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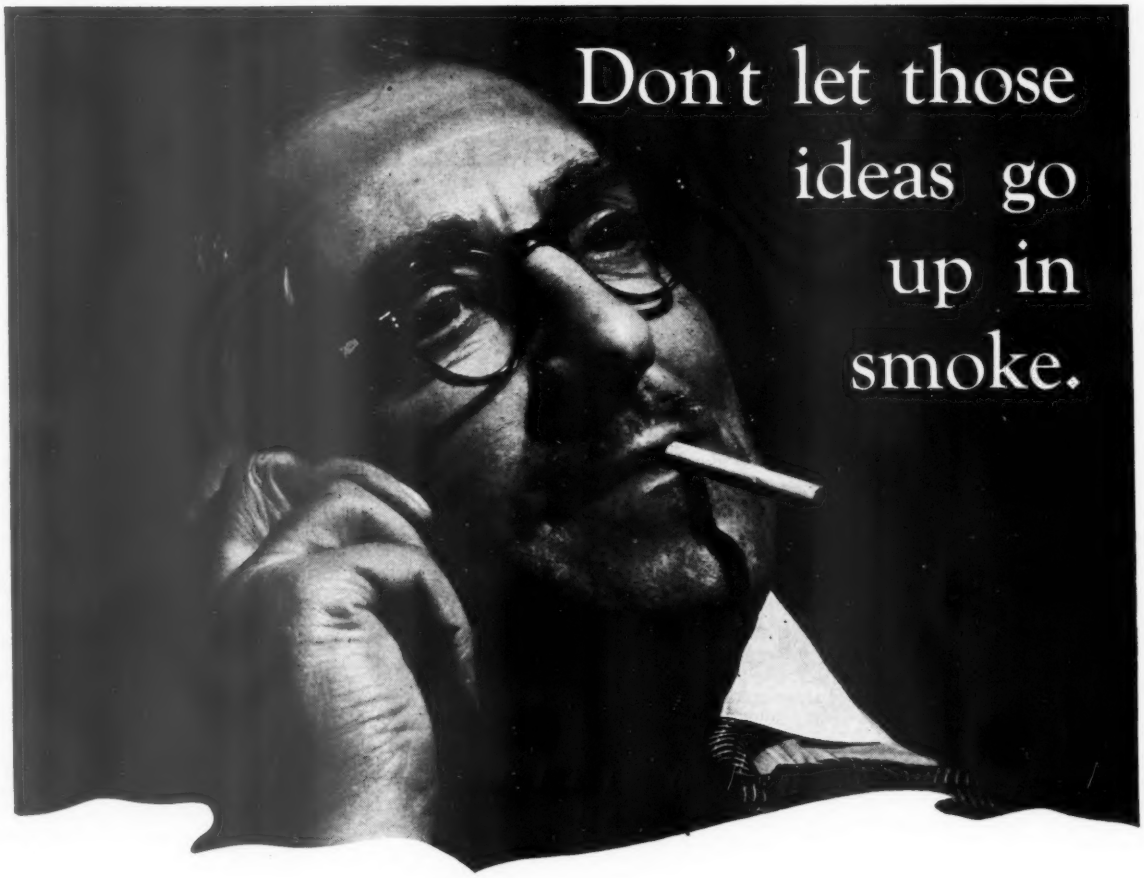

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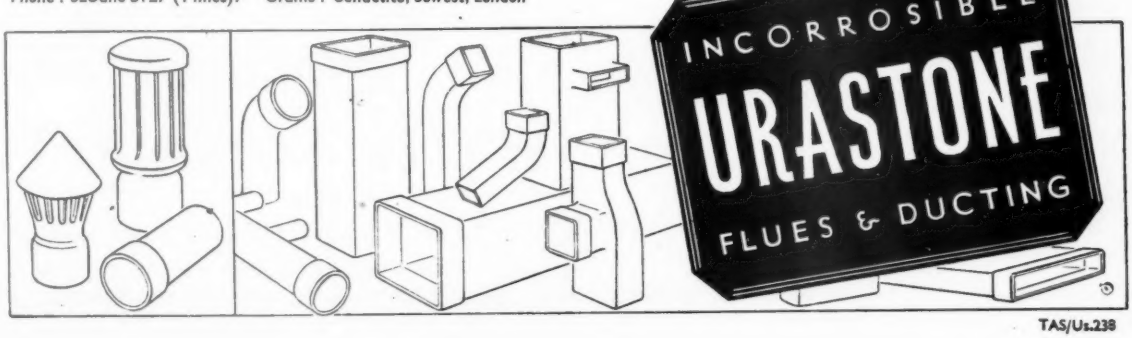

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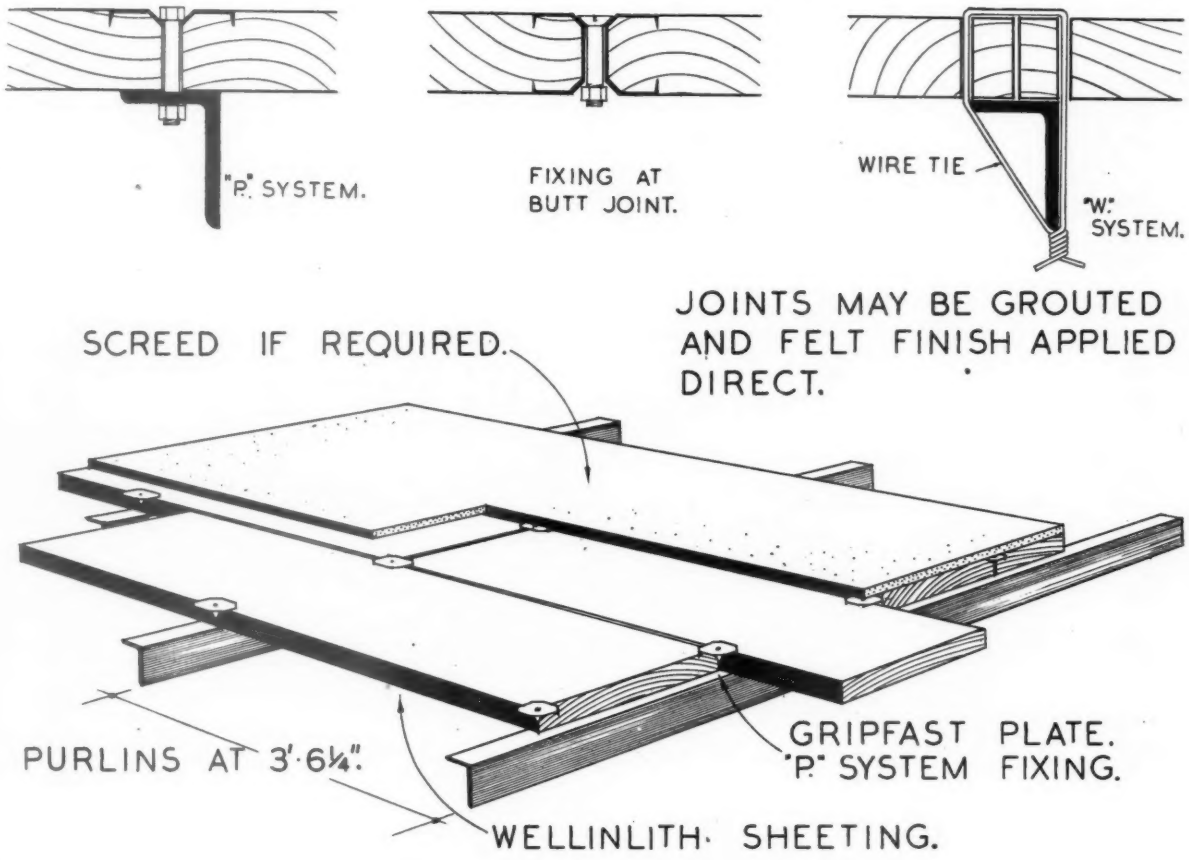

