lie in (a) ground damp; (b) the exceptionally humid atmosphere of the South of Ireland; or (c) the method of laying.

I doubt very much whether "a" is serious, as precautions were taken and there is no other evidence of ground damp elsewhere, but to obviate any risk of such it would now be possible to mop down one or two layers of light roofing felt on top of the concrete and then re-lay the lino. In this case, however, I am not sure whether any adhesive could be used lest there might be some chemical action between it and the bitumen in the felt.

Local layers seem to think that to paste the whole of a sheet of lino down on concrete is to court trouble in this damp climate, a point of view to which I have bowed always without much conviction.

It is very probable that the trouble is caused by the normal stretching of the linoleum under wear, and the fact that it was not allowed to stretch sufficiently before being stuck down. It is perhaps curious that the linoleum in the headmaster's room has not been affected in the same way, but we think that this is due to the fact that there is less wear and also to the fact that the carpet reduces the friction, which causes stretching. To make sure that linoleum will lie flat it is advisable to lay it loose and leave it *in use* for about a fortnight before sticking it down, though shorter periods are sometimes satisfactory.

We should advise you to unstick the meeting joints and one end and to leave the linoleum in use for a fortnight. The linoleum can be lapped at the meeting joints where it has expanded; paper padding under the joints will help to keep the lap-over in position and will prevent serious damage to the edge.

Finally the overlap should be cut off; this is best done by pushing the overlap under the linoleum which has remained protected during the "stretching" period, and using the latter as the guide for the knife. All edges can then be stuck down again.

The floor should, of course, be examined for damp whilst the linoleum is loose and if there is any sign of dampness the linoleum should be taken up and dried off. It can then be laid with a waterproof adhesive all over, such as "Synthaprufe," which will prevent the linoleum from rotting.

The chief objection to the use of an adhesive all over is the fact that it makes the curing of minor defects, such as stretching under wear, more difficult.

Q 862

ENQUIRER, NORTHERN IRELAND.—*I wish to obtain details of the Diagrid System of roof and floor construction. Would you please tell me where such information can be obtained.*

The Diagrid System is fabricated by Messrs. Diagrid Structures, Ltd., at 6, Collingham Gardens, London, S.W.5, who are the holders of the patents.

Q 863

STUDENT, N. IRELAND.—*The following is an extract from Yorke's "Specification" (1940), which has rather puzzled me. It reads :—*

> *"All stonework to be set in best manner, every stone well bedded with complete squeezed out joints in CEMENT mortar and all work in contact with brickwork to be plastered with similar cement to protect from STAINS and all the brick backing of same to be set in similar cement mortar."*

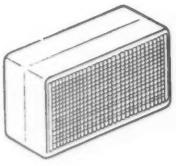
FACTS ABOUT GLASS FOR ARCHITECTURAL STUDENTS

No. 8—Insulight Glass Bricks

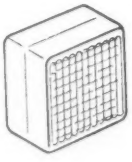
Insulight Glass Bricks are hollow translucent units, made in two halves and sealed together, forming bricks which can be laid in the ordinary way.

TYPES

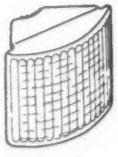
P.B.1
8"×4¼"×3⅜". Surface pattern of ½" convex ribs carried vertically on both exterior faces and horizontally on both interior faces. Approximate weight 4 lbs. 5 ozs.



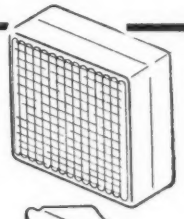
P.B.2
5¾"×5¾"×3⅜". Surface pattern of ½" convex ribs carried vertically on both exterior faces and horizontally on both interior faces. Approximate weight 3 lbs. 11 ozs.



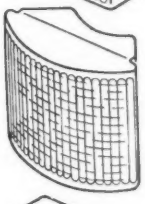
P.B.2. Corner Brick:
Surface pattern of ½" convex ribs carried vertically on both exterior faces and horizontally on both interior faces. Approximate weight 3 lbs. 10 ozs.



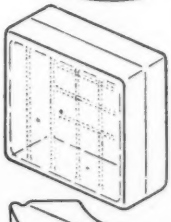
P.B.32
7¾"×7¾"×3⅜". Surface pattern of ½" convex ribs carried vertically on both exterior faces and horizontally on both interior faces. Approximate weight 6 lbs.



P.B.32. Corner Brick
Surface pattern of ½" convex ribs carried vertically on both exterior faces and horizontally on both interior faces. Approximate weight 7 lbs. 10 ozs.



P.B.3
7¾"×7¾"×3⅜". Surface pattern of 1¼" concave ribs carried on both interior faces, running vertically on one face and horizontally on the other. Both exterior faces are smooth. Approximate weight 6 lbs.



P.B.3. Corner Brick
Surface pattern of 1¼" concave ribs carried on both interior faces, running vertically on one face and horizontally on the other. Both exterior faces are smooth. Approximate weight 7 lbs. 10 ozs.

USES

Eminently suitable for external or internal walls, for staircase lights, panels, bays, partitions; for flat or curved surfaces; for any position where a diffused all-over light is required: or light combined with privacy.

ADVANTAGES

Thermal Insulation.
Reduced condensation.
Little maintenance required.
Sound Insulation.
Hygienic surface.
Fire resisting (classified Grade D under the British Standard Definitions No. 476, as a fire-resisting building material).

FIXING

Insulight Glass Bricks are non-load bearing units which will carry their own weight with a wide safety factor up to any practical height, but because of wind pressures and other stresses it is necessary to put an intermediate support in panels over 20 ft. high or 120 ft. super. Very wide panels require an expansion joint every 20 ft.

