Alphabetical Index to Advertisers

For Appointments (Wanted or Vacant), Competitions Open, Drawings, Tracings, etc., Educational Legal Notices, Miscellaneous, Property and Land Sales—*see* pages xxxviii and xl.

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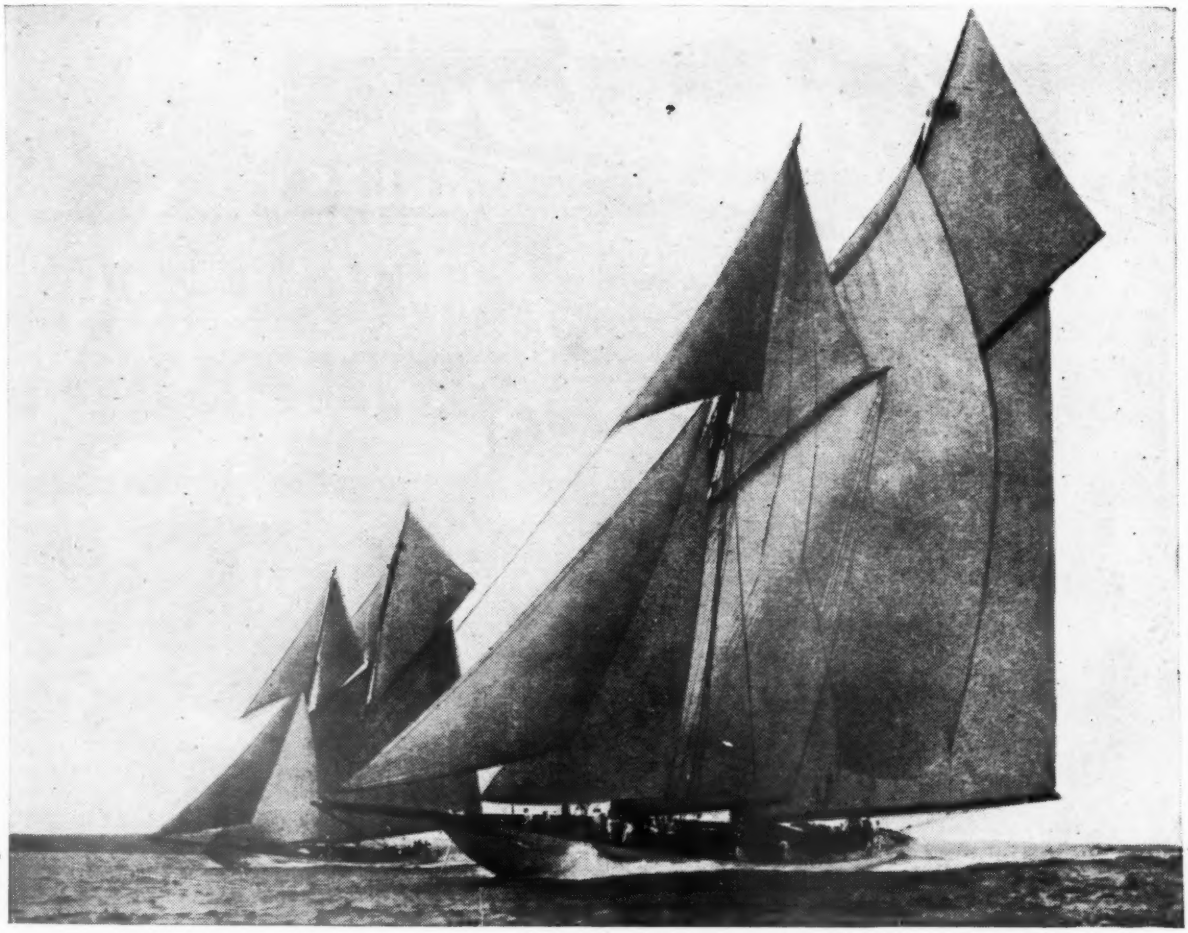

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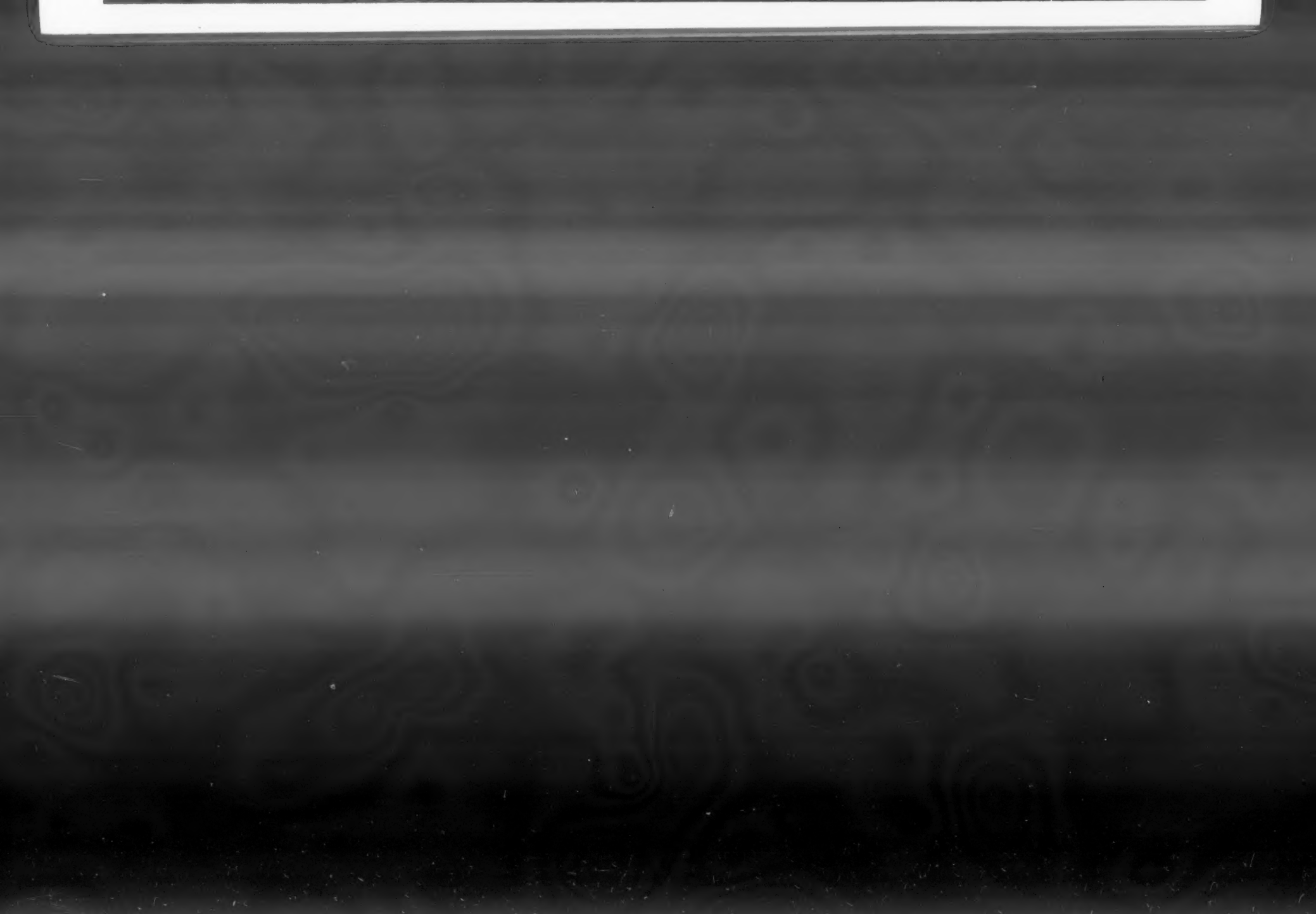

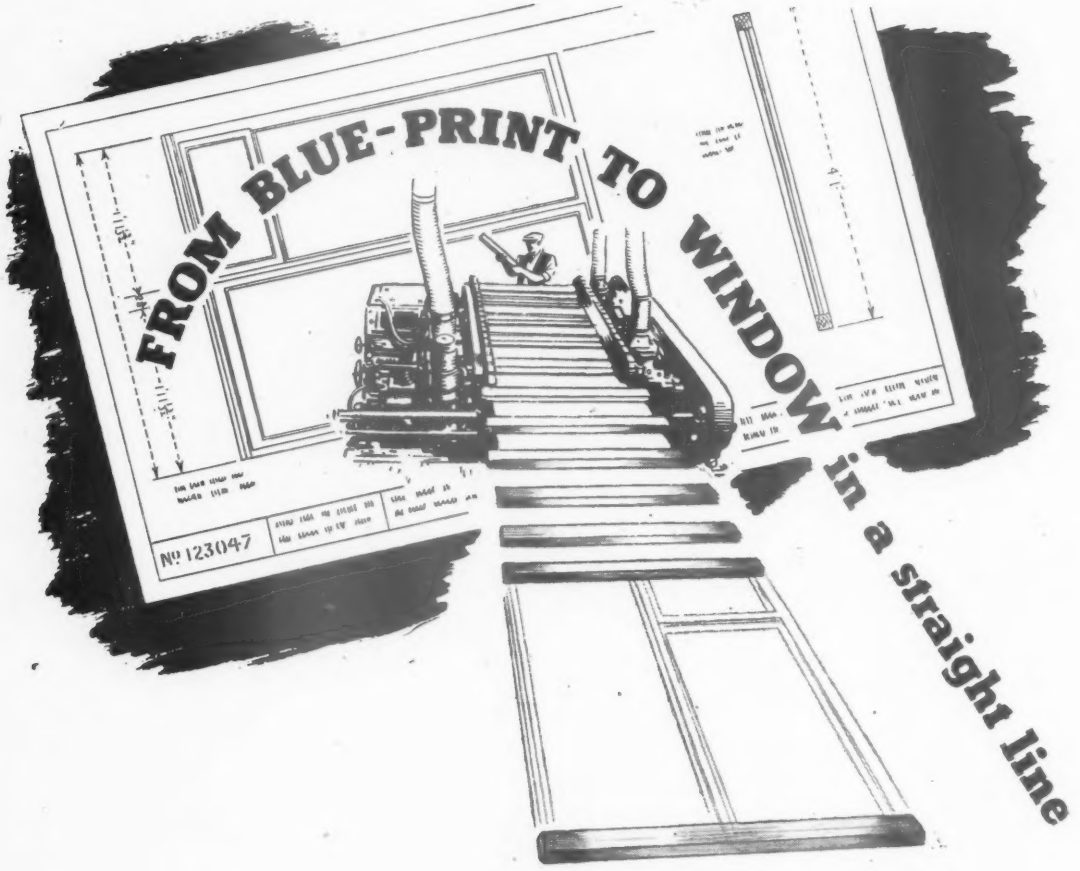

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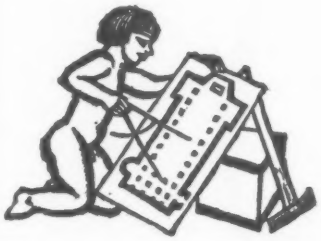
In common with every other periodical this JOURNAL *is rationed to a small part of its peacetime needs of paper. For this reason it is virtually impossible for Newsagents to accept new orders for the* JOURNAL *for the time being, and the Publishers are also now unable to enter new subscriptions. Intending subscribers should, however, send in their names either to their Newsagent or direct to the Publishers to be recorded on the "waiting list" when they would be advised as soon as a vacancy occurs. The annual post free subscription rate is £1 15s. 0d. Single copies, 9d., postage 2d. Special numbers, price 1s. 6d. are included in the annual subscription. Back numbers more than 12 months old (when available), double price. Volumes can be bound complete with index, in cloth cases, for 15s. each; carriage extra. Goods advertised in the* JOURNAL, *and made of raw materials now in short supply, are not necessarily available for export.*



DIARY FOR JULY AUGUST AND SEPTEMBER

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.

CAMBRIDGE. *Rebuilding Britain Exhibition.* At Newnham College. (Sponsor, BIAE.) JULY 20-27

DUDLEY. *Rebuilding Britain Exhibition.* At the Public Library. (Sponsor, BIAE.) JULY 20-29

GRANTHAM. *The English Town: Its Continuity and Development.* Exhibition. At the Guildhall. (Sponsor, TCPA.) JULY 20-26

HARROGATE. *Englishman Builds Exhibition* At the Art Gallery. Mrs. Hurrie, guide lecturer. (Sponsor, BIAE.) JULY 24-AUG. 13

LEEDS. *When We Build Again* and *Homes of To-morrow.* Exhibition and film. (Sponsor, TCPA.) JULY 20-22

LLANDYBIE, SOUTH WALES. *When We Build Again.* Exhibition and film. At the National Welsh Eisteddfodd. (Sponsor, TCPA in collaboration with Messrs. Cadbury Bros.) AUG. 7-11

LONDON. *RA Exhibition.* Weekdays 9.30 a.m. to 7 p.m. Sundays 2 to 6 p.m. Admission: One Shilling. JULY 20-AUG. 7

Town House Exhibition. At 13, Suffolk Street, S.W.1. (Sponsor, Housing Centre.) JULY 20-31

County of London Plan. Exhibition. At Shoreditch Housing Association. (Sponsor, HC.) JULY 20-27

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. JULY 20—AUG. 26

Edward H. Newman. *Education for Householding.* At 13, Suffolk Street, S.W.1. (Sponsor, Housing Centre.) 1.15 p.m. JULY 25

Reconditioning England Exhibition, 1944. At St. Martin's School of Art, 109, Charing Cross Road, W.C.2 JULY 24—AUGUST 7

F. J. Osborn. *Preservation and Progress.* At a meeting to be held by TCPA in conjunction with *Reconditioning England* Exhibition at St. Martin's School of Art, Charing Cross Road, W.C.2. Chairman, Lord Harmsworth. 3 p.m. JULY 25

London Master Builders' Association Half-Yearly Meeting. At the Dorchester Hotel, Mr. H. C. Harland, President of the Association, will preside. Mr. Henry Willink, M.P., Minister of Health, is to be the guest of honour. JULY 27

Edward Carter. *Painting and Sculpture in the USSR.* At 22, St. Petersburgh Place, Bayswater. (Sponsor, International Arts Centre.) 8 p.m. AUG. 4

What is Modern Architecture? Public discussion. At the RIBA, 66, Portland Place, W.1. Sir Charles Reilly, honorary member of MARS Group, will preside and sum up. (Sponsor, Mars Group.) 6.30 p.m. AUG. 21

NEW MALDEN, SURREY. *The English Town: Its Continuity and Development.* Exhibition. At the Public Library. (Sponsor, TCPA.) AUG. 19-26

NUNEATON. *Homes to Live In Exhibition.* At Riversley Park Art Gallery. Miss Ivor Jones, guide lecturer. (Sponsor, BIAE.) JULY 20-22

PEMBREY. *When We Build Again.* Exhibition and Film. (Sponsor, TCPA in collaboration with Messrs. Cadbury Bros.) AUG. 5-15

STOCKPORT. *When We Build Again.* Exhibition. (Sponsor, TCPA in collaboration with Cadbury Bros.) AUG. 19-26

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

TORQUAY. *When We Build Again.* Exhibition and Film. At the Gas Company Showrooms, 112, Union Street. (Sponsor, TCPA, in collaboration with Messrs. Cadbury Bros.) To be opened by The Mayor of Torquay (Councillor E. H. Sermon) at 2.30 p.m. on September 2. SEPT. 2-9

NEWS

THURSDAY, JULY 20, 1944
No. 2582. 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 unstarred 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.

A ten-million pound scheme is proposed for an ATLANTIC TERMINAL AIRPORT AT BLACKPOOL and a seaplane base at the mouth of the River Ribble.

The aerodrome will be in the Blackpool area, extending into both the Lytham St. Annes and county areas, and is likely to be the largest in the country. It will be coupled with the seaplane base by an underground tunnel. The proposal is being considered by the Blackpool Corporation.

It is estimated that since the collection of IRON RAILINGS commenced 530,000 tons have been sent to iron and steel works for smelting, said the Minister of Supply in the Commons.

Sir Andrew Duncan, the Minister, also stated that 20,000 tons are being sorted preparatory to going into steel-works, and only 43,000 tons remain in stocks at dumps. Mr. Edwards (Soc., Middlesbro' E.) asked the Minister if he will not agree that it has been a huge mistake to take the railings and cause inconvenience? Sir Andrew: These railings have proved to be really first-class scrap and quite indispensable.

from AN ARCHITECT'S *Commonplace Book*

PLANNING BY STEALTH. [*From* Fine Building, *by Maxwell Fry* (*Faber & Faber*)]. The problems to be solved in this town concern the property of citizens who would fight like cats to keep their property intact and be supported in the fight—so long as there was little knowledge of the reasons for planning or of the benefits to flow from it. But planning by stealth must give way as knowledge increases. Town planning should be brought to pavement level by opening in the town an information office in which should be displayed the regional and town plans, proposals for new buildings whether of public or private origin, and such information as would lead to an intelligent interest in the growth of the town from the past into the present and on into the future. If this were done it would be found that in due course suggestions would come in from the people and that finally the work of replanning would assume the character of true collaboration.

★

The MARS Group has sent a letter to convey to the LCC its welcome of the COUNTY OF LONDON PLAN. The letter, addressed to the Clerk of the LCC, reads: Dear Sir,—At a recent meeting of the Group, and following a discussion of the County of London Plan, the following resolution was passed unanimously: "The MARS Group desires to convey to the London County Council its welcome of the County of London Plan as the first adequate and comprehensive plan for the county and one of the first plans to be sponsored by an official body, in which modern planning principles are applied to an established social organism." As you may be aware, the MARS Group has been concerned with the study of London planning for a number of years, and the results of its researches have been the subject of public notice from time to time. These researches have necessarily been on the theoretical plane, and it has given great satisfaction to the Group to see some of the principles which it adopted worked out in a full context of factual information. A certain number of criticisms emerged during our recent discussion of the plan, and I shall be submitting to you the Group's observations on matters of detail in the form of a report.—Yours faithfully, (Sgd.) M. HARTLAND THOMAS, Hon. Secretary.

★

The National Housing and Town Planning Council invites designs in COMPETITION FOR BLOCKS OF TERRACE HOUSES suitable for erection in towns. The competition is open to architects and students of architecture. Assessor, Mr. Louis de Soissons, O.B.E., A.R.A., F.R.I.B.A. Premiums: First, £125; second, £75; designs placed next in order of merit, prizes to a total value of £75. It is not the intention of the promoters to build houses to any of the designs submitted, but they will make every endeavour to bring the premiated designs and any other designs they consider suitable to the notice of competent authorities concerned with housing. Designs to the Secretary, National Housing and Town Planning Council, 41, Russell Square, London, W.C.1, not later than October 12. Competitors are to assume a site with a slope of 1 in 30 with the road, and level at right angles to the road. This road, 50 ft. wide, runs east to west, and competitors are to design dwellings of differing aspects arranged in the various plan forms. The promoters feel that the standards in the Tudor Walters (1918) and the Dudley (1944) Reports are a reasonable basis for the accommodational standards of the type of houses required. Dwellings are to be of three types: to accommodate four, six and seven persons, whether adults or children. No overall areas are stipulated and competitors are free to design the living space in such a manner as to express their ideas within the limits of the reasonable economy necessary in designing houses for State-aided schemes. Labour saving in the sense of rotation of work, including laundry work, convenience of planning, facilities for various forms of storage, and reasonable standard of fuel economy should be observed. If, for special features, competitors wish to include any flat dwellings, they may do so provided these are only incidental to the general design and that they are few in number. If included, these should be planned to accommodate from two to four persons. All information is to be shown on the drawings. No estimate of cost is required. Full particulars of the competition can be obtained from the National Housing and Town Planning Council.