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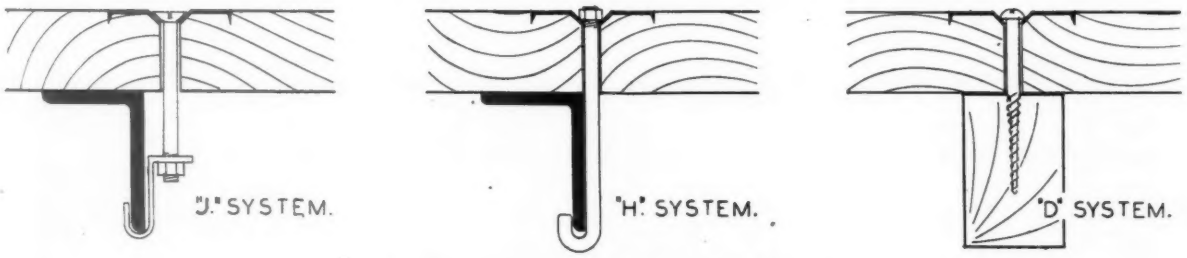

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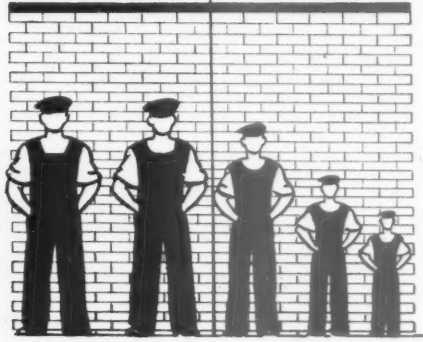
MAN-POWER IN THE BUILDING INDUSTRY

PERSONNEL IN THE BUILDING INDUSTRY

PRE-WAR	TO-DAY



Man-hours lost are a gain to the ENEMY

The building industry is facing a tremendous challenge—a challenge that bears an enormous responsibility. Every job it undertakes must be handled with the utmost speed and efficiency, for on the work of this Winter the nation depends for its output of tanks and guns, ships and 'planes.

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● The British Medical Association estimate that the annual financial loss to industry from accidents to workers is £30,000,000. This is a colossal figure in cash and in addition, represents a grave waste of man-power. Yet 80 per cent. of accidents are avoidable. The insistence that safety devices should always be used is most desirable. They are not only a protection to the individual workman but may affect the safety of his workmates too. An adequate medical service should always be available for the initial treatment of injuries.

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THE BUILDING INDUSTRY IS VITAL TO VICTORY

THE ARCHITECTS' JOURNAL

THURSDAY, DECEMBER 25, 1941. NUMBER 2448: VOLUME 94

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

PRINCIPAL CONTENTS

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

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

In the days of Justinian

The empire of Justinian is hardly more than a myth. The fame of his encouragement of Architecture is unlikely to perish. The cathedral of the Holy Wisdom, the palaces whose polychromed marbles were reflected in the blue waves of the Golden Horn, the numerous churches of the Levant and Near East, the precious mosaics—the age was both daring and mature, the opportunity was splendidly accepted . . . . We in this country will shortly be favoured with one of the great building opportunities of history. We join with architects in looking confidently ahead — and in the days to come, trust that Celotex will make an essential contribution.

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

from AN ARCHITECT'S *Commonplace Book*

"If every man confined his observations to subjects upon which he is qualified to speak there would be throughout the world an almost deathly silence."

Chinese Proverb.

CUT DOWN YOUR BUILDING

Defence Regulation 56 A, summarised on page 411, appears at first sight to differ little from regulations already in force. But in fact it represents a big tightening-up of the control over civil building. The two main differences are :— (1.) The old regulations applied only to construction, reconstruction and alteration, but the new regulations cover every type of work including maintenance decoration and the repair of war damage ; (2) the old regulations related to a single building operation. The new apply to a single property as defined for Schedule A income tax assessment. The amount that can now be spent on any one property within 12 months is limited to £100 unless special licence is first obtained from the Regional Officer of the Ministry of Works and Buildings. The aim of existing regulations was primarily to establish an order of priority. The aim of the new regulations is to restrict civil building to the absolute minimum necessary to keep the country going in order to free building labour now employed locally for work of national importance. If any operation is executed or work is carried out in contravention of these regulations, the person who pays for the work, the contractor who executes it, and the architect (or any other person employed in an advisory or supervisory capacity) will each be considered guilty of an offence against the regulation and be liable to prosecution.

NEWS

SOCIAL SURVEYORS

Mr. Clough Williams Ellis opening the Exhibition, Living in Cities, which is now on view at the housing centre, compared architects to stage carpenters, whose job is to carry out the instructions of others, and disclaimed on their behalf responsibility for setting the programme that should be followed when cities are rebuilt.

The business of programme setting, he suggested, should be carried out by members of a new profession, and he boldly asked for the expansion of existing beaurocracy to include what he called social surveyors as opposed to district surveyors, whose training should be based on the new sciences of psychology, sociology and anthropology as opposed to engineering and the study of drains.

Sections of our towns are adequate if they are judged purely from a physical and technical point of view. But though a medical officer of health might be reasonably content with the physical condition of many citizens a social surveyor confronted with the best of them, would exclaim in horror : "These people are not even happy; their reaction to æsthetic stimuli is alarmingly poor : they are socially pigeon-chested.

Social surveyors, he contended, would not encroach upon the position of architects, but would support them, and brief them, realizing their value, just as a solicitor is anxious to secure the services of a clever barrister on behalf of his client. They would prefer artists to aldermen, poets to politicians, and accord to architects the homage at present reserved for archangels.

His audience agreed in thinking that technical considerations rather than theoretical optimums should determine the size of towns, and that controlled satellites had in practice proved unsuccessful. It was generally agreed, however, that neighbourhoods and subcentres should be planned as optimum social units, making use of existing local feeling which has been greatly revived by the war.

Mr. Austen Hall, in a pithy and picturesque argument, heartily endorsed the need for a social surveyor. At present, he said, everything is determined by the road engineer who is conscious only of his duty to design curves suitable for motor traffic. The radius of the curve and the width of roadway dictate the position of the gutter : add on to that the width of the curb and you get the building line. Build on that until you are stopped by a height restriction and you have a town. Our present environment is simply a gutter plan projected in the air.