Mortar

A fairly dry and fatty mortar is advisable as the Glass Bricks are non-absorbent. The best mix has been found to be 4 parts (by volume) sand, 1 part Portland Cement and 1 part Slaked Lime putty, mixed fairly dry. The sand should be clean Builders' sand free from gravel. Slaked Lime putty has been found to be more fatty and therefore preferable to hydrated lime (*i.e.* dry lime or bag lime).

Pointing

The face of the joints may be struck back and smoothed during the erection or they may be raked out and later pointed up with Snowcrete, Colourcrete or similar materials. A "keyed" joint formed with a curved jointing tool is the finish mostly used.

An alternative method of adding "colour" to a panel is to paint the joints with a good oil paint or aluminium paint after the mortar is quite dry. This method should only be used on internal panels.

Reinforcement

Reinforcing strips should be built in every third to every fifth course according to the size and position of the panel. The ends should pass through the clearance joint and be built into or secured to the main structure. "Exmet" 2½in. wide No. 20 gauge expanded metal has been found most suitable for this purpose.

Clearance Joints

The top and both vertical edges of every panel must be built free of the main structure—except for the reinforcement—to avoid risk of settlement, load or expansion strains affecting the panel. A ½ in. clearance is advisable and this should be kept free of any spillings of mortar and be filled with a non-hardening material.

Our Griponex mastic has been found most suitable for filling the clearance joints on exterior panels and Gripon 10.10.N. for interior panels. There are, however, many non-hardening bituminous and other compositions on the market.

Wherever possible the top and ends should be built into a "recess" to provide stability not otherwise obtainable owing to the clearance joints. This recess should be 4½ in. wide by 1 in. deep, allowing ½ in. clearance and ½ in. cover over the face of the glass brick with ⅛ in. play on either face, and this also should be pointed with a non-hardening composition. Only small internal panels should be built into a "rebated" joint, *i.e.* recessed 1 in. on one face only, as a plain "butt" with no cover on the face to provide stability is not generally advised, and schemes requiring this type of joint should be submitted to our Technical Department before allowing the job to go on.

This is published by Pilkington Brothers Limited, of St. Helens, Lancashire, whose Technical Department is always available for consultation regarding the properties and uses of glass in architecture.

LONDON OFFICE AND SHOWROOMS: 63 PICCADILLY, W.1. Telephone: Regent 4281

The points which are not clear to me are :—

(a) From what stains is the cement mortar protecting the stonework?

(b) Should not a lime and stone dust mortar be used, solely because cement mortar will cause staining and the stonework treated with plaster or patent compound to protect from such staining when in contact with brickwork?

If you would answer the above queries I should be obliged.

We have been in touch with Mr. Yorke who has asked us to inform you that the clause in question should have made it clear that mortar composed of cement and stone chippings was advocated, not cement and sand. We understand that it is Mr. Yorke's contention that cement and sand may cause staining.

All authorities do not seem to agree on the question of whether cement or lime mortar is better for stonework and we submitted the question to the Building Research Station.

The Research Station pointed out that the question was not one which could be answered merely by "yes" or "no," and they could not very well use our organization as a medium for expressing their views at length.

They will be pleased to answer your question direct, and in the meantime refer you to page 69 of the Building Research Station Special Report No. 18, "The Weathering of Natural Building Stones," and their Questions and Answers, Fourth Series, No. 8, "Mortar for Brickwork."

Q 864

ARCHITECT, HANTS.—*Can you tell me the address of Messrs. Boyle & Co., Ltd., who have been recommended to me for A.R.P. Ventilators. (I am not sure of the exact title of the firm.)*

In reply to your enquiry, the emergency address of Messrs. Robert Boyle & Son is 34, Morland Avenue, East Croydon, Surrey. Telephone : Addiscombe 1133.

Q 865

ARCHITECT, WILTSHIRE.—*Can you give me any information regarding rammed earth or pise-de-terre walls or similar methods which would help to dispense with manufactured products.*

We advise you to apply to the R.I.B.A. Loan Library (which runs a postal service) for :—

The D.S.I.R. Building Research Special Report No. 5 on Cob, Pise de Terre, 1922, which contains a good bibliography ; or

Cottage Building in Cob, Pise, Chalk and Clay, by Clough Williams-Ellis.

The R.I.B.A. Reference Library also contains a large number of articles in Periodicals, etc., on this subject, but owing to the war, you would be advised to find out whether they are available before making a special visit to the Library.

Q 866

SURVEYOR, NOTTS.—*Can you tell me the name and address of the "Exe" Patent Goods Hoist? We have a pamphlet for this hoist, which we are interested in, but unfortunately this pamphlet does not give the name and address of the maker.*

The "Exe" Hoist was originally made by the Exe Hoist Company under the direction of Mr. E. A. Rideout, at 70, Royal Hospital Road, London, S.W.3. This firm has been out of business for some considerable time.

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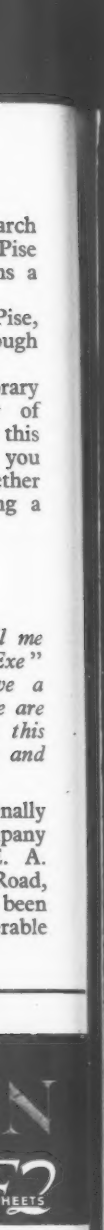

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"	3½ lb.
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"	8½ lb.

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ONE. LONDON