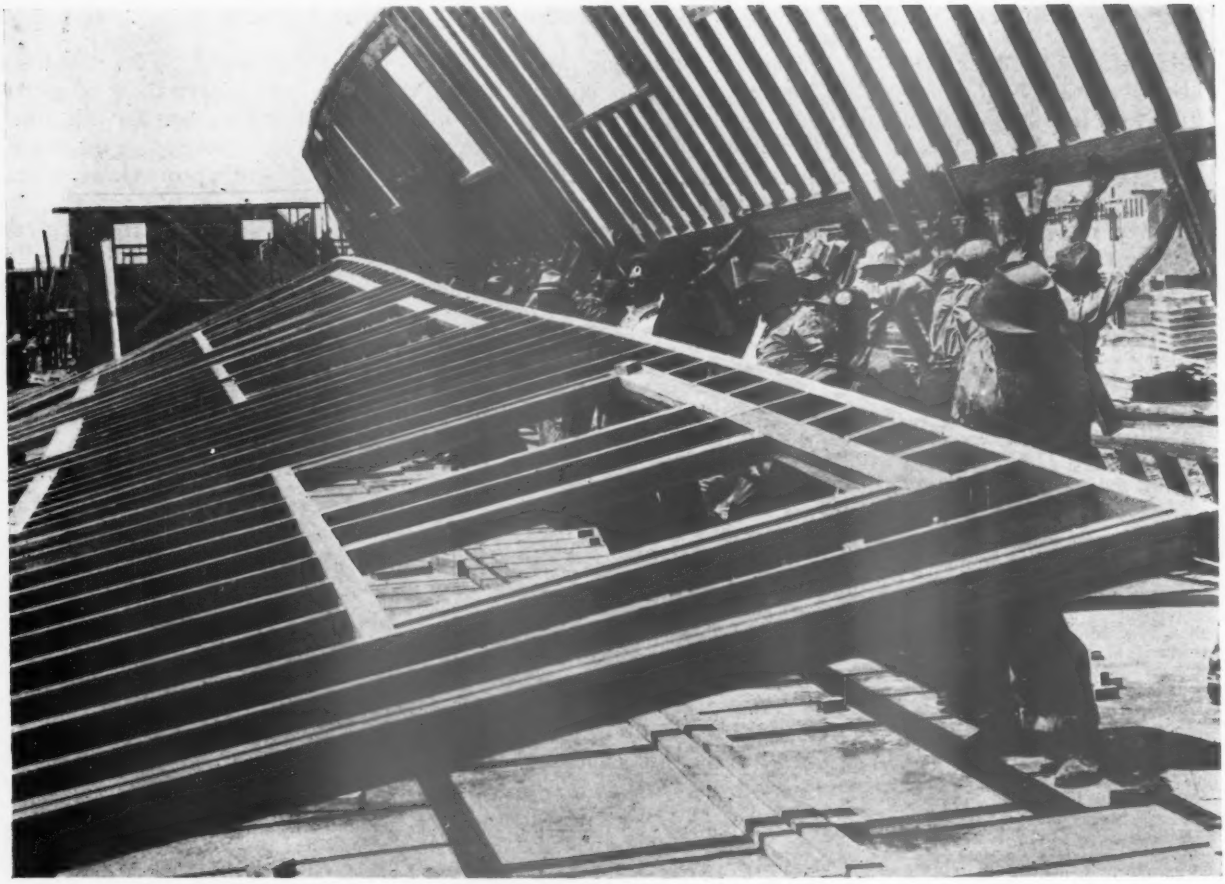
★

An appeal to the Minister of Town and Country Planning for a public inquiry into THE PROPOSED GIGANTIC ELECTRICAL PLANT AT DURHAM has been lodged by the Bishop, the Chapter, the University, and the Durham Preservation Society. Dr. C. A. Alington, the Dean of Durham, says: We hope that all who care for the beauty of Durham will support our protest by every means in their power. In a letter to *The Times*, Mr. Alwyn Dunelm, Dr. Alington, and Mr. J. F. Duff, Warden of the Durham Colleges, state: The magnificent view of the cathedral and castle of Durham from the railway, which is familiar to thousands who know little more of the city, has hardly a rival in Europe. Under plans now lodged with the Ministry of Town and Country Planning the foreground of this view will be occupied by a gigantic electrical plant; its two chimneys (350 ft. high) would rise higher than the central tower of the cathedral on its hill; they would be flanked by three cooling towers (260 ft. high) and other buildings in proportion. Even if the proposal should result in a substantial increase in employment of Durham people (which it would not) we should still feel bound to oppose the erection of so monstrous an edifice on this particular spot. Lieut.-Colonel S. E. Monkhouse, managing director, North-Eastern Electric Supply Co., in reply, says: In proceeding to condemn the proposal for the establishment of a modern power station in the vicinity of Durham City by suggesting that it will occupy the foreground of this view, the letter leaves a false impression on the mind which it is necessary to correct. The picture familiar to the thousands who pass through Durham day by day is that of the Cathedral and Castle from the railway viaduct, with the houses of the old city in the foreground, which cannot be spoilt by the proposed new power station, as the latter is a mile or more to the northward, on the outskirts of the city. Only two considerations have caused us to proceed with this pressing industrial development—that another power station must be erected to meet the ever increasing demands, and that we have been unable to find any other suitable site.

A small house of brick would be AS INEXPENSIVE AS THE CHURCHILL HOUSE, and erected just as quickly. This opinion is expressed by Mr. Frank Lee, engineer and surveyor of Enfield, in a report to the Urban District Council on the Churchill House. He says: A small house to a better plan and of a more permanent nature could be erected in bricks and other available materials. Such a house would be as inexpensive as the factory-made house, could be erected just as quickly, and would fulfil a permanent need. The Council has authorised the engineer to submit to the Ministry of Health plans for 24 houses of this type, and has informed the Ministry that it believes that the best way of utilising other trades to help building would be to facilitate mass production of standard fittings such as sink units, cupboards and baths.

★

In the House of Commons on July 12 the second reading of the TOWN AND COUNTRY PLANNING BILL was carried by 227 votes to 14. All but a handful of the Socialist Members followed the advice of their deputy leader, Mr. Greenwood, to suspend judgment so that they might see the result of the discussions which are to take place with the local authorities. The Minister of Town and Country Planning, Mr. W. S. Morrison, made it clear, when opening the debate, that the Government, while insisting on the second reading of the Bill, which provides for the rebuilding of bombed areas, is willing to meet the critics by amending the Bill later. During the debate the Bill was criticized as being too limited in scope, too cumbrous, imposes too heavy a burden on local authorities, and fails to peg the price of land to be acquired at a low enough figure. Mr. Morrison said that hitherto the planning code laid down in previous legislation provided for restrictions on the use to which owners might put their land. But the war has brought the new problem of the bombed city and the necessity for its reconstruction immediately after the war. No one imagined it will be sufficient to build things as they were before. Everyone would like to see reconstruction on a more gracious scale than before, and to this end it was necessary that land which had suffered from extensive war damage should be acquired by the local authority in order that it should be developed as a whole. One of the difficulties, he said, was the proliferation of interests in bombed land. In one part of the central district of Portsmouth, for instance, measuring



USA Rationalise House Building

Raising pre-assembled framing at Erie, Pennsylvania—one of the photographs at the exhibition which opened yesterday at the RIBA. The exhibition is on *American Housing in War and Peace*, and has been prepared by the Museum of Modern Art in New York and brought to this country by the US Office of War Information. By photographs, diagrams and text it shows the work of the US Government housing agencies and private organisations in urban and rural housing and community planning which has been carried out in the States before, and during, the war. Both permanent and temporary housing is shown, and the exhibition illustrates how the war has given a tremendous impetus to the use of new techniques and full building rationalisation in large-scale housing projects. Extraordinary speed of erection has been made possible not only through mass-production and prefabrication, but through organisation, which includes the training of crews to a high degree of proficiency in the performance of single operations, the use of power tools and heavy equipment, and the mass purchase of materials.

only 30 acres, there were over 500 interests of all kinds involved in the land. Proper redevelopment could only be achieved if these plots and interests were amalgamated in one ownership and then redistributed in accordance with an approved plan. This demanded legislation with four objectives: Powers to acquire the land, if necessary by compulsion. Powers of acquisition already possessed by local authorities must be expedited and simplified. There must be a direction as to the price to be paid for the land, designed to prevent speculative values over pre-war values attaching to the land. There must be assistance from national funds to assist those cities chosen by the enemy as his targets. In addition the Bill would give the local planning authorities power to engage in creative and good development. Directing a shaft at those who have demanded a wider measure, Mr. Morrison added: This is a big enough mouthful for us to be getting on with to-day. The scope of the Bill included the reconstruction of urban areas which had suffered from the tooth of time as well as from bombs. One complication was that devastated areas were diluted by blocks of houses and buildings where people had rights of property—for instance houses built through building societies—and where local authorities might like to set about the work of reconstruction at a slower pace. It is a great mistake, the Minister continued, to believe that we confer any boon upon local authorities by giving them powers which look well enough on paper but which in daily contact with their citizens they are reluctant to use. The most important announcement made by Mr. Morrison, in winding up the debate, was that he would consider the grant of special powers for the planning of London. (See A.J. July 13, page 27).

★

The Government has decided to adopt the recommendation by the Central Housing Advisory Committee and grant an Exchequer SUBSIDY FOR HOUSES BUILT BY PRIVATE ENTERPRISE.

Making this announcement in the House of Commons, Mr. Willink, the Minister of Health, said he proposed to introduce the necessary legislation in due course. He was inviting representatives of local authorities to confer with him as to the administrative arrangements which would be necessary if legislation was approved by Parliament. The Government had also decided to accept the recommendation to reconsider the present limit of £800 fixed under the Small Dwellings (Acquisition) Acts and the Housing Act, 1936, for the purpose of advances and to introduce the necessary legislation for this purpose. Decisions as to the amount of the increase would be made when the time came for the introduction of the legislation. The Government also accepted the recommendation that support should be given to the development of a scheme on the lines of the National House Builders' Registration Council for securing the maintenance of good standards of building. Asked if legislation would be introduced before the end of the session, Mr. Willink said he hardly thought so, because the date of the introduction of the legislation would be when they knew what the size of the subsidy would be, and that depended on building costs.

Early in the New Year, the British Drama League hopes to organize an EXHIBITION OF PLANS FOR STAGES and Theatres.
The exhibition, intended to show designs and models for stages and theatres as examples for post-war building or reconstruction, is organized by the British Drama League. The Provisional Committee comprises Lewis Casson, Elsie Fogerty, C.B.E., R. H. Gillespie, Nicholas Hannen, Norman Marshall, C. B. Purdom, Richard Southern, Clough Williams-Ellis, F.R.I.B.A., and Geoffrey Whitworth. The exhibition will be in seven sections. Section I, plans for a large theatre and stage. One of the exhibits will be the plans made by the late Sir Edwin Lutyens and Mr. Cecil Masey for the National Theatre at South Kensington. Section II, for a stage in a civic theatre, holding approximately 800 people. Section III, for a stage in a little theatre holding approximately 200 people. Section IV, for stages in schools, colleges, community centres and village halls. Section V, for a transportable fit-up stage suitable for temporary use in large halls. Section VI, for a factory-hostel theatre. Section VII, for a garrison theatre. The exhibition will first be shown at the Royal Academy, Burlington House, early in 1945, and then, by arrangement with CEMA, toured throughout the country. The object is to present a standard series of exemplary exhibits, rather than a general collection of theatre plans. In many cases, it is hoped to make use of designs of existing theatres, but the submission of new and original designs will also be welcomed by the Committee. Special attention will be paid to such details as dressing-room accommodation, storage space and the like. Economy and practicability will be main considerations. The address of the British Drama League is 9, Fitzroy Square, London, W.1.

Court Lodge, at Hooe, near Battle, once KING HENRY VIII's HUNTING BOX, is to be sold.
The estate covers more than 600 acres. A decade or so ago it was bought by Sir Henry White-Smith, the first chairman of the Society of British Aircraft Constructors, Ltd. Sir Henry died last year.

Building Societies' figures show ASSETS UP by 16 MILLIONS.
Building societies' figures for 1943 show that the total assets of all societies increased from £753 millions in 1942 to £769 millions, and investments from £110 millions to £158 millions. Advances on mortgage rose from £16 millions in 1942 to £28 millions, but the accounts in arrear showed a decline. This is a very healthy state of affairs, says Mr. R. Bruce Wycherley, chairman of the Building Societies' Association.

Mr. Robert Hurd is to discuss with the Stornoway Trustees the LAYOUT OF STORNOWAY.
Stornoway Trustees, superiors of the parish of Stornoway under the deed of gift of the late Viscount Leverhulme, have commissioned Mr. Robert Hurd, architect, Edinburgh, to discuss with them the layout of the burgh of Stornoway. The Stornoway Pier and Harbour Commissioners and the Stornoway Town Council have made a similar appointment.

FARM BUILDINGS

A week after Dr. Julian Huxley's book on the Tennessee Valley, *TVA: Adventure in Planning*,* was reviewed in these columns last year, the House of Lords had a debate on the same subject of soil fertility and planning in relation to the health of plants, animals, and man. Throughout the highly informative speeches a note of urgency could be discerned, which showed that there was a great deal of evidence to show that food of the right sort, produced on the right soil, was the planning proposal which must take priority over all other schemes if the health of the nation was to be improved from the mere average absence of illness to a state of abounding vigour and normal well being, which is quite attainable, but which is certainly not our lot at the present time. Indeed, the Earl of Portsmouth compared post-war planners to people who arranged everything in the cart, housing and medical services and all the other amenities, forgetting the horse that alone could draw the cart, that horse being food. Evidence suggested strongly that life and health depended more on the way that food was produced than on the food itself. He recalled Dr. McGonigle's report on the state of health of the re-housed slum dwellers of a large town, which deteriorated after they had moved to their new and healthier quarters, apparently because their food was not as good and plentiful as they used to obtain in the slums whence they came.

If fresh food, grown from fertile soil, and milk, meat and eggs produced from healthy animals are really a *sine qua non* for human health—and there is increasing evidence for this assumption—there is an element of urgency in the planning of the future of British agriculture which goes beyond the rival claims of manufacturing and food producing industries, the maintenance of agriculture, as an element of landscape gardening, or the maintenance of a healthy farming community from which to replenish the jaded stock of city dwellers. If we consider that the cost of the precarious state of health which we have attained amounted annually to considerably more than the total value of the foodstuffs produced in these isles, it is obvious that the present policy of growing food and caring for the land must not be reversed when the artificial war boom is over and a permanent policy has to be decided upon.

The design of farm buildings takes its place in the ranks of the priority tasks of post-war reconstruction and in this issue of the JOURNAL we offer a contribution to the subject in a special article. The need for more information in this field has been recognised by the setting up of a Ministerial Committee, which is preparing the first comprehensive report of its kind in this country. The architectural profession has figured but poorly, of late, in the design of farm buildings, and has yielded its responsibilities to land

* Published by the Architectural Press (8s. 6d.).

agents and country builders. The last really comprehensive work on "The Leading Principles recognised in the Construction and Arrangements of Farm Buildings" was published in 1865. (*The Farm Homesteads of England*, by J. Bailey Denton, M.Inst.C.E., F.G.S.). It consisted of a collection of beautifully drawn plans of the "most approved specimens of Farm Architecture in different parts of the country, selected to illustrate the accommodation required under various methods of husbandry."

If an attempt were made in these days to draw on "approved specimens" of new farm buildings for the guidance of those who have to design them, there would probably not be enough examples to set any reliable standards.

Yet, sooner or later, and probably long before the "artificial" prosperity and importance of agriculture has waned, new buildings will be erected all over the country to replace superannuated equipment and to house the machinery needed for new agricultural methods. Architects should make their contribution in good time. The new buildings will make or mar the countryside. Architects can set standards in individual examples to influence farmers and builders all over the country. The architect was slow to take an interest in the design of factories and working-class houses. Without his influence the results have been appalling. The same lack of interest and unpreparedness need not be repeated in the case of farm buildings.

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

NOTES & TOPICS

THAT HOUSE AGAIN

The storm of criticism which the Churchill House has aroused continues with the fresh fury of a Channel gale. Correspondence columns of this JOURNAL, the letters to *The Times*, the deputations of housewives sent in by local authorities, show the importance of the issues it has raised. Opinions range from those expressed by the correspondent in our issue of June 29, criticising the President of the RIBA for having commented favourably on the house, to sober and earnest efforts to improve the design. Surely no building proposed by the Ministry of Works has ever been the subject of so much interest.

★

The JOURNAL, for one, has certainly not spared its criticisms and has given a free platform for the airing of views from every quarter. But as a result of this flood of comment, very largely adverse if at the same time constructive, it would be most unfortunate if those within the Ministry who have been responsible for the idea became discouraged?

★

No criticism in short must obscure the fact that MOW has done a first class job in initiating the Churchill House. That the idea of the prefabricated house has been adopted by the building Ministry is the thing that matters. All the criticism, it cannot be too strongly stressed, is of detail and application rather than of the general principle of the temporary, demountable, factory-made dwelling.

As well as for accepting this principle, MOW deserves praise for its good sense in building a trial model, placing it before the public and showing itself big enough to take advice. This sets a healthy precedent. It shows that informed criticism can be effective to a certain extent and that democracy can have a practical outcome in building standards. It is a pity that the public are not asked more frequently to comment on the buildings supplied by the central and local governments. Perhaps the Churchill house will set a precedent in this respect.

★

As a matter of fact the most dubious feature of the programme is our ability as a country to produce these houses in sufficient numbers. Mr. Churchill said we wanted 500,000 in two years; as there are approximately 11 tons of steel in each house this makes a formidable quantity, and it seems open to doubt whether we shall have so much available.

FOOD AND HEALTH

A recently published book which seems to have considerably shaken the agricultural world (and indeed many people outside it) is Lady Eva Balfour's *The Living Soil*. Here evidence is collected to show that only food grown from healthy soil will produce healthy animals and healthy people. It is a very alarming book to read, and the reader becomes convinced that no plan for reconstruction is complete without the basis of planned production of better quality food than we have had hitherto. In a vague way we have often been conscious that all was not well with our staple diet, but there has been no scientific proof of such suspicions. Even now no more is claimed than a strong case for authoritative investigation of the connection between the biological aspect of soil fertility and health.

★

One striking experiment has already been made by an eminent authority, General Sir Robert McCarrison, of the Indian Army Medical Staff. He carried out large-scale rat experiments on the effect of various diets. In his laboratory he kept a

stock of several hundred rats, under perfect conditions of cleanliness, in roomy cages, with good bedding, abundant fresh water, fresh air and sunlight. He divided them into various groups, which were treated alike in all respects, except in the matter of diet. One group he fed on a diet similar to that of an Indian race of good physique and health, the other on a diet common to many people in this country—bread and margarine, tinned meat, vegetables boiled with soda, tinned jam, tea, sugar, a little milk.

★

This is what happened. The rats fed on the good diet grew sleek and strong, there was little disease amongst them, and they lived amiably together. Those fed on the poor diet were stunted in growth, many became ill and they lived unsociably, so much so, that after the sixtieth day of the experiment the stronger ones amongst them began to kill and eat the weaker ones. The diseases from which they suffered were those common among the insured population of England and Wales: diseases of lungs, stomach and nervous system.

★

Architects and planners are a long way from being able to decide the rights and wrongs for or against a radical revision of our diet and our methods for the conservation and increase of soil fertility, but it is clear that, once the issue has been decided, it will affect us in many ways, not only in so far as rural and agricultural planning is concerned, but also in connection with urban wastes disposal, the provision of health services, and the distribution of fresh food.

CLEANING UP DESIGNS

A typical example of the current trend of design in scientific equipment is the Williamson aircraft camera. Air photography is a specialised job, and I would not be so rash as to attempt an account of the technical development of aircraft camera—but the then-and-now pictures are interesting for the change in appearance which they record.

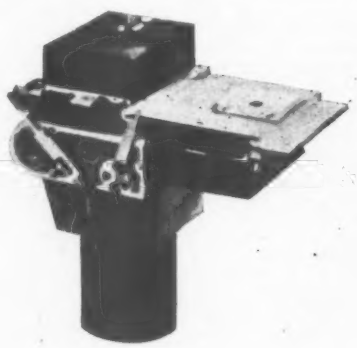
★

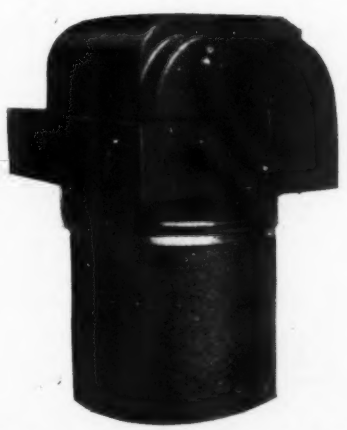
Williamson's P.6 camera of 1917 was an ingenious assembly of components; the *Eagle VII* in current use is a more unified whole. The thing has not been made beautiful—perhaps by reason of its nature it never can be—but it has been cleaned up and has also been adapted to quantity production. The cleaned-up appearance has been achieved despite the fact that the present model is electrically driven and contains its own motor, whereas the P.6 took its power from outside.