The English landscape has been shaped by Englishmen —that is the story of this issue—and its unusual variety and charm is due, perhaps, to the fact that the Englishman himself is more of a mongrel than most. The two portraits reproduced above might be said to represent the original strains of a cultural marriage, represented in this case by a classical Roman and a Celtic Briton. The larger of the two is probably a portrait of the Emperor Claudius who conquered Britain in 41—54 A.D. It is monumental in character, but at the same time the artist has emphasized individual features—the ugly ears, the contemptuous mouth. The other is its British counterpart of the same period. The general plastic modelling and the realistic detail is Roman. The rest is pure Celt. The bulging eyes have an expression no Roman sculpture ever had and the reddish colouring, of which traces are still visible, must have emphasized the uncanny appearance. These two heads, so similar in subject, so dissimilar in execution, illustrate forcibly a temperamental difference which underlies English and continental art, a difference which shows itself by a preference for intensity of expression rather than perfection of form, for line rather than volume, for movement rather than repose. These opposite sets of values have waged a tug-of-war over our landscape ever since, neither gaining complete mastery. Their manifestations have been called respectively Gothic, romantic, picturesque and naturalistic on the one hand; classical, academic, sublime, beautiful and boring on the other. Both have contributed much to the English scene. Photographs reproduced from an exhibition called English Art and the Mediterranean now on view at the Warburg Institute, Imperial Institute Buildings, one of the best exhibitions ever held in this country, which all who can should see.

ROMAN INTO ENGLISH

HOUSING CENTRE

Following meetings are to be held :—

Tuesday, December 30. "Planning for Post-War Gloucestershire." By Gordon Payne, F.S.I., M.T.P.I., County Planning Officer, Gloucestershire. 1 p.m.

Tuesday, January 6. "Location of Industry." By Professor Sargant Florence.

MINISTRY OF HEALTH

Loans sanctioned during the quarter ended September 30, 1941, to Local Authorities in England and Wales.

Housing, £138,567; Municipal Services (including Clinics, Sanatoria and mental hospitals), £274,527; Swimming Pools, Playing Fields, Recreation Grounds, Open Spaces, etc., £26,766; Water Supply, £155,096; Disposal of Waste Products (Sewerage and Sewage Disposal and Refuse Destruction), £69,342; Education Services (including Libraries and Museums), £342,399; Air Raid Precautions, £312,573; Roads and Bridges (including Private Street Works), £123,684; Other Services, £86,268. Total, £1,529,222.

FUTURE OF BUILDING

Building societies, after two years of war, are better equipped to face the future than they were at its outbreak, declared Mr. David W. Smith, Chairman of the Building Societies' Association and General Manager of the Halifax Building Society, speaking recently at the annual meeting of the Yorkshire County Association of Building Societies.

He intimated that he would shortly invite the Council of the Building Societies' Association (which represents 369 societies with £750,000,000 assets) to issue a considered statement on the movement's attitude towards the housing problem that would confront the nation at the conclusion of hostilities.

"The end of the war will see a tremendous

need for houses and for a colossal building programme," declared Mr. Smith. "Not only will arrears accumulated during the years of building suspension have to be made good, but thousands of houses, as well as commercial, industrial and ecclesiastical buildings will be needed to replace those destroyed by enemy action. Public works held in abeyance will have to be started to rehabilitate industry and to create employment. Given adequate Government support, the building industry can exercise a vast influence in averting or controlling the deplorable booms and slumps which brought suffering and loss to so many in the last post-war era."

EXTENDED CONTROL OF CIVIL BUILDING

At the Ministry of Works and Buildings last week it was announced that, as from January 1, 1942, a revised Defence Regulation 56A will come into force which will extend the existing control over work of construction, reconstruction and alteration, to include the following :—

REPAIR (including the REPAIR OF WAR DAMAGE),
MAINTENANCE OF PREMISES,
DECORATION,
DEMOLITION,
PROTECTION OF PREMISES AGAINST HOSTILE ATTACK.

The position, after January 1, 1942, will be that no *operation*, consisting of work of any or all of the above categories (excluding maintenance), will be permitted in the United Kingdom if the total cost of such operations *exceeds* £100 unless a licence to carry out such work has first been obtained from a Regional Licensing Officer of the Ministry of Works and Buildings.

In addition, no *work* as above-mentioned (including maintenance) may be carried out on any single property in the United Kingdom if the cost of such work, together with the cost of any other such work carried out on that single property during the 12 months immediately preceding, exceeds the sum of £100, unless a licence has first been obtained in respect of such work. The 12 months' period will be reckoned as the 12 months immediately preceding the date of application.

The position as regards Local and Highway Authorities and Public Utility Undertakings remains unchanged. Such authorities and bodies require as at present to obtain an authorisation from the appropriate Government Department for work of construction, reconstruction and alteration only, the cost of which exceeds £100.

NOTE.—*In computing the cost of an operation or work for which an authorisation or licence is required the value of materials (whether new or second-hand) in the possession of the building owner or his agent and the cost of labour, overhead charges, profits, and fees for professional services (e.g., Architects' fees, etc.) must always be included.*

The revised Regulation introduces a new system of "rationing" applicable to a single property. This rationing system is largely necessitated by the inclusion of "maintenance" work within the control. Its inclusion means, in effect, that a licence from the Ministry of Works and Buildings will almost certainly be required if only one man is permanently employed on the maintenance of a single property because wages are included in the £100 limit.

The Ministry will grant an annual licence in respect of maintenance where more than £100 has to be spent on essential maintenance work on a single property during any one year. This licence will be granted in advance for the year and will allow the building owner to carry out (subject to such conditions as may be specified) the numerous small items of work necessary for the maintenance of the property.

THE JOURNAL WISHES ALL ITS READERS

A

MERRY CHRISTMAS

UNCOMIC STRIP

IT is twelve years since this JOURNAL was last published on Christmas Day—Wednesday, December 25th, 1929 to be precise. "Life is good, life is fat and plenteous, life will bring things to us anon," wrote the leader writer of that day, and he was right in thinking life would bring us things. It has. If it has brought us rather more than we expected there is enough in his contention—"on this day we may forget all things that trouble us"—to furnish an excuse for the diversion provided by the present issue. For this issue, though it is concerned with a battle—even though it is concerned with what is called on the next page a Battle of Britain—is only concerned with the present battle in so far as that little affair may be regarded as a phase in a greater contest which is going on around us all the time.

Let the confession be made. The accident of publication on Christmas Day, 1941 has prompted the JOURNAL* to embark on an enterprise alien to its chastely technical habit: nothing less, to be frank, than an experiment in popular journalism, or more accurately an attempt to apply popular journalism to an unpopular subject. A piece of land—Our Village—has been treated as though it were the Principal Boy in a novel kind of Christmas pantomime in which One Thing After Another happens in a rapid succession of scenes. Or if that seems too fanciful a statement, let us put it in terms of Fleet Street rather than Drury Lane and say Our Village has been made the hero of a new kind of uncomic comic-strip.

The comic-strip, of course, is the form in which in the earlier days Pip, Squeak and Wilfred, and in later, Colonel Up and Mr. Down were (and are) presented daily to a

* With the collaboration of the Housing Centre.

grateful public. The only novelty of the present adaptation of that art lies in the application of the comic-strip technique to a subject which is not comic and to a theme not quite so warmly human as Pop or Popeye.

Whether the experiment succeeds or not, most architects —and certainly most educationists—would agree that there is a real need that *someone* should dramatize contemporary problems in a way that will mean something to the Dot and Carrie public. The distinction made by the man in the street between good entertainment and highbrow stuff is largely unreal; it springs from what amounts to an unconscious classification by him of subjects into those which brilliant showmanship has brought to life and those which have never left the clutches of the dons. There is a point no doubt where this ceases to be the case—the most brilliant exposition could hardly be expected to make the calculus clear to an unmathematical mind—but there is a wide range of subjects mere human curiosity would lead most of us to investigate if we knew a sure way of side-stepping the academic preliminaries; and of these subjects, one, we do most seriously contend, is the history of the land which makes clear so much of what is meant by planning.

So here and now we put this belief to the test. Not however on the public it is designed for. At first sight it may seem odd, in view of what has just been said, that this popular technique designed for the man-in-the-street should be tried out on a public of specialists cradled in the problems of planning and the facts of land. The explanation is a very simple one. It is also, the JOURNAL believes, a very important one. The idea of the specialist as a kind of monster figuring out unintelligible answers to inexplicable problems, is going out of date. Instead in many minds the feeling grows that it is not merely a pious ideal, it is a pre-requisite of democracy, that the individuals democracy is made up of should understand the problems democracy is up against, even when they are difficult ones. Unfortunately, these problems need expertly stating, and the opinion, long held, that there were contact men—journalists were thought to be amongst them—who by popular exposition could bridge the gap between expert and public, has turned out to be, except in a few isolated cases, a false one. The non-specialist middle-man only falsifies a difficult issue when he sets out to simplify it. The only man who can state a case simply is the expert himself, which means that it is the architect, the planner in our particular field, who must prepare himself to interpret the problems of planning in terms the man in the street can understand; indeed this is one of the greatest jobs before the architect. What follows then is an attempt, not a very bright one perhaps, but an attempt, to provide the specialist with an example of the kind of job of popularization he has got to do. Those who sympathize with the intention are asked to treat the result with the tolerance their native good humour suggests, for as we started out by saying, it is after all Christmas Day, and Christmas is Christmas, even in 1941.

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

NOTES & TOPICS

CHRIST CHURCH MALL

On November 6 I ventured to criticize the route proposed for Christ Church Mall. Mr. Gilbert T. Gardner and Carfax, the author of the scheme, have both written to rebuke my temerity. Carfax has the advantage of me; he knows the locality far better than I do, and is almost certainly right when he says that a by-pass south of the river is impossible. I do not doubt his word, but would like to know more precisely why?

★

Let me say exactly where *I'd* like to put the Mall, and then if Carfax will take up the critic's part, we may get somewhere. Starting from the Iffley Road, it would run down Jackdaw Lane instead of across playing fields and slap through a pavilion, leaving the athletes in their shaggy white trousers to pick their way as best they could through streams of motor traffic. Then instead of slewing round to traverse Christ Church Meadow it would cross the River Thames at a point just below the junction between the New Cut and the main stream, a point not shown on Carfax's map. He says a skew bridge 350 ft. wide would be needed here. Why? As far as I can see the only difference it would make would be to remove the need for a separate bridge across the New Cut.

★

Once across the river two alterna-

tives lie open. The Mall could, if necessary, follow the south bank and cross Abingdon Road at the point chosen by Carfax (Scheme II). Alternatively it could continue straight ahead and cross it about a quarter of a mile further south (just north of the recreation ground). Apparently it could do this without disturbing anyone more important than the cows on Eastwick Farm.

★

From here onwards progress is easy. The new by-pass could run parallel to the railway line and close beside it for the rest of its length, on land that is useless for any other purpose, partly because it is near the railway, partly because it is liable to flood. Nobody would ever be tempted to build along the new ring road.

★

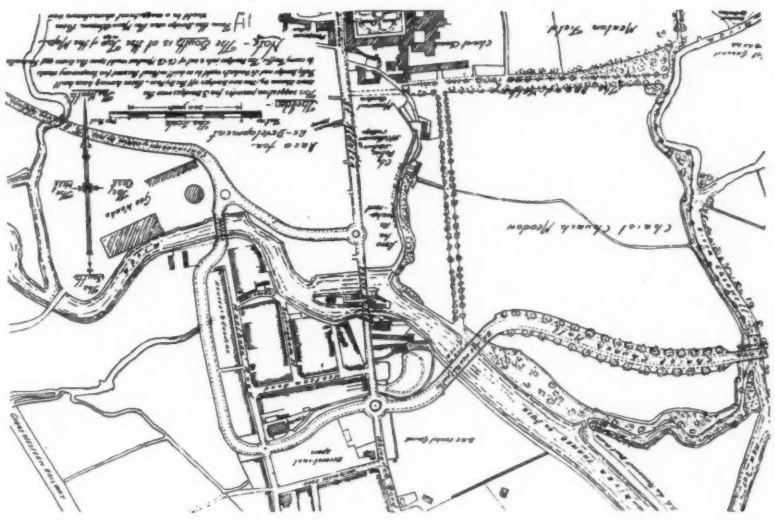
Measured on the map with a piece of string, this route is about a quarter of a mile longer than the route indicated on Carfax's scheme (second version). It has, however, the advantage of being a smooth curve instead of a series of awkward bends; it leaves college sports grounds and river banks to athletes and idlers who are in a position to enjoy them; and it skirts round the town instead of plunging through it. There may, of course, be objections that are not so obvious.

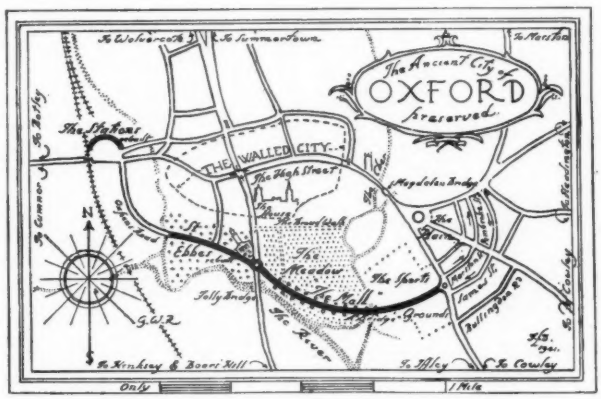
★

The question really at issue appears to be one of principle. Is a motor road a good way of opening up amenities? Carfax clearly thinks it is. "The Mall," he says, "will give the river walks to Oxford and not merely to the fortunate few lacking other employment." I should have said that modern town planning theory flatly contradicted this view.

★

There is nothing selfishly exclusive about the river walks at present; anyone who cares to step aside from St. Aldates is free to enjoy them. The only qualification for admittance is that he must go for pleasure and go on foot. No doubt the meadows are sometimes empty—it is part of their charm. Would more people really enjoy them if they were full of cars and lorries? The only people who would then be in a position to see *both* the river *and* the silhouette





Below, the original and above, the new suggestion for an Oxford by-pass (to the High) running through Christ Church Meadows and called Christ Church Mall. The scheme is referred to by ASTRAGAL *on page* 412. *The top map is turned upside down in order to make the North Point correspond with that on the map below.*

of Oxford would flash by at 30 m.p.h. with their attention riveted on the number plate in front.

★

The redemption of the High is held out as a possible bait. But everyone knows by now that the usual result of a by-pass is an increase of traffic on the new road without any corresponding decrease on the old.