★

This process of cleaning up designs in light engineering is not invariably successful. Too often it merely amounts to *covering up*. Aesthetically this is excusable where the covering has a functional purpose as in a car-engine cowl, but not where, as too often happens, it is just bogus streamlining. No doubt the new model of the Williamson camera is entirely functional, and yet even here, one asks oneself if the old model isn't more interesting to look at.

ASTRAGAL





Left, the Williamson P.6 camera of 1917. Right, the same type of camera, the Eagle VII, in current use. See Astragal's note above.

LETTERS

H. Gerson

R. V. Boughton

H. A. Wells, P.A.S.I.

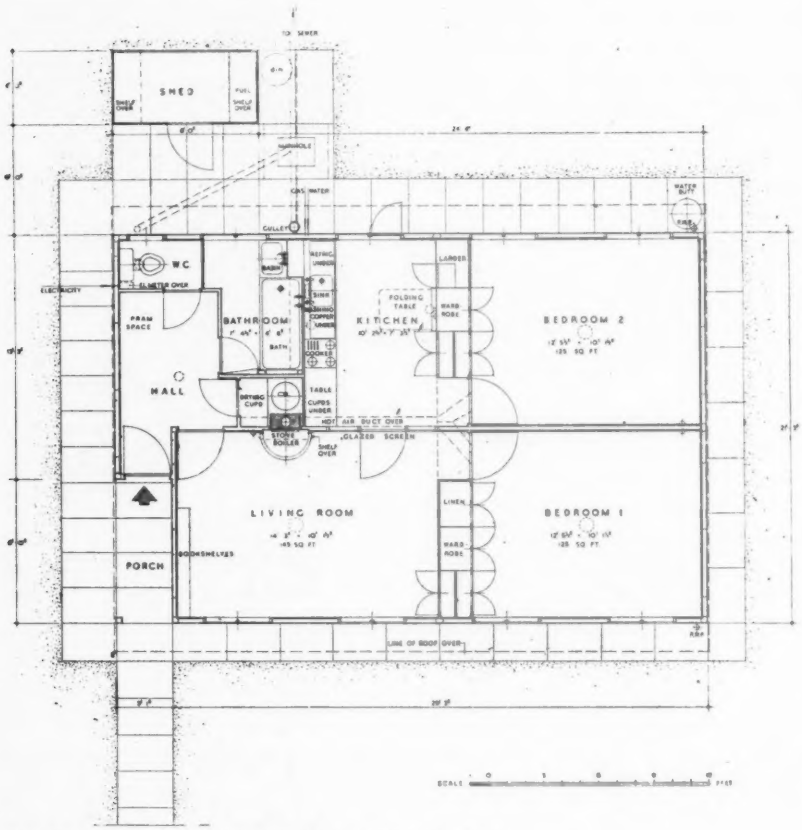
Edward Tietjen

The Churchill House

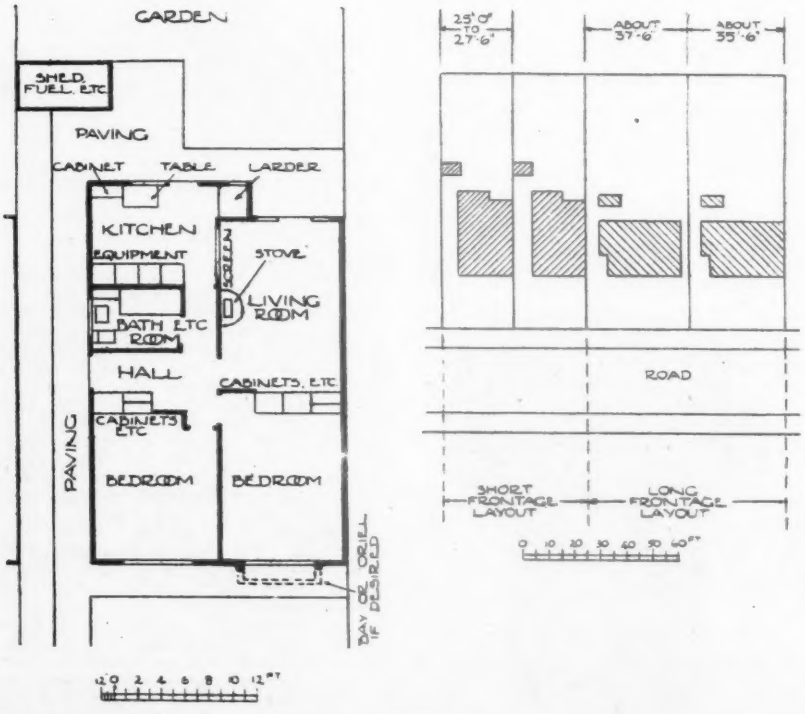
SIR,—It might appear from the mass of criticism in the JOURNAL and elsewhere by experts and prospective users that this attempt by the Government is a failure. It would be a pity if this were to be a lasting impression, particularly before the house has been tested in use.

Obviously the bulk of the criticism, much of it no doubt justified, is about a variety of minor points, such as details of planning, size, equipment, etc., and this must affect the final product and others of similar type that may be evolved. However, it would be well to stress that the acceptance of this type of building by the Government is an enormous step forward towards the achievement of good, scientifically designed and built houses, and provides the opportunity to adapt them fully to modern life. The ultimate influence of this type of building cannot be overestimated. It may, for instance, end the long-standing prejudice in favour of the solid masonry type of house, built to last centuries and already outmoded after fifty years, when it is quite unadaptable to the efficient use of later generations. There may be many problems ahead, but it shows the way to houses designed for the people and not exclusively for the owner's profit.

It may also be said that the fear of some architects that prefabrication will put their profession out of work is unjustified. This class of house has rarely been designed by architects and, therefore, its adaptation to prefabrication would make no difference in that respect. It will, on the contrary, give them at last a say in the matter; and, because of the numbers, may make it worth while from



The Churchill House. Revised plan of the Ministry of Works.



The Churchill House. Suggested replanning by Mr. R. V. Boughton to avoid the long frontage which he says is almost invariably costly in land and road costs and to avoid communicating rooms. (See letter).

a financial point of view. Furthermore, apart from a few prefabricated houses that may be developed, there will, no doubt, come into being a number of prefabrication systems which will require the services of the architect as much as ever.

Dorking. H. GERSON.

SIR,—The MOW plan has probably been criticized more than any other, and, as is evidenced by studying the various building technical journals, many architects and others have submitted revised plans, more or less good, but as far as I know all following like sheep the principle of long frontage planning, which is generally so very costly in connection with the costs of land, road, sewers and services, etc: *The Builder*, in its leader of May 12, drew attention to this matter, and when I first saw the plan I immediately noticed this economic defect, the same as I did with the MOW agricultural cottage, on which I wrote articles in some of the technical journals drawing attention to the matter.

The illustrations indicate what I submit is good evidence of the great difference between long and short frontage planning of houses and bungalows when land economics have to be considered. I live in a house on a site of 27 ft. frontage in stuffy London, and I am quite happy and healthy. Such a frontage in the country would surely be even better. To use up valuable land frontage, etc., at the rate of about 40 ft. per house or bungalow for emergency temporary dwellings appears to be extremely wasteful and must add to the total cost and rent in some way or another.

In the plan of the short frontage bungalow, I have attempted to re-arrange the various rooms and compartments to avoid the communicating rooms and merry-go-round principle of planning of the MOW. An examination of my plan will prove that I have maintained in practically every respect all the MOW main features regarding size of rooms, grouping of the kitchen and bathroom units; where I have transgressed a little is in combining the bathroom and w.c., which is not objectionable with a small family, and in re-arranging some of the cupboards and cabinets. Some persons may adversely criticize me for placing the living room at the rear of the bungalow. The answer to such criticism is that I believe the majority of the public prefer the room to overlook the back garden rather than have it at the front—the dissentients may be those who like to watch their neighbours' goings and shortcomings. Also, if the bungalow is intended for young married couples without children, or with only an infant, one of the front rooms can be used as a general room. It will be noticed that the main door to the bungalow—I hope my pedantry in calling it such will be forgiven as terming it a main entrance door gives the impression that inmates can only exit through the windows or back door—faces the blank flank wall (blank means unperforated and nothing else) and not on to the neighbour's door and windows—a little principle of planning which often prevents much wasteful eloquence.

Another advantage which may be claimed for the short frontage plan is that it causes less of the elevational æsthetics of the bungalow to be obvious from the road, that the home-lover can with truth call it The Gables and cast shame on those critics who have used such nasty words in describing the facade. And a little bay-window or oriel as shown may increase the grace of the elevation and provide a window board for the largest aspidistra in the world.

London. R. V. BOUGHTON.

SIR,—I was very interested in Mr. Westaway's letter and plan in your issue for July 6, as I have been working on the same lines.

The fundamental fault in the MOW's design is in having the entrance in one of the shorter walls, which was almost bound to lead to

intercommunication between the rooms if waste of space in long passages was to be avoided. An idea of how undesirable this is can be obtained by taking an imaginary journey between bedroom No. 2 and the bathroom or w.c.

One very important point which does not seem to have been considered is that of orientation, and it appears to me that it would be justifiable to produce two different designs, so that in all cases the living room is open to the maximum amount of sunshine. I enclose two suggested designs which have several points in common, namely :

1. The living room faces approximately south and the larder approximately north.

2. The pram space in the hall is approximately 4 ft. high, and extends under both the linen store facing the hall and the bookshelves facing the living room.

3. The kitchen is apparently smaller than in the MOW revised design, but it has more available wall and floor space, owing to the elimination of the very unnecessary glass screen, which occupies one wall of the MOW house.

4. The meter cupboard in the kitchen could accommodate the gas meter at the bottom and the electric meter at the top, the intervening space being used either for a preserve cupboard or for brooms.

5. A small hall cupboard for cloaks has been incorporated.

6. The bathroom is 3 in. wider with the basin under the window, which is a more convenient position for light.

Points to note about Plan No. 1

1. The overall site area is 675 sq. ft. compared with 660 sq. ft. in the MOW design.

2. 1 ft. 5 in. less in frontage, 1 ft. 6 in. more in depth.

3. No intercommunicating rooms.

4. Space for fuel bunkers under kitchen window.

5. Room for hatch between kitchen and living room if desired.

6. A pair of light swing doors could be provided to screen the w.c. from the front door.

Points to note about Plan No. 2

1. The overall site area is 670 sq. ft. compared with 660 sq. ft. in the MOW design.

2. 7 in. less in frontage, 1 ft. 6 in. more in depth.

3. Bedroom No. 2 leading out of living room, otherwise no intercommunicating rooms.

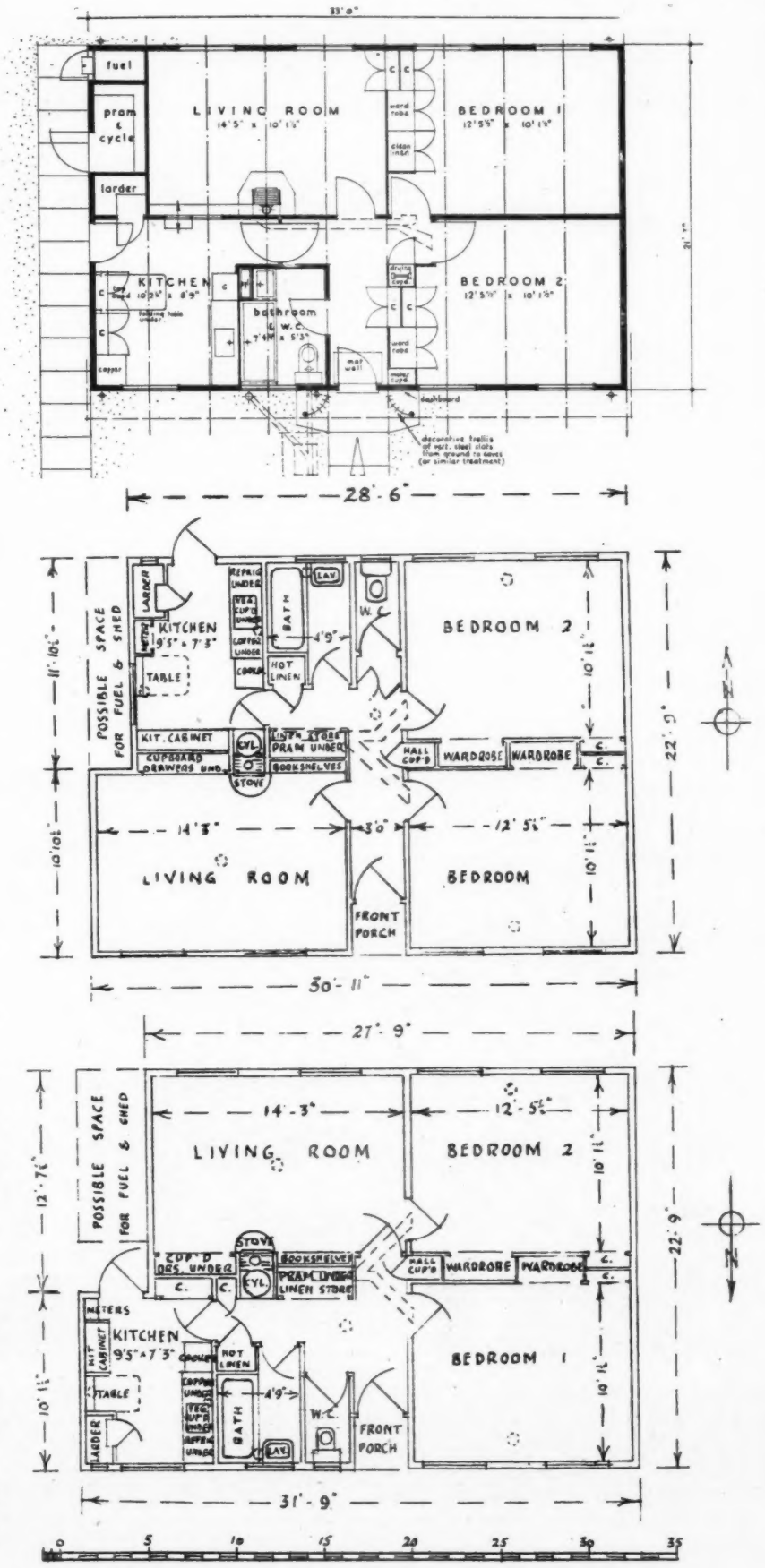
4. Ample room for fuel, approached under cover, and also large shed. Space between back door and shed would form covered porch.

5. Very economical drainage direct into sewer.

Peterborough. H. A. WELLS.

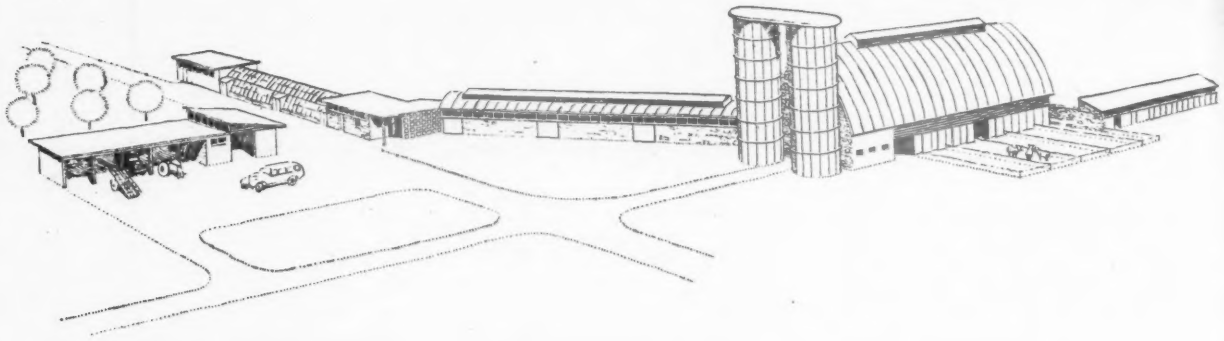
SIR,—I note with surprise that Mr. Atherton in his letter in your issue for June 15 states that : " The provision of a separate compartment for the w.c. is not in accordance with the recent medical recommendations."

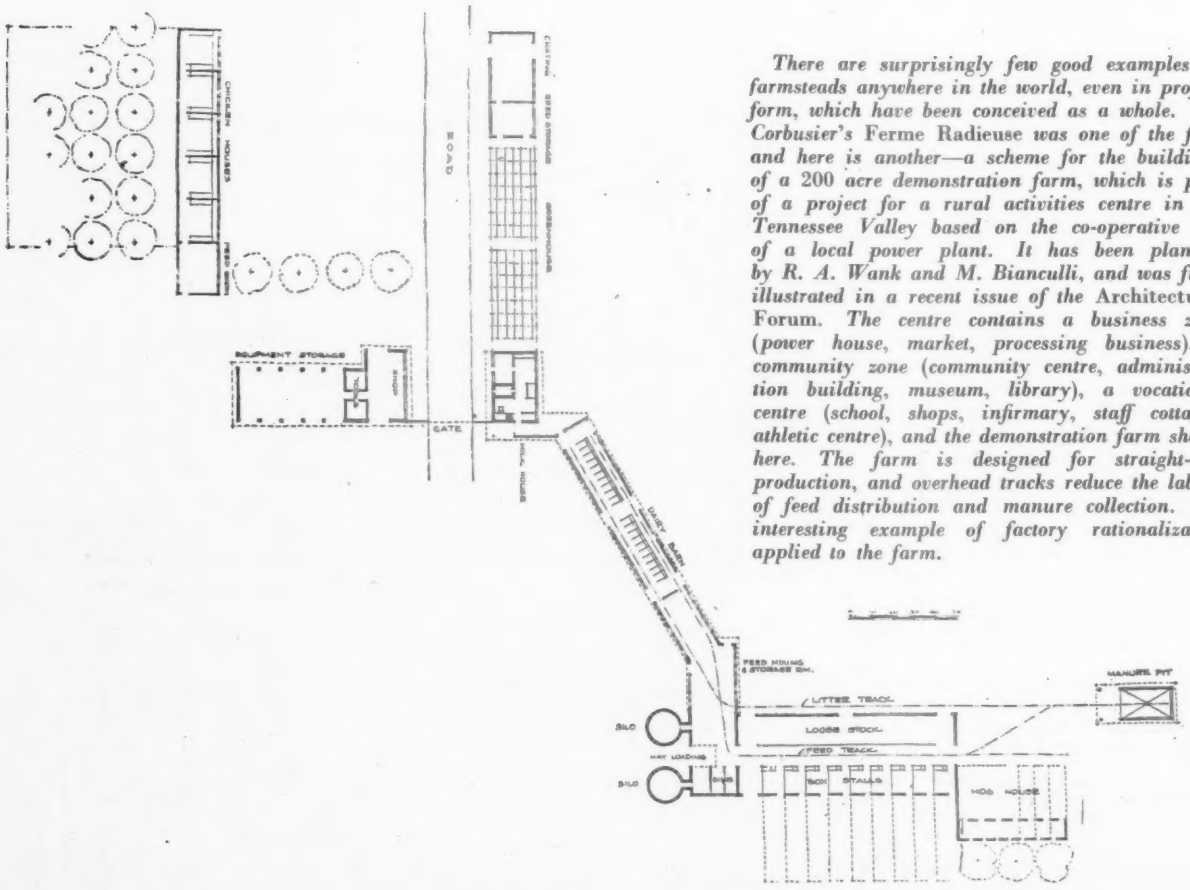
I admit that owing to present circumstances I am rather out of touch with the latest developments in planning ; but, as a pre-war



The Churchill House. Right, top, the suggested plan by Mr. E. M. Westaway, referred to by Mr. H. A. Wells in his letter. Centre plan No. 1 and bottom plan No. 2 by Mr. Wells, with north and south aspects.