★

Later on in his letter Carfax says "The Mall has the further advantage of opening up a derelict area, St. Ebbes, for the commercial expansion of Oxford." Quite apart from the question whether any sane person wants the commercial expansion of Oxford, is it wise to run a by-pass through the middle of an area thought to be suitable for re-development as a town centre?

SOLDIERS DO CARE

The industrious director of the Institute of Adult Education, Mr. W. E. Williams, is now with the Army in a newly constituted Army Bureau of Current Affairs. Amongst the current affairs which Mr. Williams finds the Army has an interest in is reconstruction. In fact he tells me that both officers and men have an insatiable appetite for material which serves discussions on the kind of physical world we can rebuild when the war is over.

★

Mr. Williams had ready at hand the exhibition, "Living in Cities" which Ralph Tubbs prepared for him a year ago, and which has been circulating ever since in town halls, rest centres and shelters. It is being duplicated in miniature for army huts. Now he has commissioned Noel Carrington and Elizabeth Denby to prepare a complementary exhibition on Homes. This will cover utilisation of space, furnishing equipment, decoration and use of garden. It is being undertaken in collaboration with the D.I.A., which is showing signs of life again.

ASTRAGAL

LETTERS

GILBERT T. GARDNER, F.R.I.B.A.

"CARFAX"

R. R. MEADOWS

E. S. W. ATHERTON

Christ Church Mall *

Sir,—I have read Astragal's notes in the JOURNAL of November 6 and I have noted his suggestion in regard to the by-pass being placed on the south side of the main river.

I suggest, however, that he has overlooked the main principle underlying the proposal as sketched by Mr. Dale, viz., the provision of an *inner* ring road that would obviate the present necessity for *all internal* east and west bound traffic to traverse High Street and Carfax.

I have developed the scheme a little more in detail with the variation that Christ Church Meadow would be interfered with as little as possible and instead of the join-up taking place north (or city) side of Folly Bridge, it would be on the south side of this bridge; the reasons are indicated by a note on the plan enclosed herewith.†

GILBERT T. GARDNER.

SIR, — "Astragal," reviewing my diversion on this subject, states the case with petrifying insight. That is the whole trouble—the swish of the cows' tails in the meadow! However, I did state that when the Mall was built there would still be room for the cows to chew their cud. I forgot to mention their tails, but there would be room for them, too.

As for separating Oxford from the Isis, this is just the reverse of what the Mall would do. At present it is a sabbath afternoon's journey to the river walks. A friend of mine remarked to me that when he was there he said to himself "How perfectly lovely!" but, he added, "I had to say it to myself." The Mall will give the river walks to Oxford and not only to the fortunate few lacking other employment. The college barges are doomed in any case. The cost of their maintenance is too high and they serve little purpose other than that of grand stands and reduce the width of the river. They are to be replaced by boathouses further downstream, so that the Mall will have a clear view of the river on one side and a silhouette of Oxford on the other.

Astragal, I am glad, admits that a road south of the city is required, and I did state that south of the river was impossible. Apart from the fact that it entails three bridges (one a skew bridge 350 ft. span across the Thames, I ask you!), it would not do the job that is essential, that of providing an alternative route for the local traffic from east to west in order to relieve the traffic in the High; the High is now only a shambles.

The Mall has the further advantage of opening up a derelict area, St. Ebbe's, for the commercial expansion of Oxford, the lack of which is steadily destroying the character of the ancient city.

But, there, Astragal has stated the case for the Defence, the swish would not be heard; the case for the Plaintiff is that granting the greatness of the loss, the gain would be even greater.

"CARFAX."

Oxford.

Impington at Work

SIR,—In your issue of November 13 Capt. G. G. Haythornthwaite criticises Impington College as exemplifying all the shortcomings of contemporary Architecture.

The first criticism is of "finality of composition." In so far as the masses are static, every building composition is final. It is true that transitory features of environment may have an effect on composition, but this will occur less in the case of contemporary than in "traditional" design, for the composition of the former is far less rigid and self-contained than that of the latter. Far from "objecting to people," modern architecture is a rational attempt to provide a scientific and æsthetic background to living; giving primary consideration not so much to the building, as to the life which goes on, in and around it.

The second criticism is of "utter dependence on specially selected landscape. . . ." All truly representative architecture has recognised landscape and climate as influential factors in design. Instances of this are the considerations of silhouette and the use of sharp-chiselled sculpture in relation to the strong sunlight of Greece and Egypt, and the deeper profiling and use of colour in building materials in the diffused and modified light of Northern Europe. Modern architecture is essentially conscious of its collation with its natural environment.

The last criticism is of "meanness in detail and materials." The logical refusal to confuse features of decorative and plastic art with the æsthetic expression of function, will produce what would be regarded as meanness in detail, only if judged according to an old æsthetic standard. Moreover modern architecture is concerned with the full exploitation of the properties of materials, and the utilisation of the results of scientific research and experiment.

Relics of the past may be admirable expressions of their own age, but can in no way be compared with Twentieth Century Architecture except in basic principles and first causes, for each age expresses itself according to its knowledge and particular set of values.

The achievement of a more ordered society will not be possible so long as there is a willingness to compromise with the past, and a refusal to acknowledge the potentialities of the present and the future.

R. R. MEADOWS.

Hull.

Enamel Basins

SIR,—I feel that I cannot let Miss Ledeboer's explanation and attempted justification for the use of enamel wash-basins go by.

Taking the question of cost first, I recognised in my letter the obvious fact that a range of fixed basins with all the necessary drainage and water connections is more expensive than a range of enamel basins. From the financial point of view, however, this first cost must be balanced against in the case of enamel basins the ultimate cost, that is, the cost of enamel basins plus the cost of the extra labour involved over the entire life of the building for the additional supervision required. I myself cannot believe that the extra first cost involved in providing fixed basins would be sufficient to determine whether or not a scheme was to be carried out.

As to the chances of infection, obviously this must be greater for the very reason that several children *will* use the same water.

The line of argument that movable basins give the child similar conditions to that which he or she is used to at home seems to me to be illogical, for if this line of justification were followed to its conclusion we will never get progress, for one might argue that one was justified in providing in a new house a kitchen range or an outside w.c. or c.c. just because the possible occupants of the new house had been used to these.

Whilst the architect describes the scheme as a temporary war-time scheme I cannot but feel that the building will have a life of at least 30 years, I therefore feel that my criticism was justified.

E. S. W. ATHERTON

Harrow-on-the-Hill

* See Astragal's notes on page 412.

† The plan is reproduced on page 413—ED., A.J.

THE A

T H

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IN
SIR

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GENERAL CONSIDERATIONS & PRINCIPLES OF DESIGN IN WELDED STEEL, Nº 11:

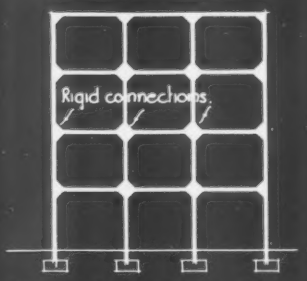


FIGURE 1: MULTI-STOREY RIGID FRAMES.

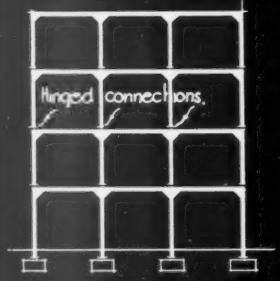


FIGURE 2: MULTI-STOREY HINGED FRAMES.