STRAIGHT-LINE PRODUCTION FARM





There are surprisingly few good examples of farmsteads anywhere in the world, even in project form, which have been conceived as a whole. Le Corbusier's Ferme Radieuse *was one of the few, and here is another—a scheme for the buildings of a 200 acre demonstration farm, which is part of a project for a rural activities centre in the Tennessee Valley based on the co-operative use of a local power plant. It has been planned by R. A. Wank and M. Bianculli, and was fully illustrated in a recent issue of the* Architectural Forum. *The centre contains a business zone (power house, market, processing business), a community zone (community centre, administration building, museum, library), a vocational centre (school, shops, infirmary, staff cottages, athletic centre), and the demonstration farm shown here. The farm is designed for straight-line production, and overhead tracks reduce the labour of feed distribution and manure collection. An interesting example of factory rationalization applied to the farm.*

architectural student, I had always imagined that a separate w.c. was more than desirable, and, in fact, had the backing of practically every kind of authority. Upon discussing the matter with my fellow soldiers, I find that practically the only point upon which they are unanimous, when considering their future home, is this desire for a w.c. separated from the bathroom. Perhaps Mr. Atherton can explain the advantages (medical) to be obtained from combining them ?

I also do not understand why he should say that the official plan does not lend itself to terrace layout. I do not see that either the official version or Mr. Atherton's plan lend themselves to construction in the form of a continuous terrace. Either plan, however, could equally easily be built in a semi-detached form, although this would of course necessitate the kitchen-bathroom units being constructed both left and right handed.

Apart from these comments, I think that Mr. Atherton's plan (A.J. June 15, page 447) is very workable and contains several extremely interesting points. The general layout, in particular, seems to me to be the best solution I have yet seen, and far more convenient than the MOW plan. Criticism might be made on the ground that limited circulation is now through the living room, but, after all, it does not touch the main body of the room and can be screened at will.

I am inclined to believe that in a bungalow of such extremely small size, perfect circulation (i.e. only through the hall) is impossible without sacrificing too much room space in the form of passages, which frequently seems to result in obtaining rather awkwardly shaped rooms. A compromise of some kind, therefore, will probably have to be accepted.

EDWARD TIETJEN, Ex-student.
Gunner R.A.

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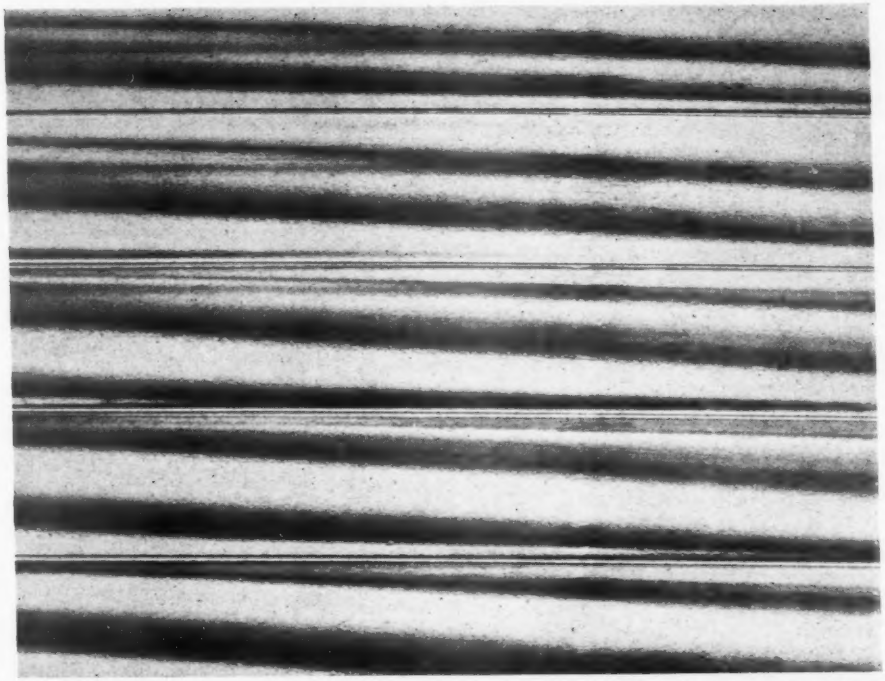
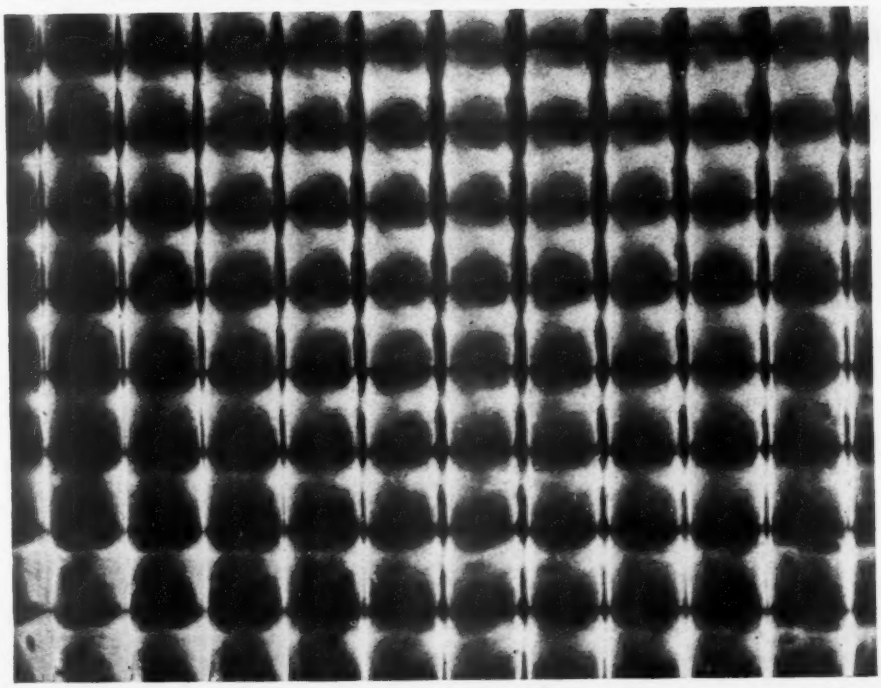
ROLLED GLASSES



Broad Reeded :
Rolled :
One surface imprinted with concave cylindrical lenses.
Slight obscuration.
Translucent.

The accompanying photographs are full-sized illustrations of a typical section and elevation.



Cross Reeded :
Rolled :
Both surfaces imprinted with pattern of convex lenses. The lenses on one surface are at right-angles to those on the other, and prevent direct vision.
Considerable obscuration.
Translucent.

The accompanying photographs are full-sized illustrations of a typical section and elevation.

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If agriculture is to thrive in this country after the war, farm buildings will need serious attention, says the author of this article. He discusses the changes and tendencies which now affect farm buildings, and describes some of the new types that are needed, and their lay-out. The article concludes with a table giving the size requirements of various farm buildings.

New Trends in FARM BUILDINGS

[*BY GERHARD ROSENBERG, Dip.A., A.M.T.P.I.*]

Farm buildings are the visible expression of the complex working programme of a farm. Once built, they continue to influence farming methods until they are altered or replaced. Adapting old farm buildings to present-day needs is a thankless task, and if agriculture is to thrive in this country after the war, farm buildings will need as much serious attention as any other type of building.

CHANGES IN CONDITIONS

The following changes affect farm building :

(1) *Labour.* The size of farm holdings was, and still is, based on a manageable labour unit, either the family unit or the number of men which one farmer can supervise. With higher efficiency, the same number of workers can till a greater acreage and, therefore, the desirable size of holdings of all categories has increased and is still increasing.

(2) *Water Supply.* Farms were located where good water was available. The amount of water available determined the livestock capacity and the size of the farm. With piped water supplies, these considerations are unimportant and an entirely different set-up of farms may become desirable.

(3) *Mechanization.* Until late in the nineteenth century, there was little even of horse-drawn mechanized equipment. Now mechanization has brought changes in agriculture, especially in specialization of labour, and in an increase of each specialized branch of enterprise to its own economic limit, independent of the balance of the farm as a whole. These changes are radically altering the traditional pattern of farm buildings.

(4) *New Farming Methods.* Artificial fertilizers and imported feeding stuffs have made farming, at least apparently, independent of that rigid balance of crops and livestock, which formed the basis of traditional mixed farming. In the past, each farm had sufficient land to feed the cattle which in return were needed to keep the land in good heart by an adequate supply of dung. There was sufficient acreage under straw crops to supply the litter and fodder needs of the cattle, together with the necessary thatch straw, and enough grain for seed and household requirements. Any surplus was sold for cash. Enough root crops to feed the cattle in the winter and to complete the usual four-course rotation of grain, clover, grain, roots, rounded off the programme of the farm, which may have varied from district to district and even from farm to farm, but not from year to year.

With such a programme of work, a definite building programme could be planned. For a 30 to 50-acre dairy farm of the traditional kind there would be needed : stalls for 12 cows, a loose box for calves, a stable for 2 to 3 horses, a harness and boxroom, a food mixing room, 2 pig pens, a cart shed and a 15 ft. by 45 ft. Dutch barn.

If the farmer is free to change his method from year to year, to add some cows or horses, for instance, or to give up pigs, the whole organism of the traditional and rigidly planned farm buildings is thrown out of gear and they become a handicap rather than an asset. A change in the amount of crops, and in the number of livestock, is possible with the help of artificial manures and imported feeding stuffs, and a farmer can no longer foretell what his building requirements may be in the future.

(5) *Soil Fertility.* There is increasing evidence that all is not well with the methods of fertilizing the soil as practised at present, and that food grown from soil of low fertility has not the same value for animal and human health as that grown on a living soil. The composting methods described by Sir Albert Howard and Pfeiffer are likely to be more generally adopted. Composting of animal and vegetable wastes will require an increase of labour on the farm, which will counteract the effects of mechanization in crop growing and harvesting. It will also affect farm buildings in so far as the layout of compost yards, animal shelters, fields and roads in relation to one another are concerned.

(6) *New Storage Methods.* Combine harvesting of grain with machines which thresh as they cut the grain renders the traditional barn redundant and at the same time requires a new type of building—the grain drier. All the new grain has to be dried and stored at once, and is then gradually released to the market or the mill. Drier buildings and large grain stores, either as floors for storing in sacks, or as pit or bin storage for storage in bulk, are becoming an essential feature of the grain-growing districts.

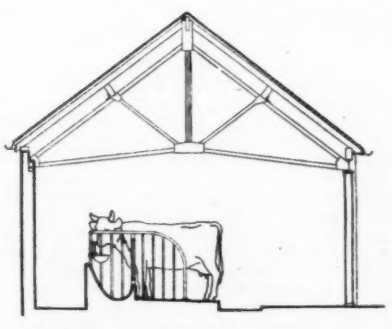
Grassland farming has also been provided with new buildings, notably silos for the conservation of green fodder and grass and buildings for grass-drying plants, where grass is turned artificially into super-hay or a concentrated feeding stuff. These buildings are still in a period of development.

Straw barns are needed less than hitherto. With combine harvesting on large grain-growing farms, the straw is often left on the field and ploughed in as part of the fertilizer for the next crop. Straw baling reduces the loss of straw when stacked in open ricks. Dutch barns for straw are therefore mainly required, where a constant ready supply of straw is needed for litter or where it can be pulped into a feeding stuff by treatment in large vats.

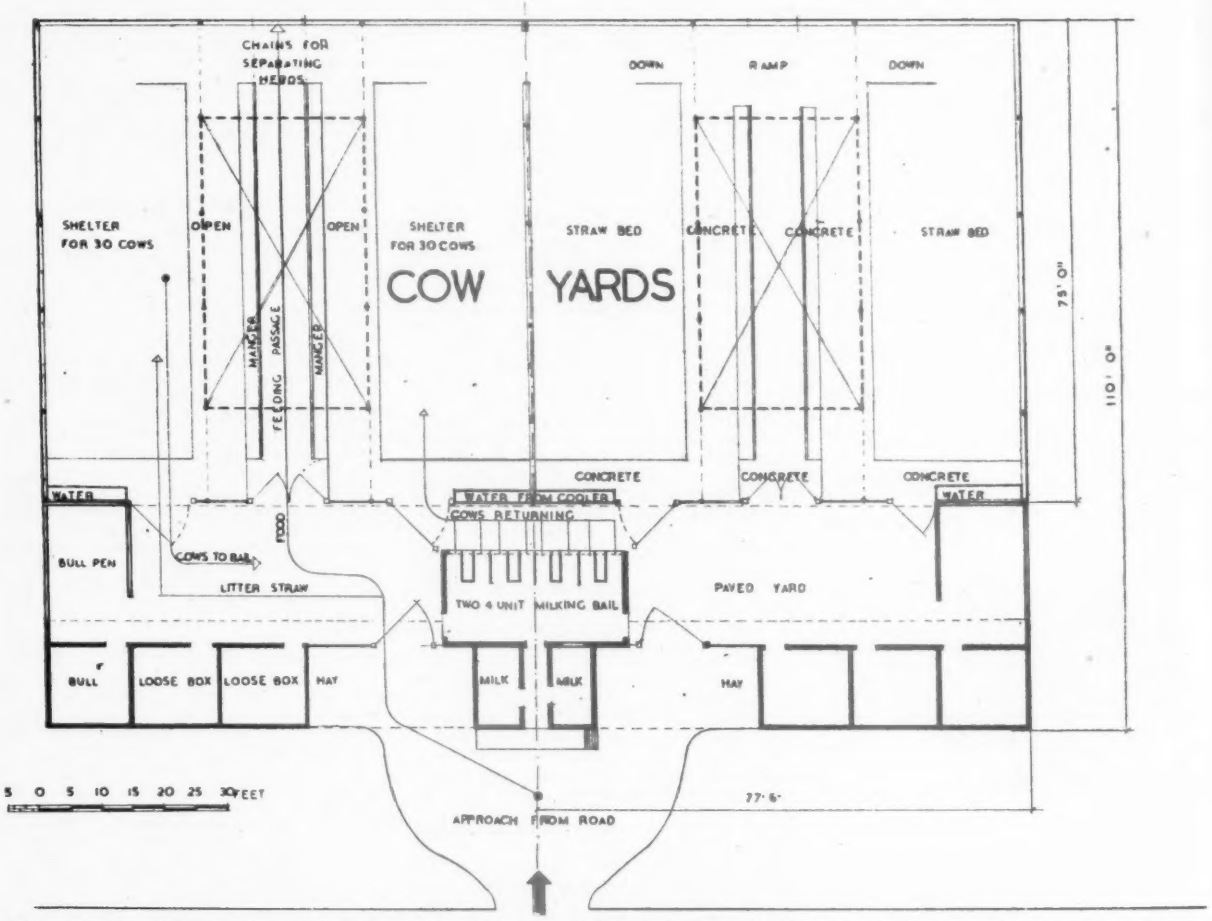
CHANGES IN BUILDINGS

Buildings for Milk Production

The short-base cowhouse has been studied thoroughly both in this country and the United States, and Bulletin No. 40, issued by the Ministry of Agriculture in its revised form, gives a full description of the best modern practice. Mechanical milking has been developed to a high degree of efficiency, but unfortunately in a way which is not in keeping with the design of the modern cowhouse. While the milking machines called Bucket Plants allow cows to be milked in their stalls, the tendency is towards milking in bails. A milking bail is a separate milking stall equipped with stationary milking machinery. The cow is taken to the milking bail, washed, milked and fed her ration of concentrattes in the bail. She then returns to her quarters. The milk is neither carried nor handled in any way, but runs through pipes straight from the udder to the churn in the dairy, where it is kept cool until collection. If cows are not milked in their stalls, the expensive and elaborate equipment of the modern cowhouse becomes at once redundant. The cold concrete floor, the deep gutter step, which makes the building almost useless for any other purpose, the short base, which does not give any support to the hind quarters of a cow when she lies down (causing a strain on the reproductive organs), and the high-back manger, designed to feed concentrates to the cows in their stalls, are unnecessary and expensive expedients for ensuring clean milk. The method of milking in bails presents the designer of farm buildings with a new circulation problem. The cows are taken to a waiting yard, from which they file through the bail, and after they are milked they are gathered in another yard, from whence they are returned to their permanent quarters. This circulation should take place with as little disturbance as possible, because restlessness affects the milk yield of the cows. There should also be no risk of chill through a sudden change of temperature, particularly after milking. These conditions make it very difficult to combine cowhouses with milking bails. Therefore there is every likelihood that wherever the climate permits, open, partly covered or sheltered yards in connection with stationary milking bails will be chosen for new dairy farms. There will still be a need for some tie-up stalls, for " incompatible " cows, for sick cows or those heavily in calf, but on the whole the tendency is away from



Section through cowsheds showing a short base stall. This kind of shed in future is likely to be replaced by the milking bail in conjunction with the partly covered and sheltered yard, a plan of which is shown on the next page.



Above, plan of partly open and partly covered yards for dairy cows which, in conjunction with the milking bail, are replacing the old type of cowshed with its short base stalls, at least in the southern parts of Great Britain where the climate permits. At milking time the cows are taken from their living yards, which are sheltered by surrounding walls, and gathered in a paved waiting yard. From here they are filed through the milking bail. After milking they are gathered in another waiting yard, whence they are returned again to their permanent quarters. On his farm at Hatch Warren, Basingstoke, Mr. Rex Patterson has devised a similar type for 80 cows, in which the dwelling yard, 90 ft. wide by 180 ft. long, has no covered parts, but has a protective wall round three sides of four layers of bales of straw, 8 ft. high, laid dry between rows of wooden stakes and wired together. On the third side of the yard is the concrete floored collecting yard and milking house.

the tie-up shed towards greater freedom of movement for the animals, together with a warm, well-littered floor to lie on. A dairy bail unit for up to 80 cows can be worked by two men, whereas half that number and even less is the figure possible under conditions in the traditional cowshed.

Buildings for Meat Production

Piggeries are dealt with in the Ministry of Agriculture Bulletin No. 32. Particular attention is given to the modified Danish or Scandinavian type of piggery. This type, which is clean and efficient, has become almost standard practice in this country. The idea is to give each pig pen a private dunging compartment along the outside wall. The pigs will use this, because it is a step lower and cooler than their sleeping quarters. These dunging compartments form a continuous passage along the outside wall. One man can manage 200 to 250 pigs in such a house. Another type of piggery has been developed, which claims to be superior to the Scandinavian type. It is called the Ashfield type piggery. The dunging compartments are here arranged between the pens, so that the cubic capacity of the building is reduced by 40 per cent. With the decrease in volume, temperature conditions are even more satisfactory than in the Scandinavian type.

The latest advance on both these types comes from Northern Ireland. A piggery enterprise for 7,000 pigs is described by Mr. P. L. Shanks, M.R.C.V.S., B.SC., of the Ministry of Agriculture, Northern Ireland, where the pigs have been given a dry warm house free from the smell of excreta. Each double pen is completely partitioned off from others, yards are provided to each pen, and the pigs use the yards for dunging. Drinking bowls are placed outside the house, so that water is not spilled inside. Swing doors and concrete baffles, 3 ft. 6 in. high, allow the pigs draught-free access to the yards. A covered feeding passage and an open dunging passage link the series of independent double pens. One man can here manage up to 1,000 pigs.