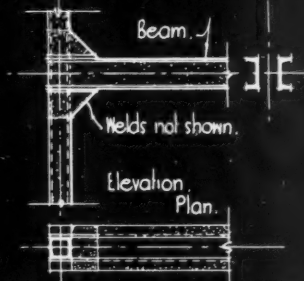


FIGURE 3a: MULTI-STOREY RIGID FRAMES FOR LIGHT CONSTRUCTION.

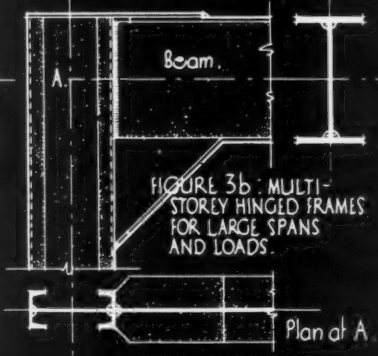
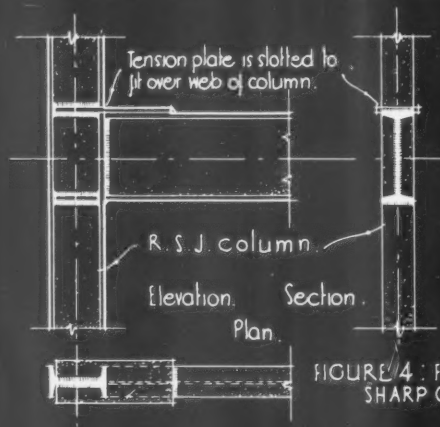


FIGURE 3b: MULTI-STOREY HINGED FRAMES FOR LARGE SPANS AND LOADS.



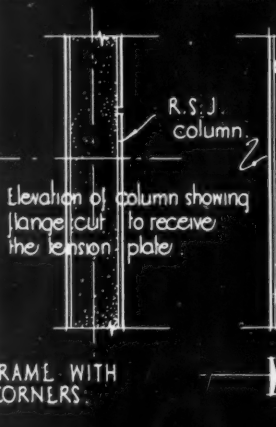


FIGURE 4: FRAME WITH SHARP CORNERS.

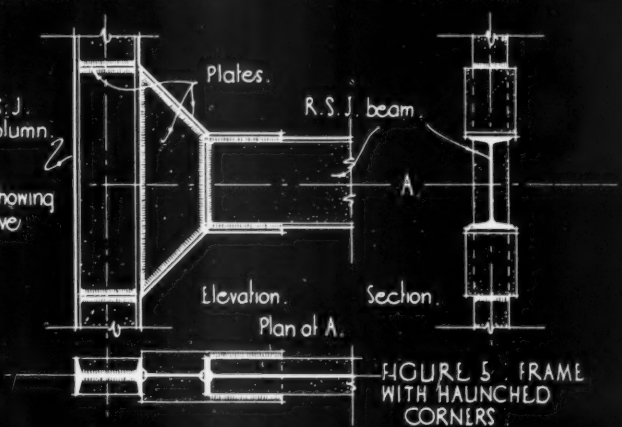


FIGURE 5: FRAME WITH HAUNCHED CORNERS.

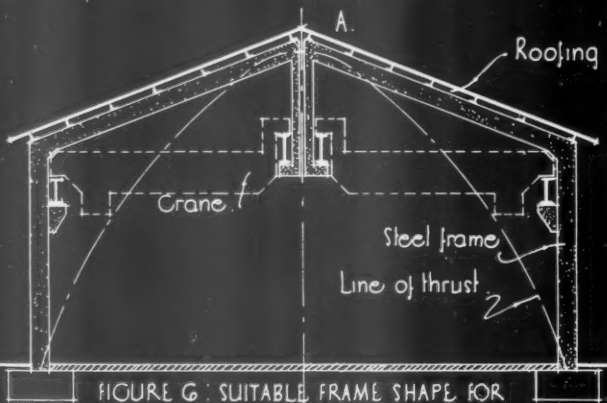


FIGURE 6: SUITABLE FRAME SHAPE FOR INDUSTRIAL BUILDINGS.

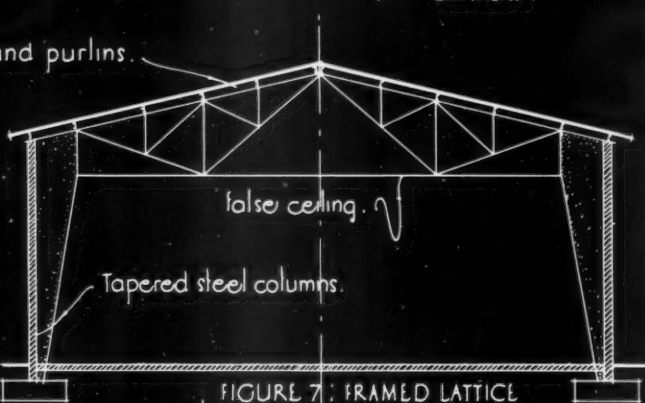


FIGURE 7: FRAMED LATTICE GIRDER CONSTRUCTION.

FIGURE 8: ADAPTATION OF FRAME FOR PUBLIC BUILDINGS.

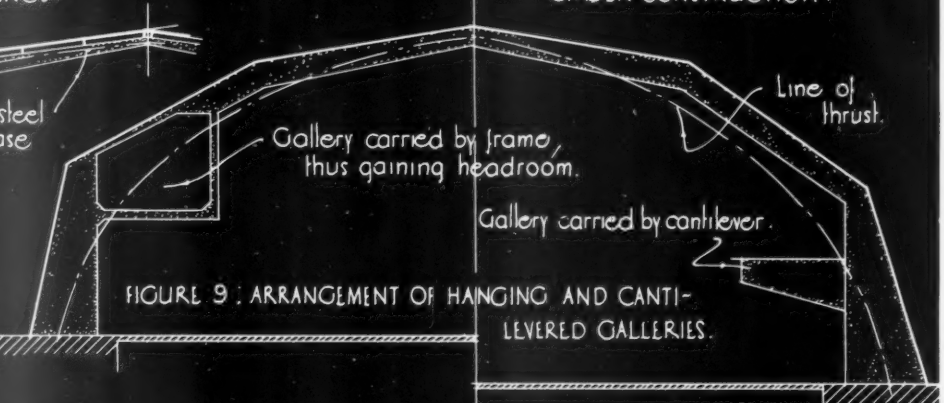


FIGURE 9: ARRANGEMENT OF HANGING AND CANTILEVERED GALLERIES.

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INFORMATION SHEET: STEEL FRAME CONSTRUCTION G5: WELDING Nº 21
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INFORMATION SHEET

• 850 •

STRUCTURAL STEELWORK

Subject : Welding 21 : General Considerations and Principles of Design in Welded Steel : No. 11, Frames (*a*).

General :

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

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

This Sheet is the eleventh of the section illustrating the general considerations and principles of design in welded steel, and is the first of four Sheets on the systems of welded frame construction.