Cattle Yards

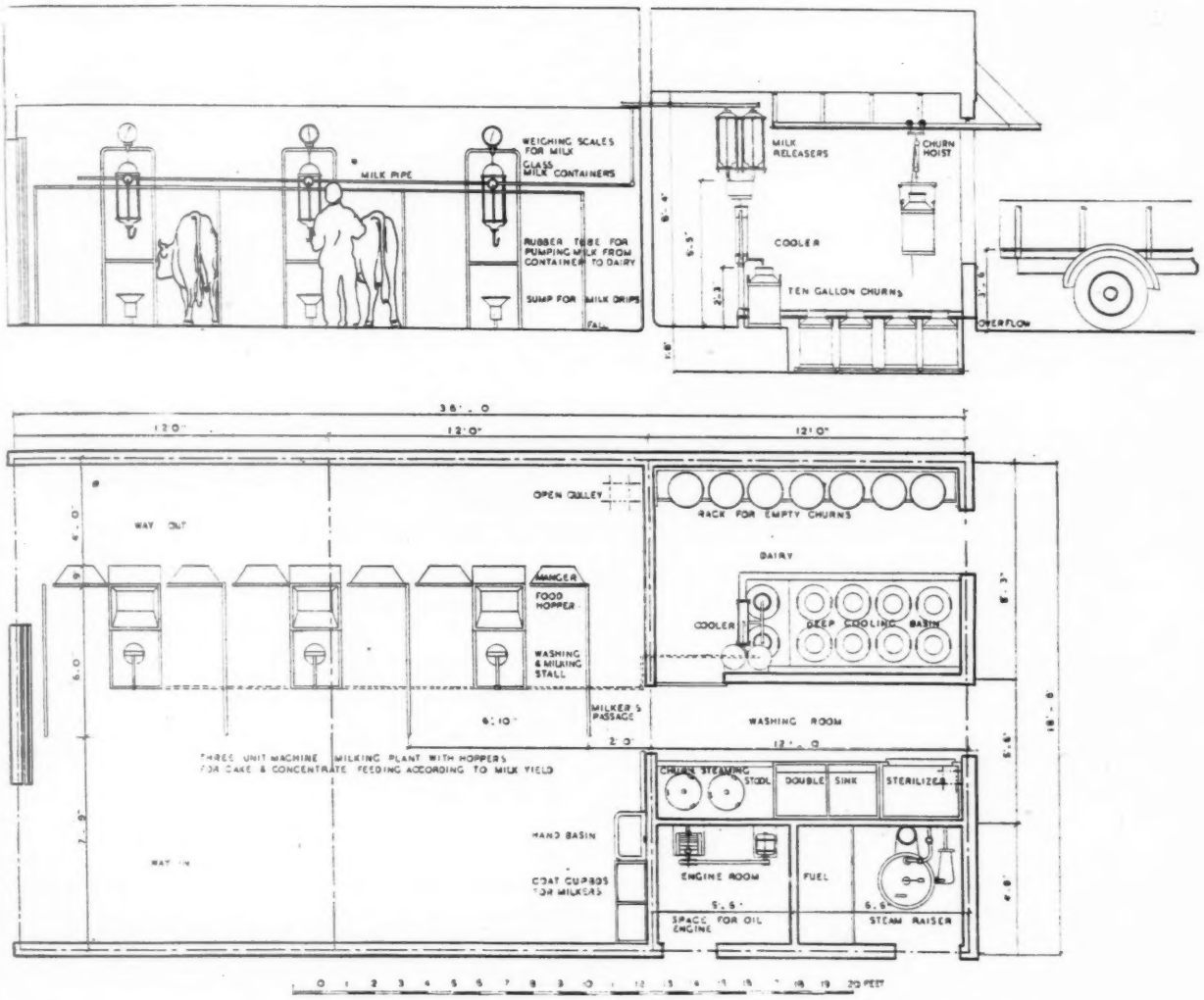
Bullocks and other cattle reared for fattening are generally kept in half-open or covered yards, and not tied up in stalls. Feeding and littering with clean straw are the main items of labour; exercise, sunlight and protection from cold winds and driving rain are the main requirements. 150 to 200 head of cattle can here be managed by one man and a boy, if the animals are kept in shelters along a feeding passage, on the other side of which there is a Dutch barn for hay and litter straw, with a central walled space for concentrates. A trolley runs along the feeding passage. Continuous mangers and automatic drinking bowls are essential. At present as few as 30 head of cattle are often managed by one man, and to manage 80 to 90 head is considered a very good effort, mainly achieved by good planning.

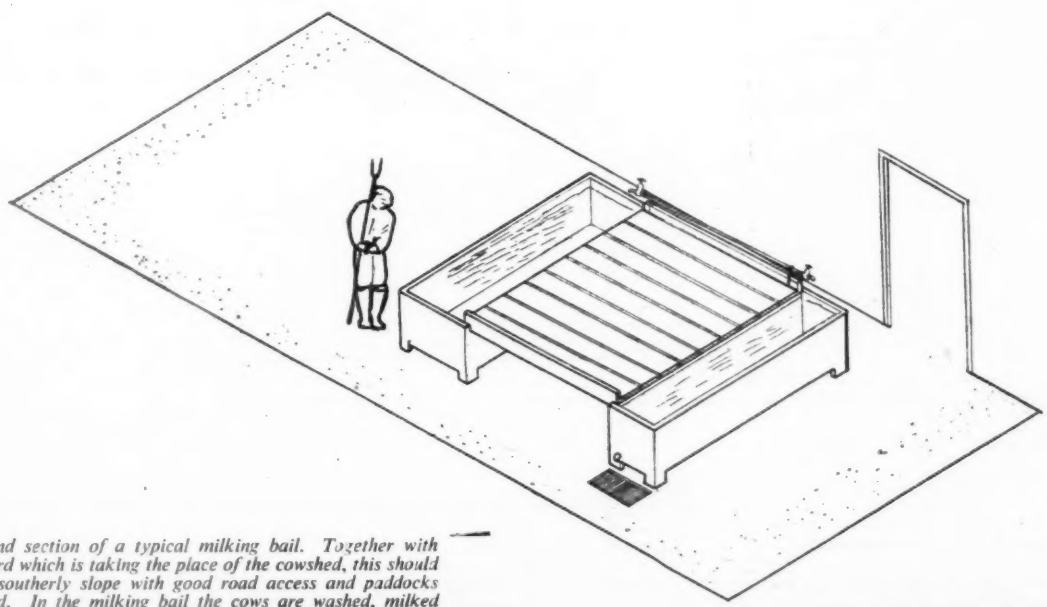
Central Ration Store

Each farm used to have its own mixing floor, where concentrated foodstuffs were mixed into balanced rations for cows and pigs and ewes. This work can be done far more successfully by a central ration store which is large enough to give one experienced man full-time employment. Such a store is described in a paper read to the Oxford Farming Conference of January, 1939. It supplies 7 to 10 tons per week and sends out ready mixed food to two dairy herds, a calf-weaning centre, 200 head of cattle, 400 ewes, 60 stock lambs, 6 poultry units and 4,000 young fowls. The area served by the plant is 800 acres, but up to 2,000 acres can well be supplied by road from a central mill and mixing house. The particular store in question, moreover, had an egg-packing station, a milk-collecting station, a hardware store, a carpenter's shop and smithy attached to it. Such a central store might be combined or grouped with the central grain drier on large arable farms.

Buildings for Crop Production

The individual arable farm building is mainly a machinery station for light implements and tractors. Usually it is hopeless to try to adapt existing buildings, barns, stables and boxes to the new needs. Arable farming, crop growing and harvesting has been mechanized to such an extent that shelter, repair space, workshop space and service facilities for machinery have precedence over all other building requirements. The pride of the farm used to be a stable full of fine horses. The tractor shed now takes its place. A modern arable farm must have storage space for fertilizers, seed potatoes, seed grain, machinery and transport, including a limited





Top, plan and section of a typical milking bail. Together with the straw yard which is taking the place of the cowshed, this should stand on a southerly slope with good road access and paddocks near at hand. In the milking bail the cows are washed, milked and fed before being returned to the yard. Right, straw pulping vats of prefabricated concrete units, where straw is turned into a feeding stuff by treating with caustic soda and washing.

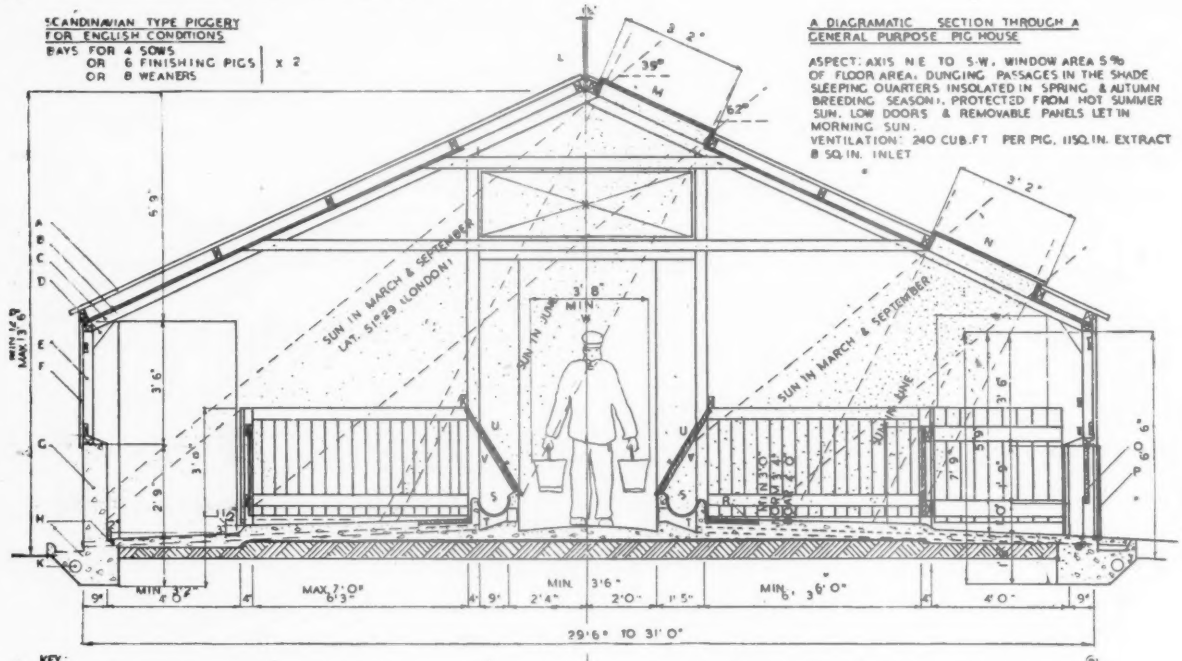
D

SCANDINAVIAN TYPE PIGGERY FOR ENGLISH CONDITIONS

BAYS FOR 4 SOWS OR 6 FINISHING PIGS OR 8 WEANERS | x 2

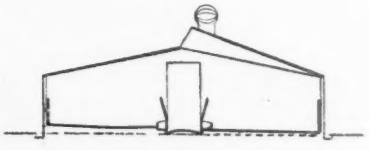
A DIAGRAMATIC SECTION THROUGH A GENERAL PURPOSE PIG HOUSE

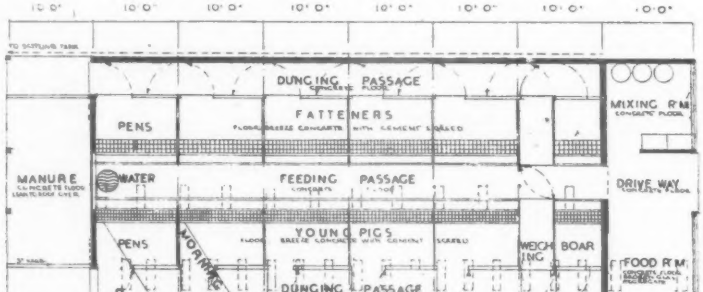
ASPECT: AXIS N.E. TO S.W., WINDOW AREA 5% OF FLOOR AREA. DUNGING PASSAGES IN THE SHADE SLEEPING QUARTERS INSOLATED IN SPRING & AUTUMN BREEDING SEASON). PROTECTED FROM HOT SUMMER SUN. LOW DOORS & REMOVABLE PANELS LET IN MORNING SUN.
VENTILATION: 240 CUB. FT PER PIG, 115 SQ. IN. EXTRACT 8 SQ. IN. INLET

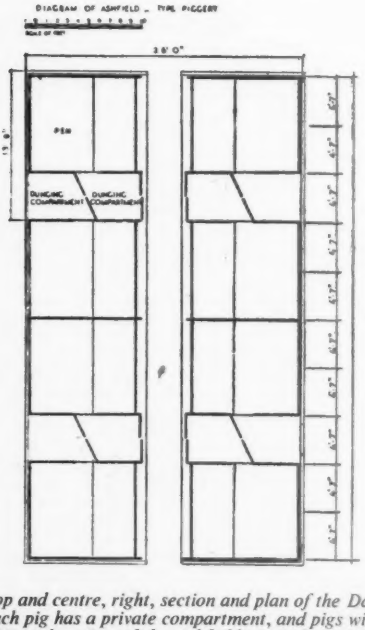


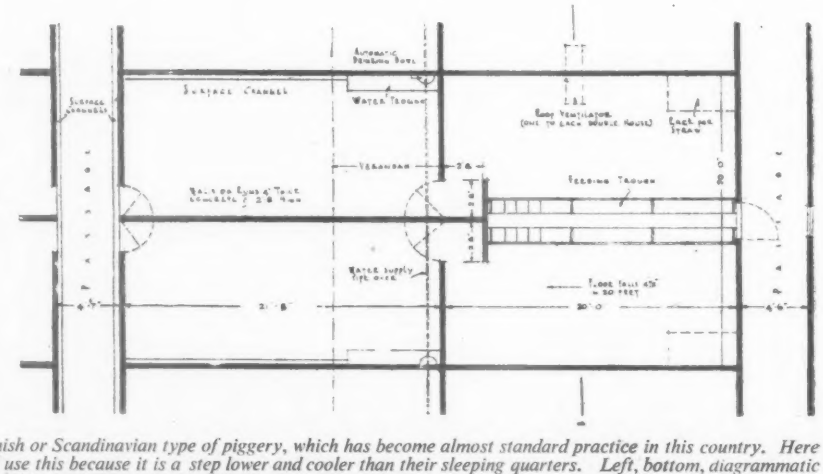
KEY

A GALVANISED OR GAS TARRED CORRUGATED SHEET
B 1 INCH ROUGH BOARDING FOR INSULATION
C 2"x 4" RAFTERS AT 10 FT CENTRES
D SHEET STEEL KNEE BRACE
E 2"x 4" POSTS AT 10 CENTRES
F MOVABLE CORRUGATED PANELS ON 2"x 4" FRAMING
G 9" CONCRETE. TARRED INSIDE
H 2" DIAM. AGRIC. PIPES AT 5" CENTRES, SERVING AS AIR INLETS
I 6" HARDCORE & 4" BREEZE CONCRETE
K 4" DRAIN TAKING SUMP FROM OPEN GULLEY, WEEP HOLES AT 3'4" CENTRES
L RIDGE LEET OPEN FOR VENTILATION, ALL TIMBER PROTECTED
M 32"x 10" STANDARD ROOF LIGHT AT 5'0" CENTRES
N 3'2"x 10½" STANDARD LIGHT AT 3'4" CENTRES, ROUGH CAST GLASS
O 1'9"x 1'9" FLAP DOOR IN 1'9"x 2'6" OPENING WITH CANVAS WICKET FOR FARROWS: OPENING 4 FT EAST OF DOOR TO DUNGING PASSAGE
P SLIDES FOR BOARDS TO CLOSE DOOR IN THE WINTER
Q DOOR OF DUNGING PASSAGE
R 1'6" PANEL OF QUARRY TILES IN FRONT OF TROUGH
S 9" GLAZED HALF ROUND PIPE, BACK 2" ABOVE FRONT
T CONTINUOUS AIR CHAMBER UNDER TROUGH 6"x 9" GRATINGS AT 3'4" CENTRES
U MOVING SHUTTER
V PARTITIONS AT 10' CENTRES
W SLIDING DOOR IN GABLE WALL
X SOUTH WEST LIGHT

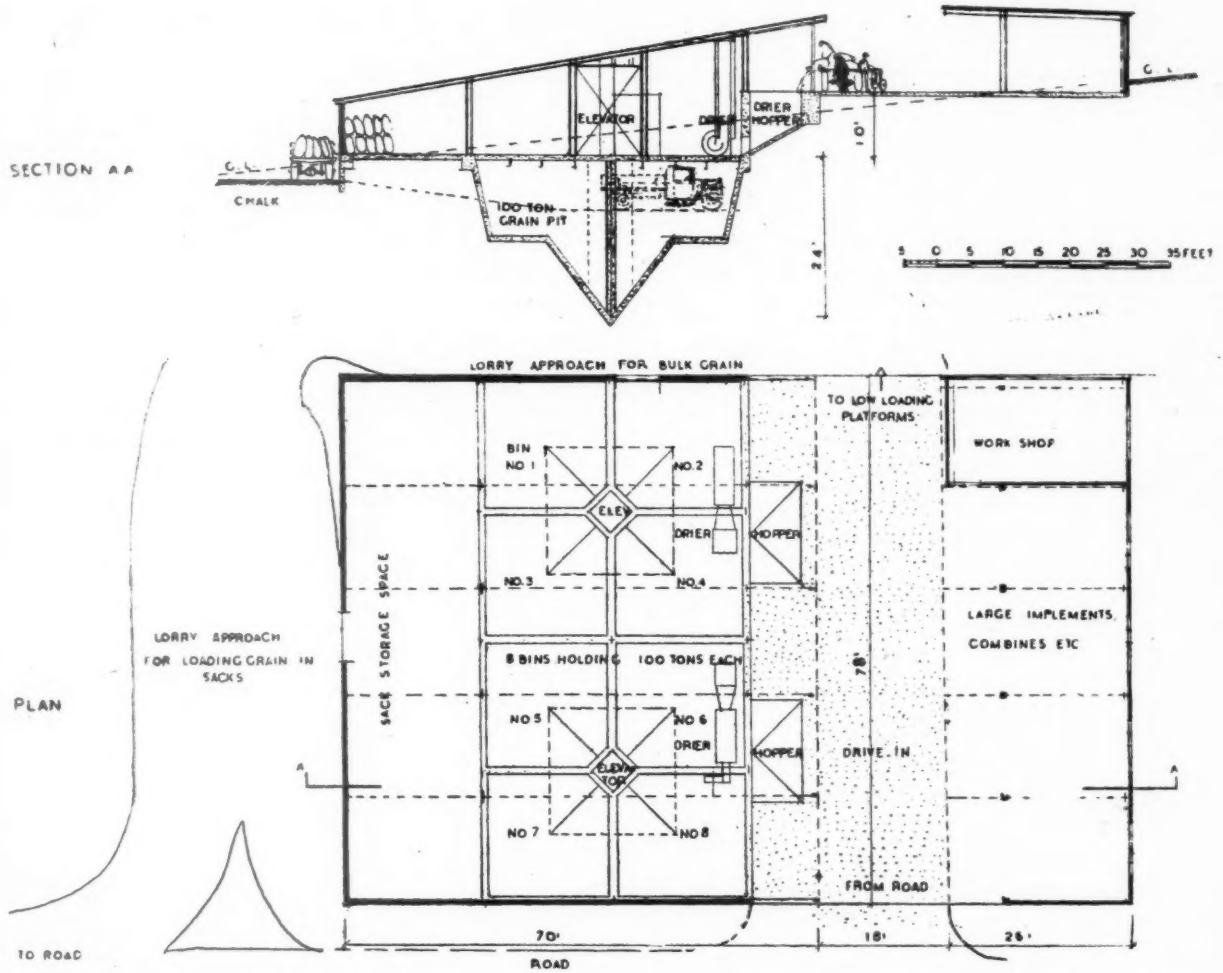








Top and centre, right, section and plan of the Danish or Scandinavian type of piggery, which has become almost standard practice in this country. Here each pig has a private compartment, and pigs will use this because it is a step lower and cooler than their sleeping quarters. Left, bottom, diagrammatic plan and section of the Ashfield type of piggery. Here the dunging compartments are arranged between the pens, thus reducing the cubic contents of the building by 40 per cent. compared with the Scandinavian type. Right, bottom, plan of the Northern Irish type of piggery, an improvement of both the above types. The verandah, the area containing the feeding troughs and the passage on the right are roofed over. The yard and passage on the left are open. Along the passage on the right runs a manure conveyor on an overhead track.



Above, section through, and plan of, a grain drier and bulk storage shed for serving 1,500 acres of grain at Mr. Rex Paterson's farm, Frosthill, Overton Hants. The grain is carried on tractor drawn trailers from fields within four miles radius. There are eight deep bins holding 100 tons of grain each, and floor space for 200 tons in sacks. Tractor and bulldozer was used for excavations and for obtaining the different levels for lorry access to the top of the hopper, for the sack loading ramp and for the outlet for the blower pipe from which grain can be loaded in bulk. The group of buildings also contains a shed for combines and other machinery and a repair bay 15 ft. by 20 ft. The site is on a slope with a high intake and a low outlet level, in a position which is likely to form the nucleus of later building development. It is on a route between the railway station and the fields. Construction is of mass concrete walls, 6 in. thick, with 3 in. breeze blocks as permanent shuttering. Internal division walls and walls not backed by the chalk subsoil are 1 ft. thick. Walls above ground are 6 in. reinforced concrete up to 5 ft. above ground level, and above that of 3 in. breeze. Windows are standard metal. Cost of building, which was carried out in 1941 by direct labour, partly farm labour, with steelwork designed by a qualified engineer, was £1,700 exclusive of machinery. Driers were about £900 and elevator £250. Below, detail of a barn floor designed for easy loading of grain on to a lorry.

number of horses. It has no need for storage space for unthreshed corn if bulk storage of crops in central buildings is relied upon. Large machinery is now also frequently obtained from a central depot either on hire or on a co-operative basis. Such a farm will probably have open and lock-up sheds along a paved or concreted road surface, with an all-purpose storage shed and turning space for tractor and trailer, or lorry, at one end. Where combine harvesting is not possible, Dutch barns and covered threshing bays, and a certain amount of additional grain storage, will be required. The new centres of corn-growing land, the central driers and grain stores can serve an area up to ten miles around the drier. An example illustrated here serves 1,500 acres of grain-growing land situated within four-and-a-half miles around the drier. The driers form the natural centres of any new building development in corn-growing districts, because they must necessarily be accessible not only from all parts of the acreage, but from market and supply sources, railway or canal transport. Their large storage sheds or bins, fuel store and mechanical facilities can be used in the off-seasons for machinery storage, storage for artificial manure or seed potatoes. The trained personnel which attends the drier can be employed during off-seasons on maintaining tractors and large self-propelled machinery. The heat from the drier can be used in off-peak periods to air the storage sheds and bins.

Grouping of Buildings

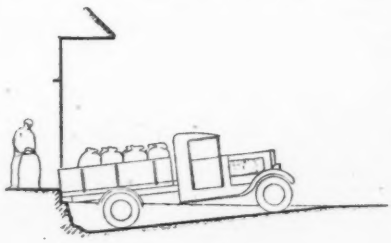
Changes in the traditional way of grouping farm buildings round a central yard are coming with the change-over from all-purpose mixed farmsteads to specialized farms, each covering an area suitable to its particular requirements. The farm road rather than the farmyard is becoming the common link between buildings. In our present old-fashioned farms, one man shares his time between various tasks performed in different buildings. A higher labour efficiency requires that one man should handle one type of job, giving full-time employment, that he should have subsidiary buildings at hand, where required, but that he should not have to make unnecessary journeys. Specialized units are therefore tending to develop which can be grouped conveniently as follows:

(*a*) The 400-acre farm, or thereabouts: Arable farm buildings containing implement sheds, tractor sheds, transport sheds, stables, fuel depot, workshop, hand implement lock-up, storage space for artificial manures, seed potatoes, etc.

(*b*) The 1,000-acre farm: Grass drying plant, straw pulping vats, fruit and vegetable canning, drying and storage plants.

(*c*) The 1,000 to 4,000-acre arable, dairy and general farm: Central ration store and mill with central grain drier or, if without the latter, with good road link to an independent grain drier.

(*d*) The 2,000 to 4,000-acre arable farm, or larger: Central grain drier with bulk and sack



store fertilizer store, store for large machines, maintenance shop.

(*e*) The independent specialized enterprise: Dairy units, fat cattle units, young stock units, calf weaning centres, poultry units, pig-rearing units, fattening piggeries (these preferably near the food processing plants or near human habitations so that waste food can be used). These units must have a good road link with a central food store but are not otherwise linked to other farm buildings.

With this arrangement and with easy transport, dwelling houses for farmers and farm workers need not be built in the immediate proximity of any farm buildings. Constant presence of a responsible man is only required for young stock, breeding farms and in connection with stables. The administrative buildings are perhaps most closely connected with the central grain drier and ration store, because buying and selling and the distribution of the most expensive items on the farm go through these buildings.

CONCLUSION

While no immediate and fundamental changes in the structure of British agriculture are envisaged, certain trends are tending to redistribute farm buildings. Whereas at present each farmstead provides all the buildings necessary for its crops and livestock, modern farm buildings tend to be specialized for one particular use and serve an area which suits their size. From the point of view of management, all the farms in an area are tending to become co-ordinated either by co-operative means or by a responsible central executive. Buildings, however, can be independent so long as they are linked by good roads.

The new buildings need not necessarily be part of existing farmsteads; in fact it is usually better in most cases to choose new sites. The difficulties encountered in the rigidly planned buildings of the past, show that new buildings should be adaptable where possible to a number of different purposes, or else, if built for a single purpose only, they should have a definite limited life, after the expiration of which they could be written off without capital loss. Standardization of large building units and the use of a module would, of course, be as useful in farm buildings as in other types. A module of 14 ft. has been found suitable for many buildings.

[Some points on Siting, from a paper read by Mr. Rosenberg before the Society of Chemical Industry (Agriculture Group) appear on pages 54-55].

TABLE: SPACE REQUIREMENTS FOR SOME OF THE FARM BUILDINGS MENTIONED IN THE PRECEDING ARTICLE

PURPOSE	*ACCOMMODATION*	*DIMENSION*	*REMARKS*
MILK PRODUCTION	Milking bail	2 ft. 4 in. clear opening. 6 ft. 10 in. to 7 ft. 0 in. c/c of units.	
	Collecting yard	25 sq. ft. per cow.	
	Cow yards	60–75 sq. ft. per cow covered	In part covered yard.
		50 sq. ft. open	In part covered yard.
		200 sq. ft. per cow	In open yard.
	Silo	6–8 sq. ft. per cow.	
	Stores	8 sq. ft. per cow.	
	Mixing room	4 sq. ft. per cow.	
	Root barn	100 to 130 cub. ft. per cow	Depending on feeding method.
	Straw barn	600 cub. ft. loose straw	Per cow, in stalls.
		400 cub. ft. baled straw	Per cow, in stalls.
	Hay barn	300 cub. ft. loose hay	Per cow.
		200 cub. ft. baled hay	Per cow.
	Calving boxes	One for every seven cows.	
MEAT PRODUCTION	Boxes for calves	14 sq. ft. per calf.	
	Young stock boxes	35 sq. ft. per head.	
	Stock yards	70 sq. ft. per head. 2 ft. 6 in. length of manager.	
	Bullocks in stalls	50 sq. ft. per head.	
	,, ,, yards	90 to 100 sq. ft. per head. Up to 3 ft. length of manager.	
	Stores	7 sq. ft. per head.	
	Mixing floor	3 sq. ft. per head.	
	Straw barn	900 cub. ft. loose straw	For litter in yards.
		550 cub. ft. baled straw.	
	Hay barn	300 cub. ft. loose hay. 200 cub. ft. baled hay.	
	Root barn	450 cub. ft. per head.	
	Sheep shelter	10 sq. ft. per head.	
	Piggeries:		
	Scandinavian type	10 to 14 sq. ft. per pig	Pork pigs.
		20 sq. ft. per pig	Bacon pig.
		110 cub. ft. per 1 cwt. live weight. 12 in. length of trough per pig.	
	Northern Ireland type	6¾ sq. ft. per pig	Additional outside dunging space.
		50 cub. ft. per pig.	
	Sow pens, indoors	25–30 sq. ft. per head.	
	Boar pens, indoors	40–45 sq. ft. per head.	
CROP PRODUCTION	Silo	1 ft. depth of silo of 15 ft. diam. per acre of silage crop	With cutter and blower method of filling.
	Stacks	5 yds. by 8 yds. for 5–10 acres of cereals or 15–20 acres of hay.	According to the yield.
	Barn space	10–15 cub. yds. per acre of cereals. 15–25 cub. yds. per acre of green crop. Deduct one-third, if baled.	
	Grain store:		
	For bulk storage	10 cub. ft. per quarter or 40 to 60 cub. ft. per acre.	
	For sack storage	1½ sq. ft. per quarter or 6–9 sq. ft. per acre	Two sacks high.
	Fertilizer store	1 sq. ft. per cwt.	Seven sacks high in ICI bags.
		4–5 sq. ft. per acre.	
	Seed potato store	10 sq. ft. per cwt.	In trays or on floor.
		200 sq. ft. per acre.	
	Implement shelter	900 to 1,200 sq. ft. per tractor. 10 sq. ft. per acre of arable and meadow land. 500 sq. ft. per pair of horses.	
	Hay and straw sheds:		
	Hay, unbaled	1¾ cwt. per cub. yd.	
	Straw	1 cwt. per cub. yd.	
	Unthreshed corn	2 cwts. per cub. yd.	

NOTE: Dimensions are approximate only; local variations are considerable.

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.

PHYSICAL PLANNING

1535 — Russian Village

RE-BUILDING THE VILLAGE OF A COLLECTIVE FARM IN RUSSIA. *L. Rydnev.* (*Architectura No.* 3, 1943). Construction of village buildings is new field for architects. New conditions require new approach to village planning but traditions of centuries must be treated with respect.

The prevailing traditional village consists of a long street bordered by individual houses, extending from one to three miles. Motor transport has changed this: new villages should not be built along main roads. In the absence of through roads one is able to use curved roads within the village, and a village green, with an oak or a lime planted on it, can add to the general attractiveness.

Before the revolution the architectural centre of the village was the church; its whitewashed walls, green roof and blue cupola rose above the single-storey log cottages. Now that the community buildings are being built from many different materials the village has acquired a more varied silhouette, in which the new farm buildings also play a part.

Sufficient thought has not yet been given to the design of the village homesteads. The average family consists of five people and each member of the collective farm within the family has his own private property, which must be housed at the homestead: a cow (allowance must be made for calves), a pig and 10-15 head of poultry. The daily care of the livestock and of the vegetable garden falls to the wife—in addition to her work on the collective farm. A typical traditional homestead is shown and an improved design (Fig. 1). The farmer for whom this new home was designed intends to enlarge the yard and add another hall.

A typical pre-war village is shown (Fig. 2), which housed 750 people. Buildings that have been totally destroyed by the Germans are shown in black. The re-designed village to house 1,500-2,000 is shown (Fig. 3). The main road has been diverted and in its place is a communal centre. The main development takes place north of the main road.

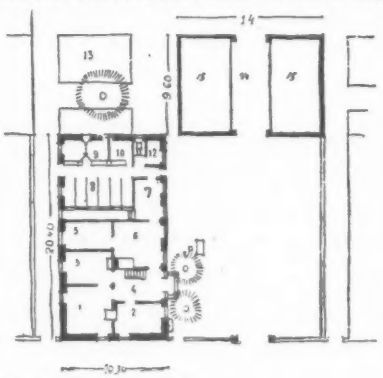


FIG. 1.

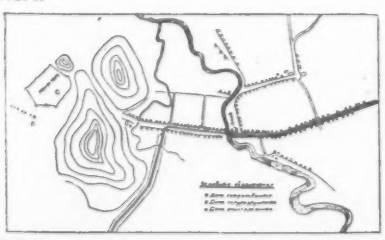


FIG. 2

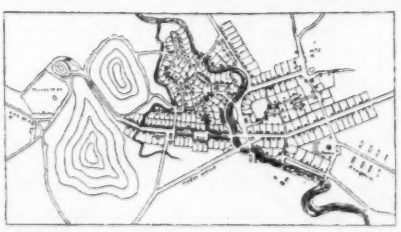


FIG. 3

Top, plan of a contemporary Russian farmstead. 1-3, *living rooms*; 4, *hall*; 5, *parlour*; 6, *kitchen*; 7, *animal food store*; 8-12, *livestock*; 13, *compost heap*; 15, *barn. Above, left, a Russian village as it was before the war. Above, right, proposed lay-out. See No.* 1535.

STRUCTURE

1536 — Steel Structures

STEEL STRUCTURES. MINISTRY OF WORKS POST-WAR BUILDING STUDIES No. 7. *By a Committee convened by the Institution of Civil Engineers.* (*HMSO*, 1944, 6*d.*) Recommendations regarding intensity of loading on floors, methods of design, permissible steel stresses, casing of steel members, standardization, extended use of welding, design of connections, pressures on concrete foundations. Suggestions for elimination of certain customs in steel construction. Comments on handling of contracts.

The terms of reference of the Committee were as follows: "To review the practice of steel-frame construction of buildings, and to make recommendations which will ensure in the post-war period the greatest practicable economies of material and the most rapid methods of construction, due regard being paid to interrelated requirements of modern buildings, such as lighting, ventilation and plumbing."

The Committee recommends that for loads on public floors, dance halls, etc., the DSIR and BS 449–1937 figures shall be accepted. The weight of partitions should in future be treated as superimposed load rather than as dead load; the minimum total allowance of 20 lb./sq. ft. is not always adequate.

Instead of approximate methods of design, now in general use, the design should be based on the accurate methods given in the Final Report of the Steel Structures Research Committee, 1936. Designs made or sponsored by government departments should be based on more exact methods relating to the load-carrying capacity of the structure rather than limiting working stresses.

The working stresses in B.S. 449—1937—shall be retained, but the increased stresses recommended as a war emergency revision shall be retained for industrial buildings, and single-storey buildings. Stresses including the effect of wind shall in no case exceed 10½ tons/sq. in. for mild steel or 16 tons/sq. in. for high tensile steel.

An additional clause recommending that the steel stress in reinforced concrete "shall never exceed 25,000 lb./sq. in. or half the guaranteed yield-point, whichever is less," does not seem to be within the scope of a report on steel structures.

With regard to encased structures, higher working stresses are recommended for beams but not for stanchions, in view of the reduction of the compressive strength of ballast concrete at a temperature of 400°C. Further tests are suggested with various types of encasement.

No variation of the existing number of rolled steel sections is considered to be necessary, and attention is drawn to the merits of broad flange beams (which are not being manufactured in this country and were imported before the war in comparatively small quantities). Similarly, it is suggested that the use of cold strip rolled light structural shapes for small span trusses, purlins and subsidiary frames should be dealt with by an authoritative committee.

The Committee recommends that the use of welding in all suitable cases, and the development of new types of design which the special character of welding makes possible, should be encouraged.

Under the heading "Suggestions for Elimination of Customs in Steel Construction which may Provide Unnecessarily Liberal Margins of Strength and are not Dictated by the Requirements of Rational Design," various details of customary design and shop practice are criticized and improvements are suggested.

Finally, it is pointed out that economy in time and money would be effected if full information were supplied with the placing of the contract, revisions (even of a minor nature) were avoided after the commencement of fabrication, detail drawings were checked and returned in time, an adequate survey were made before designing the building and a time schedule were provided so as to correlate all sections of the work from the date of letting the contract to its completion. The preparation of a standard basic form of specification covering these points is recommended.

HEATING and Ventilation

1537 — Gas Installations

GAS INSTALLATIONS. MINISTRY OF WORKS POST-WAR BUILDING STUDIES No. 6. *Report of Committee convened by the Institution of Gas Engineers.* (*HMSO*, 6*d.*) Service pipes. Internal installations. Meters. Appliances. Installations in dwellings and schools.

The Report of this Committee at first glance appears likely to be rather dull reading for the architect. Closer study shows, however, that it not only contains a great deal of valuable information on detail but that many of the recommendations are of the kind which require that architects should be aware of them during the early stages of their preparation of drawings.

Part I deals with gas service pipes, suitability

of various materials, method of laying and method of entry into buildings.

Part II on Internal Installations covers somewhat similar ground for the internal piping and then describes meters and methods of housing them. There is some attempt here to deal with the gas and electricity meters for houses as a single problem. Gas appliances for dwellings are discussed and recommendations are made that the MOW Standards Committee should consider standardization of size suitable to gas, electricity or solid fuel.

A further section of the Report makes recommendations for installations in schools and there are two appendices, one giving brief specifications of appliances in terms of performance and the other dealing with Bottled Gas Installations.

1538 — *Gas Appliances*

WHERE DO WE GO FROM HERE? *A. Forshaw.* (*Gas Journal, October* 27, 1943, *p.* 522; *and November* 3, 1943, *p.* 564.) Post-war trends in gas appliances. Little probability of permanent standardization in gas cookers. Water heaters and gas fires discussed.

The author first discusses the design of gas cookers, and concludes that the makers can provide almost any required conditions in the oven. There is little probability of standardization, except as a compromise model, embodying the highest common factor of existing appliances. No experiments could be afforded in such a compromise cooker. Permanent standardization would retard progress.

It is considered undesirable to push instantaneous water heaters for all purposes. They are suitable for sinks, but they are less suitable for baths, or used as multi-point heaters. The large ones used for the latter purposes may lead to serious peak loads, and the high gas rate tends to make the consumer outrun his pocket. There is heavy wear and tear on instantaneous heaters, and the hot water output is limited by the gas rate.

For space heating, the author favours a combination of radiation and convection on the grounds of economy, quick heating to comfortable conditions, and good distribution of warmth. The object of the gas industry is to capture the domestic space heating load, and it possesses strong cards in that the processing of coal is in the national interest and it reduces atmospheric pollution. The cost is however greater, and so long as the efficiency is under 50 per cent., gas can only compete for occasional or intermittent heating. Appliances in future must provide more convection heating, to give a warm background; direct convection heating at present is unpleasant owing to the sulphur content of the gas, and suppliers must take steps to reduce this. Ventilation may need to be considered afresh as a separate problem.

The present design of gas fires does not give the greatest efficiency owing to the cooling of the tops of the radiants by the ventilating air. The gas fire should be solely a heating appliance, as efficient as possible. It seems doubtful, after the war, whether we can afford to pay the price for the fad of the open fire, which wastes national assets and pollutes the air, but the same applies, as to waste, to present-day gas fires and the excessive ventilation they produce. The newer fires, using luminous flames, have a lower radiant efficiency, so that convection must be employed if this is to be overcome. Attention is drawn to the spectral distribution, and it is suggested that appliance makers should aim at producing near infra-red rays in appreciable proportion.

1539 — *Heating, Lighting, Ventilation*

VENTILATION AND HEATING, LIGHTING AND SEEING. *Pamphlet No.* 1. *Industrial Health Research Board.* (*H.M. Stationery Office*, 3*d.*). Simple explanation of principles of heating, ventilation and lighting, referring particularly to conditions in factories.

This publication is presumably intended for lay readers. The general principles are clearly stated and designers themselves may well find them useful as a brief statement of essentials. As explanatory propaganda to be handed to clients the pamphlet should be of considerable value.

1540 — *Gas on Farms*

FARMING POWER AND LIGHT FROM GAS. (*Gas World, January* 29, 1944, *p.* 120.) Extension of gas grids in many rural areas has brought about a large increase in the use of gas on farms for cooking, lighting, heating and general farm purposes.

QUESTIONS and Answers

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. 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.*

1541 — *Farm Buildings*

Q *I have been unable to trace the book,* Farm Buildings, New and Adapted, *by Edwin Gunn. Have you any information about it?*

A *Farm Buildings, New and Adapted,* by Edwin Gunn, is out of print. It may, however, be reprinted.

The book is, of course, in the RIBA Library, to which, if you are a member, you have access.

1542 — *Books on Dairies*

Q *Is there any literature dealing with modern practice and design of Dairies—collection, pasteurising and distribution.*

A The following list, extracted from the RIBA Library Catalogues, may be of use to you:

Mitcham RACS Dairy Bottling Plant: Architect and Building News, February 8, 1935. (Architect, S. W. Ackroyd.)

Crickdale CWS: Building, April, 1936. (Architect, L. G. Elkins.)

Guildford Co-op. Dairy: Architectural Illustrated, November, 1936, and Illustrated Carpenter and Builder, June 3, 1943. (Architect, L. G. Elkins.)

Buildings Connected with the Dairying Industry—Milk Treatment, Pasteurisation, Bottle Filling, Canning, etc.: RIBA Journal, February 21, 1938, p. 373. (Article by I. Williams.)

Milk Transfer Station for Can Washing and Tank Filling, Enfield, USA: Architectural Record (New York), February, 1940, p. 51, and Architecture D'Aujourd'hui, 1940, Nos. 3 and 4. (Architect, C. W. Murphy.)

Rushbrook, Suffolk: Builder, July 12, 1940. (Architect, G. W. King.)

Two Dairy Buildings at Greenock (Co-op.): Building Industries (Glasgow), December, 1940, p. 16. (Architects, Stewart, Tough and Alexander.)

Dairy Buildings in the North Country: Builder, January 3, 1941, and Building, January, 1941. (Architect, W. A. Johnson.)