Multi-storey Frames :

Frames may be used for multi-storey buildings as well as for one-storey buildings. In the latter case distinction must be made between multi-storey rigid frames (Figure 1), and a number of one-storey frames placed one on top of another (Figure 2). Such a series of frames is considered to be hinged at every support and the general rigidity of a building formed in this way is somewhat less than with multi-storey rigid frames. Preference should be given to multi-storey rigid frames where lightness of construction is employed assisted by every additional stiffness which can be provided, rather than to an arrangement involving large spans and loads, where heavy sections and strong corners would be required to give the necessary rigidity in spite of the hinges. This is explained by means of comparison in Figure 3*a* and *b*.

Erection :

Erection is usually simpler when a series of one-storey frames is used, than with multi-storey frames, as rigid joints need not be provided at the side.

Application : (*a*) Multi-storey :

In commercial buildings the shape of the frame is dictated by the space available, and only vertical and horizontal members will be employed. Frames can have either sharp corners (see Figure 4) or haunches (Figure 5). Haunches are cheaper and give greater rigidity, while sharp corners would be used where architectural requirements demand them.

(*b*) Single Storey :

For one-storey buildings (or for the roof of a multi-storey building) it is possible to vary the shape of the frame.

A compromise is to be found between :

(*a*) A shape which approximates to the line of thrust (see Sheet No. 14, Figure 8*a*), which provides the most economical steel construction.

(*b*) A suitable fall of roof to provide the cheapest covering ; and

(*c*) Considerations of space, e.g. headroom, heating, etc.

Figure 6 gives a suitable section for industrial buildings, allowing space for a crane. For planning purposes, the height at the centre is usually unimportant as such buildings are not generally heated, but a better form results if the centre is raised.

For ease of erection the equivalent of a hinge can be arranged in the centre (point A).

Figure 7 shows a case where, due to the arrangement of a false ceiling, considerable constructional depth is available over the whole width—possibly to provide space for ducts or storage. In this case the horizontal part of the frame may consist of a lattice girder while, where space is limited, the columns would be of plate girder section.

Figure 8 shows a form of construction which can be used for public buildings, e.g. market halls, exhibition halls, public baths, railway stations, etc. In all these cases the shape can conform as closely as possible to the most economical one (i.e. to the line of thrust) while remaining polygonal to allow straight members to be retained for ease of fabrication.

A hinge may or may not be arranged in the centre, depending on local conditions. Where galleries are required these can be arranged by means of hangers or by rigid cantilevers, as shown in Figure 9.

Previous Sheets :

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

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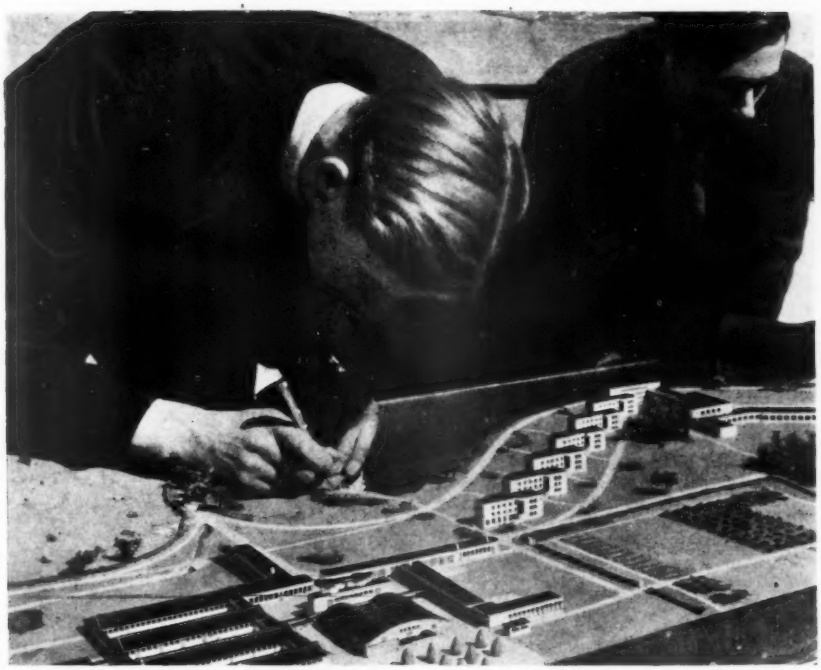


FOREWORD

By Kenneth Lindsay, M.P.

[Late Parliamentary Secretary to the Board of Education]

WE are all in this rebuilding business together, no one can escape, but children especially like building if they are given the chance. I know that there are obstinate and tiresome problems of money, materials and priorities, but we must make up our minds what sort of villages and cities and countryside we really desire. It is not only a question of buildings and architecture: we must also envisage the education and social life we think best for ourselves and our children.

I will be bold and tell you my own dreams and plans. First of all comes the home, because family life matters most and the best way to make it happy is by relieving the hardest worker in the land—the mother—from as much drudgery as possible. There are a score of different ways by which this can be achieved, but one thing is essential, women must have much more to do with the planning of homes in the future.

Second in importance I put the community centre, in the heart of which will be a series of schools for all ages. This will come under the new Ministry of Youth and Arts. Here will be found a nursery wing and clinic, offices for juvenile employment and the educational court (we shall not recognize juvenile crime as such), the gymnasium, swimming bath and playing fields. These will be in constant use and will need careful planning by teams of architects with a practical social vision.

Thirdly and covering a wider region, there will be civic buildings which express the main needs of the area. Apart from markets and shops where wares are exhibited and commercial buildings with light airy offices to make the clerk and typist's life more interesting, and apart from factories which would need a separate article to describe, we will have civic buildings like town halls, libraries and theatres. Over a still wider area there will be rest-homes and camps, some in the chain of national parks stretching from Cornwall to the Cairngorms, Universities with their hostels, and colleges of adult education, museums, galleries and art schools.

But all these buildings and the arteries of transport which connect them may easily demand changes in land-ownership, so that the maximum use can be made of this little island, in whose defence so many will have given their lives. "Land is the platform of all human activity," as my friend Mr. Pepler says, and even airmen have to land.

This is no idle dream, but unless those now at school and in youth organizations grow up with a longing to create beautiful cities, no dream can come true. Perhaps some of them will be architects or builders or will serve in local government or become teachers; but all of them want a home of their own, a fine education, happy working conditions and rest and recreation among the beauties of nature.

It is for this reason that we must all take a share in rebuilding, even if it means national service for five years. Why not? and what an example to the stunted, mechanized German government to see a real democracy re-creating its own life. That is my dream. You must work out the plans and blue-prints.

1 eyes and mouth shut

2 eyes shut but mouth open

3 eyes and mouth open

but still

ASLEEP

4 look again. The eyes are open but see nothing because the child is a doll. Millions of people are like this doll—they look but they don't see. That's why the street opposite is possible. But can human beings really enjoy life

5 in this kind of neighbourhood?

6 Or would they be better off here? who is going to decide? We are asking you to decide.

7 WHY YOU?

Because your country is a
and only by the active co-operation of
can it be planned for the benefit of the whole community

8 What is the missing word?

THE missing word is DEMOCRACY, an ugly one, possibly the ugliest in this Journal. It is a long word, familiar to the child and to the man, yet to most men its meaning is no clearer than to most children. Government by the Demos, or people—you and me that is to say—means in practice that we elect representatives, called in this country members of Parliament, who go up to the House of Commons to act for us and to administer the affairs of the nation as we would wish them to be administered; to let it be known for instance that we mean to fight (rather than let the world become Schickelgruber's football). This procedure is called democratic. Every adult in his right mind (and a good many out of it) is supposed to have a say in the councils of the nation.