Aberystwyth—Dairy Building: Architect and Building News, October 8, 1943. (Architect, P. Thomas.)

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 economise 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.

SCI

G. Rosenberg

The following are some factual points on siting of buildings on Mixed Farmsteads, which formed the basis for a paper read to the Society of Chemical Industry (Agriculture Group), at the Institute of Tropical Hygiene on November 16 last year, on THE PLANNING AND EQUIPMENT OF FARM BUILDINGS, by G. Rosenberg, DIP.A., A.M.T.P.I.

(1) The farm house to be placed on highest part of ground near trees for shelter, for good drainage, and with view over yard, machinery shed and sick boxes, poultry yard and kitchen garden; survey of the fields from the windows of the house desirable.

(2) Dairy to be: (*a*) near farm house; (*b*) on a lower level than cowshed; (*c*) accessible by van from the road; (*d*) facing north or east where milk is kept for any time, or south or east where milk is promptly collected; (*e*) away from stables, manure and piggery, because milk is easily affected by smells; (*f*) with ventilated access to cowhouse.

(3) The poultry: (*a*) small-scale poultry yard best near the house, being the care of the farmer's wife; (*b*) away from pigs, cows, cart and machinery shed; (*c*) near natural shelter, trees or hedges; (*d*) on well-drained land, south-east slope is best.

(4) Sick boxes and maternity boxes: (*a*) within easy reach of the farmer's or stockman's house; (*b*) facing south or south-east.

(5) Stables: (*a*) near farmer's or stockman's house, so that horses can be saved quickly in case of fire; (*b*) near road entrance; (*c*) near cart and implement shed; (*d*) out of the path of other animals; (*e*) near granary and chaff house on small farms; (*f*) facing north, no direct light into horses' eyes.

(6) Cowhouses: (*a*) with dry unimpeded access to dairy; (*b*) without direct access to

main road, so that cows do not stray ; (*c*) on a lower level than food store and silo and root store, on a higher level than dairy and manure platform ; (*d*) with direct field access ; (*e*) double range sheds to run north and south, single range sheds east and west, with cows facing south.

(7) Cow yards : (*a*) metalled road access ; (*b*) with paved access to milking shed ; (*c*) with stable and hay store ; (*d*) near well-drained paddocks ; (*e*) open to south-east.

(8) Piggeries : (*a*) paved lorry access ; (*b*) away from cows and farm house in the direction of the prevailing wind, near paddocks for farrows, with no possible escape between paddock and piggery ; (*c*) double range sheds to run north-east to south-west, with lights on both sides. Single-range piggeries face south.

(9) Food mixing room : (*a*) lorry access ; (*b*) nearest to pigs and young stock ; (*c*) near barn, chaff and meal store (Note.—On small farms the central position of the food mixing room is most essential); (*d*) all stores and mixing rooms may face north.

(10) Dutch barns : (*a*) on field side of buildings ; (*b*) with firm access for loaded waggons, without bends or steep gradients ; (*c*) on dry well-drained ground ; (*d*) near threshing place and stack yard ; (*e*) near water, in case of fire.

(11) Granaries : (*a*) near stable ; (*b*) near food mixing floor ; (*c*) near threshing floor ; (*d*) raised or otherwise safeguarded against rats.

(12) Manure and compost : (*a*) on field side of buildings ; (*b*) lorry access ; (*c*) sheltered by trees ; (*d*) out of the way of cows ; (*e*) near water ; (*f*) away from dairy ; (*g*) out of the way of the milk collection ; (*h*) below level of spring or well, if those are used for drinking water.

(13) Cattle yards : see cow yards.

(14) Stack yards : (*a*) on firm, high and dry ground ; (*b*) near barn and threshing floor ; (*c*) with easy approach for loaded waggons ; (*d*) preferably on a lower level than fields, for loads to gravitate to stack yard ; (*e*) near granary ; (*f*) near water, in case of fire ; (*g*) away from cowhouse and dairy in the direction of the prevailing wind ; (*h*) with turning space for waggons.

(15) Sheds for machinery, transport and tractors : (*a*) to face north or east, because the sun damages the wood and paint work ; (*b*) away from poultry that might foul the machines and hide in the shed ; (*c*) near garage, petrol pump, repair shop, hardware store, hand-implement store ; (*d*) with tall bays for loaded waggons or tall machines ; (*e*) where the shed is used for storage or for calving down, as on small farms, the shed is best placed near the farm house.

The grouping of different types of buildings in one mixed farmstead can only be justified, where one man has to work in more than one kind of building. There are many reasons why buildings with different functions should be separated, as soon as each is large enough to offer full employment for one or more men. Distinct groups of buildings, which are only linked by road transport, but not arranged in one yard, will probably eventually supersede the traditional mixed farmstead.

RIBA

ASB Lecture

June 6, at 66, Portland Place, W.1. Lecture arranged by the Architectural Science Board of the RIBA on SOCIAL SURVEY TECHNIQUE OF OBTAINING INFORMATION FOR HOUSING, by Dennis Chapman, B.SC.ECON. (Lond.), senior member of the Research for Social Surveys of MOI. Chairman : Stanley Hamp, Vice-President of the RIBA.

D. Chapman : The natural sciences have begun to revolutionize traditional methods of house construction and in all branches of building, the building scientist is playing an increasingly important role. The social sciences in contrast have not so far been of greater importance, yet it is to the social sciences that the architect, the builder and the planner must look for some parts of the answers to the problems of what to build and where to build, the basic problems of house design and of town planning. The extensive schemes of municipal housing and the vast numbers of speculatively built houses erected in the inter-war period were basically little more than the traditional labourers' cottages made sanitary and provided with a few simple appliances and often a quantity of trimmings dimly related to some architectural style. The main pattern of house design has been crystallized by the influence of obsolete model bye-laws.

The current method of designing houses for rehousing projects appears to be based entirely upon intuition. Quite arbitrary standards of total floor space are often laid down by authorities and interior design is often the result of the playing with a kind of jig-saw puzzle of interior walls to give what is considered the best arrangement of two or three rooms downstairs and two or three rooms upstairs, and the architect often has only vague ideas as to what is to happen inside these rooms.

The plans thus arrived at are almost invariably static, that is to say, the bedrooms are designed so that a bed can be accommodated in them and certain other items of furniture. The selection of these static items are almost always based on the personal experience of the architect, as is demonstrated by the pictures of the interiors of almost any of the proposed new houses ; for example, the Ministry of Works houses or the experimental houses at Coventry. (Here, of course, the motive may not only be to demonstrate the efficiency of the design so much as to make it look attractive and to sell it to the public.) What is never done in relation to such a plan is not merely to place the bed in the bedroom but also to take account of the space required in which the family or the part of the family occupying a particular room dresses and undresses, completes its toilet and finally gets into bed, that is to say, the dynamic requirements rather than the static ones.

In the same way that the architect fails to take account of the true situation in his static design by selecting modern and functional furniture, he often postulates patterns of behaviour within the home which, although strictly logical and strictly rational, in no way correspond to those of the prospective tenant (or his own for that matter).

It may be argued that the architect and the builder know quite well the requirements of the families to be rehoused by their experience in the open market that houses which were not satisfactory would remain unsold and that the most popular designs would be those that met the greatest number of essential requirements. This happy theory takes little account of the facts of house purchase.

A brief tour of suburbia must convince even the most sceptical that any dwelling, no matter how badly built or how fantastically designed, could have been sold in the inter-war period for a deposit of £25 and the rest as rent. The methods of sale were often relatively simple ; one or two main patterns of house were built by the hundred and each pattern had its show house, attractively furnished, and it was this which was the main selling point. Individual salesmen adopted different tactics ; in some cases an elaborate bathroom was provided with a multiplicity of chromium gadgets and a quantity of tiled knick-knack—the bathroom sold the house ; in other cases it was the tiled kitchen with enamelled cooker ; in other cases the hall panelled in Japanese oak ply.

The state of mind of the consumer must also be considered. The inter-war period was one of great social insecurity. The presence of mass unemployment and the fear of war sent vast numbers of Englishmen into the security and isolation of their own castle. It is fairly clear that it is not enough to rely on the evidence of the market for the basis of house design, although the experience of the owners of those same houses might well provide much useful data.

The contribution of the sociologist, therefore, to the problems of house and community design may be listed as follows :

1. To study the attitude of people.
2. To study the dynamics of family and community life.
3. To study all these objective factors which are related to the attitudes and activities of people in houses or in communities.

THE SOCIAL SURVEY METHOD

The social survey method employs a variety of techniques for solving problems by reference to the people themselves.

These techniques include observation, direct observation and observation using photography, the interview and various methods of measurement.

The basis of social inquiries must be scientifically controlled, and as a rule the subjects for an inquiry are chosen as a random sample of the universe under discussion, or by means of a census in which information is obtained about all.

Where a sufficient number of the variables in the situation are known it is possible to choose a sample in which a number of the variables are controlled and this can reduce the amount of labour involved.

A very great number of surveys have been made in which this essential basis has not been included, with the result that the findings of the surveys are of doubtful value. This applies to the survey made by the Women's Advisory Council, to the Mass Observation Survey *People's Homes* and to the Department of Health for Scotland's Survey, contained in an appendix to *Planning our New Homes*. In two of these cases a much smaller sample chosen scientifically would have provided the essential information with a very much smaller expenditure of time and energy.

It is important to emphasize this facet about sampling, which is a commonplace throughout the natural sciences, and is now well known to industrialists as it appears not to have been appreciated by many of those who are concerned with housing.

Another point which perhaps should be made, is that social inquiries demand the skill of specialists particularly in field work, as in no other science are the interests of the experimenter so closely bound up with the subject of the experiment and in no other science does success depend so much on the ability to remain objective whilst carrying through most delicate social relationships.

THE STUDY OF ATTITUDES

It is in the study of social attitudes or opinions that most controversy around housing and building matters is found. There are many fields of attitude study in which the opinion of the housewife is a very valuable guide to the planner and architect. At the same time there are other fields where this opinion may be confusing and deceptive. The essence of successful attitude study is to plan the experiment so that the known dangers are taken care of.

The common case where misleading results are being obtained is in the discussion of whether people want to live in houses or flats, which has now reached the stage of being almost meaningless. It is extraordinarily difficult to get useful information about things of which people have no experience and the fear of the unknown is often a strong factor in determining opinion. A better way to solve this particular controversy would be to

question similar groups of people living in the sort of flats visualized and comparing them with a like group living in the type of houses which are a possible alternative. As an example of the difficulty, in a certain inquiry it was found that a group of people preferred the bungalow to any other type of dwelling, but further questioning showed that their interests were not in the bungalow as such but in a single-storied dwelling which would be quiet and which had a garden. This might or might not have meant only a bungalow.

This controlled type of attitude study can be used to compare the preferences of like groups for different types of dwelling, amenity and fitting, and might have immediate application to the problem of housing provision for old people.

Where people have experience of the subjects under discussion their opinions can be very valuable, and there is an obvious field for testing the efficiency of certain standards of house design by questioning large numbers of people living under the same conditions, and by this means discovering the main faults in the design and the type of family who finds any specific pattern of house most suitable to their needs.

In many other fields it is important to know opinions and beliefs. Any matters which are not essentially social waste can often be avoided by prior consultation with prospective tenants about such subjects as finishes, decorations, etc., and the provision of fittings and such information may have an important influence in another direction; thus if the tenant is free, as they are by law, to choose the type of cooking apparatus which they prefer, it is worth while knowing their choice in advance and the expense of installing the wrong apparatus and replacing it by the chosen one may be avoided.

Many of the preferences and desires of tenants are irrational and not based on experience. If these are known they may be taken into consideration and, if the subject is one of sufficient importance, irrational beliefs may be countered by education or administration — in fact, domestic science largely fails to be applied to the living conditions of ordinary people because it is so often based on purely rational laws and does not take account of traditional behaviour patterns.

In case these remarks may have created too pessimistic a view of the value of attitude studies, two examples are quoted to show how, in certain circumstances, information which is obtained from this type of inquiry gives results which are closely corroborated by physical information.

In the case of a study made of sounds in dwellings, a comparison of those who lived in flats with steel construction and those who lived in flats with other construction, showed that whilst both groups heard the same number of noises a greater proportion of those who lived in steel construction flats were troubled by noises, and the noises which were primarily impact noises troubled more people in steel-frame flats than any others. It is particularly impressive to note the differences in the amount of light measured objectively which is available to housewives who say that they can see "well," "all right" or "badly," when asked.

THE DYNAMICS OF FAMILY AND COMMUNITY LIFE

Possibly the first and most important piece of information which is needed is the very elementary one of family size and composition. It is not unusual to discover that a local authority has decided to build two types of houses by the hundred—the parlour type and the non-parlour type, or at the most four or five or six types of house.

In order really effectively to decide on type of house, information will be needed about family size and family composition, and this information is needed in great detail if the most effective use of the house is to be made and if the best possible provision for the activities within the home is to be made.

The ideal family of two adults and three children is seen to be only 4 per cent. of all families in Scotland.

This kind of information can only be used in a very narrow sense rather on the lines of the standards of overcrowding unless it is related to the pattern of activity within the home.

This relation of house accommodation to family size is not a static problem, however, and if an estate of houses is built which has a life of, say, 60 years, then the accommodation provided must take account of the changes in family life and in household composition which will take place during the life of the estate. In order to deal with this population estimates will have to be calculated from the detailed information about family and household composition mentioned above.

The dynamics of life within the home have several aspects; the first is the activities of each member of the family, that is to say, what these activities are, where they take place, when they take place, the extent to which they are conditioned by the house design and the extent to which they are frustrated or facilitated. The second factor is the extent to which these activities are the activities of more than one member of the family and the extent to which they are carried on in isolation or whether different activities of different members of the family have to take place simultaneously in the same room, and it is necessary to study again conflict of activities resulting from this and how far this conflict is the result of the influence of house design or size. It may merely be that traditional patterns of usage create unnecessary conflicts which could be removed if tenants were educated to a fuller use of their space, and, finally, the activities must be studied in themselves in terms of space and volume, studies which parallel in some ways the motion studies of industry.

It will be realized that these studies of activities will be much more valuable if the objective circumstances in which they take place can be described; thus it will be useful to know number of rooms, size of rooms, shape of rooms, amount of space occupied by furniture, lay-out of furniture and fittings, the amount of light available, the amount of heat and, in fact, all the other physical variables.

Allied to the problems of activities are the problems of possession, and it becomes obvious that it is necessary to study not only what people do in their homes, but the things they put in their homes and what they do with them. (To take a simple case, the extent to which the accumulation of household treasures in the parlour renders the room so overcrowded as to be useless.)

So far no adequate study of activities within the home has been made in this country although a certain amount of partial data has been collected incidentally. The most adequate survey yet made (as far as I know) is the one by the Co-operative Building Society in Sweden by Dr. Svend H. Riemer; the survey was made in Stockholm. This inquiry must be regarded as a pilot inquiry upon which large scale inquiries must be based, since it only records the activities of 215 families for a week, and the number of variables in such an inquiry are very considerable.

The basic information was a record of the home and the activities of every member of the household during this one week and this was supplemented by a series of questions about the subjective attitude of families towards their homes in relation to typical situations of family life; the preparing and serving of food, the entertaining of guests, the use of radio, care of children, etc.

From this data it was possible to illustrate diagrammatically the flow of activities within the home, to show at what points in both time and space, overcrowding and conflict was to arise, to show the extent to which rooms were utilized and the factors influencing that utilization, and to show to what extent activities were conditioned by the presence or absence of certain furnishings, fittings or appliances.

This information was then interpreted by analysing it in terms of some of the other variables in the situation.

The dynamics of living have also been studied in terms of space and motion by the John B. Pierce Foundation, who have evolved experimental techniques using photography and models in order to ascertain the volume and shape occupied by a person when dressing or washing, or crossing a room. The models which are produced by this method can be used in a model room with scale furnishings to ascertain the adequacy of space provision for each room according to its specific function. So far this technique is only just being developed, and the more complicated problems of space and volume for the activities of groups of people have yet to be studied. Nevertheless, this technique is quite logical and seems a most reasonable way of approaching the basic problems of space provision. The resulting models look rather like Henry Moore's sculptures, as may be seen by the example which shows the space required when a man dresses and is a composite model based on a study of two different men.

PLANNING STUDIES

In the field of planning there have been a number of experimental social surveys, but so far they have not been integrated with a complete series of surveys as suggested by Geddes. Two studies may be mentioned as examples of studies of general planning principles—*Urban Planning and Public Opinion*, made by the Bureau of Urban Research of Princeton University, and the *Location of Dwellings in Scotland*, a survey made by the Wartime Social Survey.

The American survey studied problems of house ownership, neighbourhood amenity, inter- and intra-city mobility, and made a particularly interesting study of social relations with neighbours. In this study it was found that neighbourhood satisfaction, as measured by the satisfaction that people expressed with their neighbours, was highest in the small town of from 5,000 to 25,000 inhabitants. The study of social relations with neighbours is being elaborated and used to discover the existence of small communities within the larger unit and to find out what conditions make for the existence of these communities in an experimental study now being made in a northern town.

The location of dwellings in Scottish towns was an inquiry made for the Department of Health for Scotland and was designed to give some general answers to the main problems of siting new houses and communities. This study included an account of family composition, a study of the physical relationship of the home to the places of the main activities and interests of the members of the household in terms of time and distance. These activities and interests included work, shopping, schools, clinics, places of amusement, and places of worship. A study was also made of attitudes to the future dwelling and its location. One of the special problems studied was that of convenience, and an attempt was made to define convenience in terms of time and distance for different interests.

When these studies have been extended it should be possible to adopt standards of convenience for every main interest and activity, and this standard could be varied to cater for the different needs of different age groups and for men and for women; thus if an estate was to be planned for old people the standards adopted would obviously be different to an estate planned for the normal population.

If it was then decided that the standard to be adopted was, say, convenience to 75 per cent. of the population, reference to these results would site, say, work places, churches or shops within belts of a given distance of the home or group of homes, or within a given time. The time factor rather than the

distance factor was very important and suggests that it is unwise to plan a new town or a new estate without planning simultaneously the transport service if the town is sufficiently large to require one.

As well as the studies which have been made to establish planning principles there have been many studies designed to solve the planning problems of particular areas like those being made in Birmingham and Manchester at the present time and like the study already published of Birmingham, *When We Build Again*. This study with its limited objectives has thrown light on a number of important problems, particularly that of the relation of work place to home and to take, as one example, the study of the use of parks and recreation grounds in the different zones of the city must be most illuminating to the planner.

Using the experience gained in the Scottish inquiry and that of the town surveys mentioned above, the Wartime Social Survey has planned an experimental survey of a northern town in conjunction with a planning consultant. This survey is studying three main problems—a detailed study of family patterns made, as far as we know for the first time, which will be the basis for housing provision ; a study of communities based on the social relations between neighbours (a pilot survey on these lines has already shown that in some areas of the town these social relations are considerable and play an important part in the lives of the people) ; and a study of activities, the relationship of places to the home and of convenience. The study of communities includes a study of the town as a whole.

STUDIES OF THE OBJECTIVE FACTORS IN HOUSING PROBLEMS

The studies already described of the dynamics of family life in the home and community demand corresponding objective studies of the environment, the size of rooms, the amount of light available and studies of equipment and appliances, as well as studies of possessions.

The Wartime Social Survey has already carried out a number of such studies for the Building Research Station and for other Government Departments. These studies include the following :

The Heating of Dwellings Inquiry.—This was a study made of the use of fuel in dwellings for heating, cooking and water heating, together with an inquiry about attitudes to district heating, and alternative schemes of heating and water heating.

The Lighting of Dwellings Inquiry.—This was a study of domestic lighting by daylight, and by electricity.

Sound in Dwellings.—This inquiry, which is still being worked upon, has been successful in demonstrating that opinions about fairly definite noise like noise and the disturbance caused by noise is a useful guide to the planner.

In addition to these main studies, a number of studies of detail have been carried out in conjunction with other inquiries. They include studies of coal buying, and the use of coal storage space, the ownership of bicycles, and the use of windows. This latter study, which is part of the social anthropology of the home, will be interesting to architects when combined with further experimental data. At present windows are designed to provide certain standards of illumination, but until we know precisely how many windows are obscured by furniture, by plants and flowers, by little figures, the amount of the window which is obscured by net and by curtains, the ultimate illumination cannot be estimated.

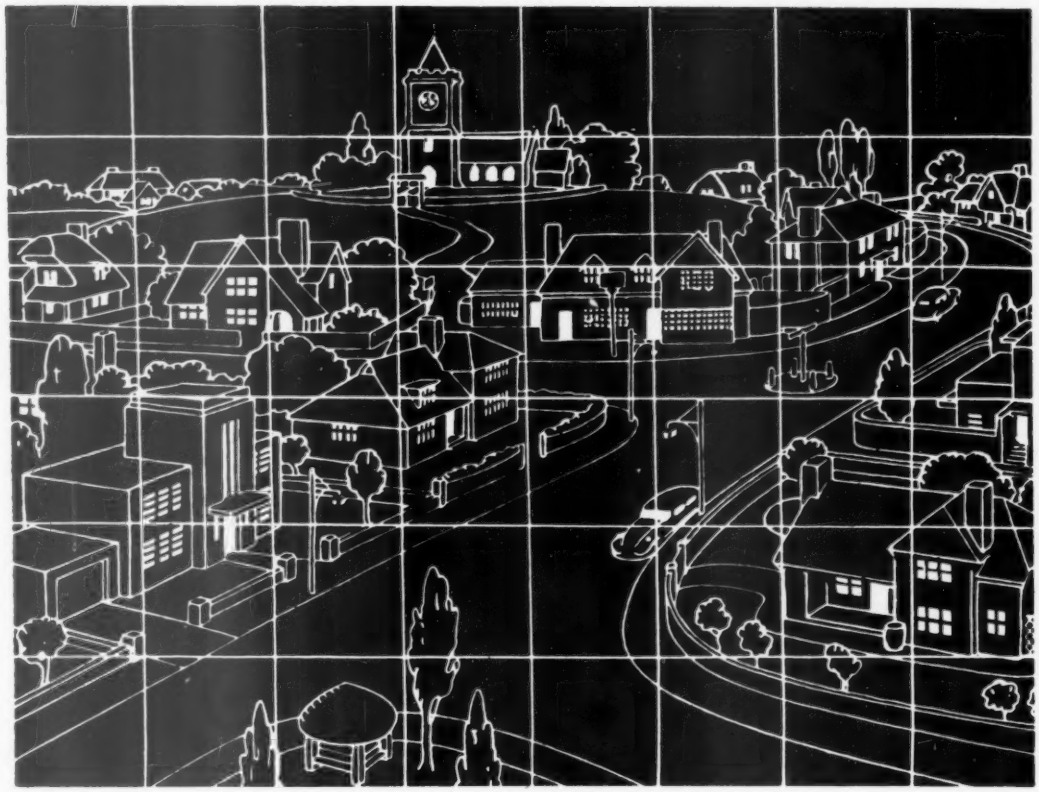
WARTIME SOCIAL SURVEY AND ITS WORK

The Wartime Social Survey, whose work has been mentioned many times in this paper, is a Government Social Research Unit, which has a department specializing in surveys of housing and planning. It does not at the present time initiate its own surveys, but only carries out surveys at the request of other Government Departments.

It has been suggested—as recently as last week in the ARCHITECTS' JOURNAL—that the social survey method is hampered by unwillingness of the public to co-operate. This is an extraordinary misconception. The experience of the Wartime Social Survey, in what might be described as a quarter million sorties, is that the proportion of people who do not co-operate is less than one in two hundred and, in considering this figure, it should be borne in mind that people in houses are sometimes ill, that they may have urgent cooking, or shopping to do, and that such reasons of inconvenience are the main ones for this handful being unable to co-operate. The survey has found that if an adequate explanation of the purpose of an inquiry can be given, it is readily appreciated and even an inquiry which demands the co-operation of a housewife for, say, two hours, as did the lighting inquiry, requires her to carry out a number of additional tasks like raising and lowering the blackout and going through with certain domestic jobs like washing-up or attending to the cooker, even this amount of co-operation is freely and willingly given.

THE SOCIAL SURVEY METHOD

It must be clearly understood that the sociologist is not an architect and cannot himself either design a house or plan a town, and that the best that he can do is to work with architects and planners and supply them with certain basic data. On the other hand, it ought to be recognized by the architect that the sociologist is a specialist in his own line, and that he has a contribution to make to what is after all mainly a sociological problem and that equally the sociologist should be allowed to design his own experiment. Once this division of function is clearly understood on both sides there should be fruitful co-operation between specialists.



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The Incorporated Association of Architects and Surveyors maintains a register of qualified architects and surveyors (including assistants) requiring posts, and invites applications from public authorities and private practitioners having staff vacancies. Address: **75 Eaton Place, London, S.W.1. Tel.: Sloane 5615** 991

COUNTY OF BRECON.

APPOINTMENT OF PLANNING OFFICER.

The Breconshire Joint Planning Committee invite applications for the appointment of a County Planning Officer at a salary of £500 rising by annual increments of £25 to £600 per annum, plus a travelling allowance of £100 per year.

The person appointed will also be required to act as temporary Clerk to the Committee at a salary of £100 per year.

Applicants should be fully conversant with the Town and Country Planning Acts, Orders and Regulations, and should have passed the Final Examination of the Town Planning Joint Examination Board, and preference will be given to those who have had experience with a County or Joint Planning Committee and who hold an Architectural, Surveying, or Engineering qualification in addition.

The person appointed will be required to live in or near to Brecon, and to devote the whole of his time to the above duties, and the appointment will be terminable by three months notice in writing on either side, and will be subject to the Local Government Superannuation Act, 1937, and the sickness and holiday rules of the Breconshire County Council.

Applications, giving age and full particulars of qualifications and previous experience, together with copies of three recent testimonials, should be received by the undersigned not later than 5th August, 1944.

ALBERT JOLLY,
Acting Clerk to the Committee.

County Hall,
Brecon.
6th July, 1944. 701

CITY OF COVENTRY.

CITY ARCHITECTURAL DEPARTMENT.

Applications are invited from qualified persons for the posts of Assistant Architects at a salary of £6 per week, plus cost of living bonus.

The appointments are temporary, and are subject to the City Council's rules and regulations.

All applications not later than 30th July, 1944, should be addressed to the undersigned, and should give full particulars of experience, age and qualifications.

D. E. E. GIBSON, M.A., A.R.I.B.A., A.M.T.P.I.
City Architect.

1A, Warwick Row,
Coventry.
10th July, 1944. 702

CUMBERLAND COUNTY COUNCIL.

ARCHITECTURAL ASSISTANT.

Applications are invited for the appointment of a Temporary Architectural Assistant, in the County Architect's Department.

The salary offered is £325 per annum, rising, subject to satisfactory service, by increments of £12 10s. to £350 per annum (the first increment will take effect on the 1st April, 1945), together with war bonus, at present 19s. per week, and an allowance for extended office hours (now 47 hours per week) of £50 per annum.

The appointment will be subject to the Local Government Superannuation Act, 1937, and will be terminable by one month's notice on either side.

Form of application may be obtained from the County Architect, 4, Alfred Street North, Carlisle, and should be completed and returned to him, accompanied by copies of three testimonials, not later than Monday, the 4th August, 1944.

G. A. WHEATLEY,
Clerk of the County Council.

The Courts,
Carlisle.
11th July, 1944. 704

WEST RIDING COUNTY COUNCIL.

EDUCATION DEPARTMENT.

Applications are invited from qualified Architects and Architectural Draughtsmen for appointment as temporary assistants in the Architect's section of the Education Department. Applicants must be exempt from service in H.M. Forces. They should give details of age, qualifications and experience, and state salary required. Considerable additions to the permanent staff will probably be necessary after the war, and temporary employees who have given satisfactory service will be considered for transfer. Applications should be addressed to the Education Officer, County Hall, Wakefield. 707

COUNTY COUNCIL OF THE WEST RIDING OF YORKSHIRE.

COUNTY PLANNING DEPARTMENT.

Applications are invited from persons not liable for Military Service, or who are exempt therefrom, for the following appointments in the newly established County Planning Department at Wakefield.

The Department, which is engaged on a County Survey as a preliminary to the preparation of a County Advisory Plan together with other planning duties under the direction of Mr. W. Dobson Chapman, County Planning Consultant, is a separate Department of the County Council directly responsible to the County Planning Committee.

The appointments to be made at the outset with basic salaries offered (all of which are at present subject to an additional allowance in respect of war bonus) are the following:—

1. **Deputy County Planning Officer**—at a commencing salary of £900 per annum, rising to £1,000 per annum by annual increments of £50.
2. **Two Senior Planning Assistants.**
   (*a*) One with Architectural Qualification.
   (*b*) One with Civil Engineering Qualification.
   at a commencing salary of £450 per annum, rising to £600 per annum by annual increments of £25.
3. **One Grade III Planning Assistant**—at a commencing salary of £225 per annum, rising to £350 by annual increments of £20.
4. **One Junior Planning Assistant**—at a commencing salary of £160 per annum, rising to £220 by annual increments of £15.

Essential and preferential qualifications of the persons appointed to each of the several positions are as follows:

Appointment No. 1.
Essential Qualifications:—
Corporate Membership of the Town Planning Institute, and of either:
The Royal Institute of British Architects,
or The Institute of Civil Engineers,
or The Chartered Surveyors' Institute.
Preferential Qualifications:
Experience in County Planning and in the administration of a Planning Office.

Appointment No. 2.
Essential Qualifications:
Corporate Membership of in the case of—
2 (*a*) The Royal Institute of British Architects.
2 (*b*) The Institute of Civil Engineers.
Preferential Qualifications:
Corporate Membership of the Town Planning Institute with experience in a Planning Office.

Appointment No. 3.
Essential Qualifications:
Skilled draughtsman or able surveyor.
Preferential Qualifications:
Intermediate Examination of the Town Planning Institute or the equivalent thereof and experience in a Planning Office.

Appointment No. 4.
Essential Qualifications:
Able draughtsman.
Preferential Qualifications:
Experience in an architectural, surveying, Civil Engineering or Planning Office.

The appointments will in every case be subject to the Local Government Superannuation Acts, 1937 and 1939, and the successful applicants will be required to pass a medical examination.

Applications in writing stating age, qualifications, experience and position with regard to military service, accompanied by copies of three recent testimonials, must be lodged with the undersigned in sealed envelopes marked clearly in the top left hand corner "County Planning Appointment" (giving the number of the appointment above for which application is made) not later than first post on the 10th day of August, 1944.

BERNARD KENYON,
Clerk of the County Council.

County Hall,
Wakefield. 709

Architectural Appointments Vacant

Four lines or under, 4s.; each additional line, 1s.

Wherever possible prospective employers are urged to give in their advertisement full information about the duty and responsibilities involved, the location

Classified Advertisements continued on page xl.

of the office, and the salary offered. The inclusion of the Advertiser's name in lieu of a box number is welcomed.

JUNIOR ASSISTANT (Male) required in architect's office for drawing, tracing, etc. Apply, stating age, salary and experience to Henry C. Smart & Partners, Architects and Surveyors, 251/253, Finsbury Pavement House, 120, Moorgate, E.C.2. 671

QUALIFIED ARCHITECT required to take charge of Brewery Drawing Office. Must be able to prepare designs, working drawings, quantities, estimates and be familiar with all licensing matters and able to control a maintenance staff. Not liable for military service. Reply, stating age, experience, salary required and any other details to Box 699. [Architects and Surveyors.]

ARCHITECTURAL ASSISTANT, permanent, required by the County Borough of Tynemouth.

Candidates must not be less than 35, unless medically unfit for military service, and be Members of the Royal Institute of British Architects, and have had practical experience in general municipal works.

Salary: £375 to £420 per annum, plus cost of living bonus, £49 8s. per annum.

The appointment is subject to the provisions of the Local Government Superannuation Act, 1937, and the successful candidate will be required to pass a medical examination.

Applicants should write quoting EA.866 XA to the Ministry of Labour and National Service, Room 432, Alexandra House, Kingsway, London, W.C.2, for the necessary forms which should be returned completed on or before 31st July, 1944. 706

Architectural Appointments Wanted

Architectural Assistants and Students seeking positions in Architects' offices will be printed in "The Architects' Journal" free of charge until further notice.

ASSISTANCE. A/A.R.I.B.A.'s will prepare schemes and drawings, etc., in own office, spare and part-time work. Total experience 25 years. Central Scotland area. Write Box 301.

MALE ARCHITECTURAL STUDENT, second year Liverpool school of Architecture, wants work of national importance in an architect's office, London preferred, during summer vacation after July 8th. Box 308.

BOY (aged 16½), trained draughtsman, very interested in architecture, requires post in architect's office. Box 310.

ARCHITECT AND SURVEYOR, L.R.I.B.A., A.I.A.S. (Quants.), Age 37, seeks contact with firm offering post-war prospects, preferably with view to partnership; 20 years varied experience; very excellent credentials. Box 309.

ASSISTANCE OFFERED by A.R.I.B.A. (exempt) in Birmingham and district. Box 312.

ASSOCIATE, medically discharged from the Army and now free, with over 20 years' varied experience, since leaving public school and architectural association, desires working partnership where real prospects of post-war work exist. Advertiser is useful designer and first-class draughtsman. London or country preferred. Reply Box 313.

CHARTERED ARCHITECT, 35 (school trained), on deferred service with RAFVR, seeks position in Yorkshire. Specialist in school design and quantities. Salary by arrangement. Box 315.

TWO COMPETENT DRAUGHTSWOMEN, third year students Regent Street Polytechnic School of Architecture, want office experience with architect or town planner, during summer vacation, starting July 31, London. Box 316.

DRAUGHTSMAN TRAINEE. 16 years. 2 years Civil Service. Seeks position in South Yorkshire. Good Tracer. References. Carnley, 41, The Crescent, Bolton-on-Dearne. 318

ARCHITECTURAL ASSISTANT, 22, desires post in Architect's Office; Intermediate R.I.B.A., four years' architectural training and varied office experience since 1939; exempt. Box 319.

ARCHITECT'S ASSISTANT (25), ex army officer invalided present emergency with over 4 years' experience, requires permanent progressive post with N. Wales architect. All scale and F.S. working drawings, surveying (chain and theodolite), levelling, etc. Slight knowledge quantities and specification compiling. Box 321.

ARCHITECT, fully qualified, with wide experience, T.P. qualification, would accept temporary post from August 1st to September 15th. Box 322.

ARCHITECT (Chartered), experienced carrying through works in London and Provinces, requires position in London or Home Counties with first class practice with view to partnership. Willing to bring own connection. Box 323.

SURVEYOR, HOUSING MANAGER, CLERK OF WORKS, Etc., with over 25 years' theoretical and practical experience in all branches of the profession, etc., seeks permanent and responsible position in the Midlands, etc. Experience includes War Damage Repairs, Property Management, and General Property Maintenance. Exempt from Military and National Services. Rendered War Service during 1914-18. Box 324.

ARCHITECT (Registered) formerly practising privately, would like post, North England or Scotland. Experienced in Drafting, Works Supervision, War-time Construction, Maintenance and War Damage with special qualifications as front rank Designer. Write BCM/A.A. GUILD, LONDON, E.C.1. 325

BUILDING SURVEYOR, INSPECTOR, DRAUGHTSMAN. Age 51. Have served many local and County Authorities. Seeks responsible position under local authority. At present under superannuation, and hold the highest credentials. Have also served as Clerk of Works on important works. Experienced of Dilapidations, War Damage, Builders Quantities, and have a very thorough experience in all types of Building operations. Shortly disengaged. S.W. England. Box 326.

ARCHITECTURAL ASSISTANT (aged 25, exempt Forces) requires appointment in Kent (S.E. Kent preferred). Box 327.

ARCHITECTURAL ASSISTANT, 25, desires post immediately. Experience building surveys, level, specifications ¼ in., and F.S. details; three years surveyor's staff of large industrial concern. Architectural school trained. Keen and progressive. Unfit for military service. Box 328.

Other Appointments Vacant

Four lines or under, 4s.; each additional line, 1s.

ASSISTANT EDITOR wanted for Architectural Paper. Write, with full particulars of qualifications salary required, &c., to Box 51.

L.C.C. BRIXTON SCHOOL OF BUILDING. Required for the 1944-5 session, part-time studio master(s) and lecturer(s) in architectural subjects in the Senior Day School. Candidates must be Fellows or Associates of the Royal Institute of British Architects. Previous teaching experience desirable but not essential. Salary in accordance with the L.C.C. scale for part-time teachers. Applications should be sent to the Acting Principal, the Brixton School of Building, Ferndale Road, S.W.4, as soon as possible. 703

SECRETARY (Male, shorthand-typist), exempt from Military Service, required by Midland Brewery. Must be able to drive car, and travel extensively with Principal. Knowledge of building work an advantage. Permanency if satisfactory. Apply, Box 710.

Competitions

Six lines or under, 8s.; each additional line, 1s.

SCOTTISH NATIONAL HOUSING AND TOWN PLANNING COUNCIL.

SIR WILLIAM E. WHYTE PRIZES FUND.

The Council invite competitive efforts for the planning of one block of two 2-storey cottages, comprising one of 3 apartments and one of 4 apartments, having regard to the Long Term standards recommended in the recent Report of the Scottish Housing Advisory Committee. The Competition is confined to men and women of British nationality, normally resident in Scotland, and of not more than 35 years of age in the case of men and women who have not served in H.M. Forces during the present war, or 35 years of age plus one year for each year of service (subject to a maximum of 4 years) in H.M. Forces during the present war.

Prizes of 25 guineas, 20 guineas and 15 guineas will be awarded as First, Second and Third Prizes respectively.

Plans or sketches, with relative Report must be lodged with the Subscriber not later than 31st December, 1944. Copies of the Conditions of the Competition may be obtained from him.

NORMAN J. CAMPBELL, S.S.C.,
Honorary Secretary and Treasurer.
11, Drumsheugh Gardens,
Edinburgh, 3.
12th July, 1944. 708

Planning

As originators of the Auto-Recorder System of Machine Milking we have had extensive experience of planning layouts to accommodate the new technique. The service of our Technical Department is available to any Architect planning or modifying farm buildings for this purpose. Write in confidence to:—The Planning Dept., Gascoignes (Reading) Ltd., Gascoigne House, Berkeley Avenue, Reading. 669

Factories Wanted

Four lines or under, 4s.; each additional line, 1s.

COMPANY ENGAGED ON ESSENTIAL ENGINEERING WORK requires factory with covered area of not less than 10,000 square feet, on site area of at at least 2½ acres. Bombed building with sound foundations would be considered; district as near Central London as possible. Immediate post-war possession also considered. Replies treated in strictest confidence. Agents please note. D. Sebel & Co. Ltd., 55, Lant Street, S.E.1. HOP 3803. 693

For Sale

Four lines or under, 4s.; each additional line, 1s.

DRAWING INSTRUMENTS. One set Czech-made instruments in case. Good condition. £5 or near offer. Box 705.

Miscellaneous

Four lines or under, 4s.; each additional line, 1s.

A. J. BINNS, LTD., specialists in the supply and fixing of all types of fencing, tubular guard rail, factory partitions and gates. 53, Great Marlborough Street, W.1. Gerrard 4223-4224-4225.

SPECIFICATIONS AND BILLS OF QUANTITIES, etc., expeditiously and accurately typed or duplicated. Translations and Facsimile, Typewriting. All work treated confidentially. Miss G. Saunders, Typewriting Bureau, 17, Darre Street, Westminster, S.W.1. Telephone: Whitehall 2605

FENCING AND GATES of every type, supplied and erected. Specialists in chain link. Boulton & Paul, Limited, Norwich. 692

MONOMARK service. Permanent London address. Letters redirected immediately. Confidential. 5s. p.a. Royal Patronage. Key tags 3 for 1s. 3d. Write BM/MONO5R, W.C.1. 44

WANTED IMMEDIATELY a copy of Stratton's Elements and Form of Design in Classic Architecture. Box 700.

Educational Announcements

Four lines or under, 4s.; each additional line, 1s.

R.I.B.A. AND T.P. INST. EXAMS. Private Courses of tuition by correspondence arranged by Mr. L. Stuart Stanley, M.A., F.R.I.B.A., M.T.P.I. Tutor, St. Catherine's College, Cambridge. 231

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