A nice idea? Not a doubt about that, but it is an idea which can be abused when certain conditions are not observed. Of these conditions, one, the first, is that we must be sufficiently all there to know what we want and to judge whether the clever gentlemen who represent us in Parliament are choosing the best means of getting it for us. Since we control Parliament and Parliament controls our destiny, it follows that if that destiny goes bad on us, as it has shown signs of doing, we have no one but ourselves to blame. It isn't enough to leave everything to Parliament, and then grumble when something happens one doesn't like.

Consider. Generations of Englishmen have fought for freedom, freedom of action, freedom of conscience. The liberties we accept as laws of nature were struggled for through centuries by people who looked on them as an unlikely ideal. Under freedom, they thought, the freedom provided by a democratic way of life, every individual would be at liberty to make his own personal contribution to the common weal and within the framework of the common law, to enrich the world according to his own ideas and capacity. Ideas were seen as the real forces behind human conduct, acting like yeast, creating out of ferment marvels.

And they were right. Ideas, if not the only thing in life, are amongst the really fundamental things. They *are* like yeast. They *do* perform marvels. The whole structure of democracy is designed on the understanding that the unhindered expression of ideas is vital to the growth of society and to the health of a nation. The democratic system is the political structure of men who believe in the potency of ideas, and

The progress from oppression to anarchy (of which we have seen such an awful example) is not more natural, than from the ease of freedom and security, to indolence and apathy. Let England beware; let her guard no less against the one, than against the other extreme; they generate each other in succession, for apathy invites oppression, and oppression is the parent of anarchy.*

LETTER TO H. REPTON, ESQ., FROM SIR UVEDAILE PRICE. 1795

* *The French Revolution.*

who persist in thinking that in the realm of ideas no man can claim a prerogative.

And so when I demand my rights I am automatically claiming for my neighbour the right to have ideas different to mine; and we refrain from punching each other over the garden wall because we know, or think we do, that the battle of ideas isn't to be won in that way since it depends on powers inherent not in a fist, but in ideas themselves. What the men who fought for freedom didn't see was that liberty, which seemed to them the very button upon the cap of progress, might create a generation free from social ties and annoyances to a degree that would cause it to overlook both its privileges and its responsibilities. Yet this is what happened. Few people to-day have any clear idea of the privileges they enjoy under democracy or any conception of the responsibilities they owe, except those that are purely financial, like taxes.

There are, of course, those who think of democracy as nothing but a hollow mockery (the Other Camp thinks it is) but whatever critics of democracy say no one has ever questioned its pre-eminence as a jumping off ground for ideas. The quintessence of a democratic state of things is that the battle of ideas shall be carried on as a free-fight-for-all on the assumption that every individual is capable of having a good idea, and that the best one will win in the end. The law, the police, and the army are there to see no one gets it into his head he can put his ideas across by bumping off the other side. Ideas have their own way of realizing themselves. So thinks the democrat.

How does one fight with ideas? Just as one fights with weapons, single-handed sometimes; preferably in organized contingents; best of all with mechanical equipment. Of the mechanized army built up for the War of Ideas, books might be described as the tank division—they are mobile and turn up in ones and twos in unlikely places, doing enormous execution (this issue is a whippet, or pocket, tank)—but there are many other kinds of fighting units with their own machinery and headquarters staffs. The particular H.Q. which sponsors what follows is known as the Housing Centre, and it is made up of people (knowing something about how good housing could be and how bad it is) who feel that if they could pass on their ideas to enough people, "public opinion" would insist upon seeing the standard of housing improved. From this improvement the Housing Centre would not profit financially because the Housing Centre doesn't make money. It is an example of the kind of institution which can be set up in a democracy by people who want to spread what they think to be the truth, and though democratic procedure allows them no chance to bully or blackmail others into sharing their opinion, it does give them the right to air their opinion and so spread it by legitimate idea-machinery—of speeches, exhibitions, radio, books.

Now let us go back again for a moment to this question of responsibility. There is one thing everybody has got to get wise to, which is that the so-called democratic procedure we have tried to describe, so dear to the hearts of Englishmen and Americans, involves responsibilities as well as privileges. Half our present troubles arise out of the fact that we thought we could have privileges without responsibilities, which was silly. The individual who isn't prepared to take the trouble to understand the problems society is up against, and to exert himself to solve them is a slave, not a democrat, and to slavery he will return. This is obvious. If you and I aren't prepared to go through the necessary discipline to understand what's going on we can't expect to be consulted for long. The stock joke—Thomas Carlyle's—about England consisting of 27 millions mostly fools, *i.e.*, people without valuable ideas (which Ibsen put in another way in *The Doll's House*) is actually the most searching piece of criticism the democratic principle has ever had to face, because it is in fact true that the democratic principle simply doesn't work for people who are without the impulse to think and learn and choose. Though most of us bolster ourselves up with the thought that we have a certain amount of common—or horse—sense and that we are nice and kind to our friends and relations, we know all the time we are a whole lot more ignorant than we ought to be about a number of absolutely vital things. This is another way of saying we are irresponsible. Well, democracy can't work for the irresponsible. There are a few ways in which no man can afford to overlook his responsibilities any more than a railwayman working on the line can afford to overlook the 8.53, because if he happens to stand on the wrong rail he may be unlucky. Democracy is like that. If you get careless as to what it's all about and why it matters, it comes back and smacks you down. In days less packed than these with drama it was easier to miss this truth, but to-day we see two things more clearly: that being hard up, or living in a slum, or having to do uncongenial work, or just being bored—states like these are the punishment that is meted out to one for being irresponsible. These at least are the personal punishments. The collective result of all being irresponsible together is bound to be nothing less than the conquest of our fools' paradise by another, a Nazi paradise perhaps, which accepts the fact that England consists of so many millions mostly fools—or sheep—or both—and sets up on top a tough guy, who isn't either, to impose his will on the crowd. As Mr. Vernon Bartlett said recently, the value of democracy to you is that as a democrat you have power you couldn't possibly have under a dictatorship—unless you were the dictator. You have power, it is true, but only on condition you use it. And you can only use that power constructively if you know what your particular responsibilities are.

Now one—perhaps the first—of your responsibilities is to the land you live on. This issue is trying to review your responsibilities towards that. It is called *Your Inheritance* because you *do* inherit the land—it is the one thing that remains constant throughout a nation's history; it is the stuff from which the visible history of a nation is worked up. Even its buildings, even its people, are bits of land. What you see as you go about therefore really *is* your national inheritance. On you as a member of what is glibly termed a free democracy rests the prime responsibility for knowing when the land is and is not misused. To know what is proper use, and what improper use of the land, it is important to know its history under the hands of those who have gone before us, for it is their work both good and bad that we benefit by, and it is according to how we ourselves remodel what they have done in the town and the country, by farming, road making and building that we carve out our own idea of how life should be lived. To-day when every problem has to be thought out afresh it is a practical way of approach even to housing, even to questions of town and country planning to think of them in terms of the use—or abuse—of land.

INTRODUCTION

The pages which follow tell in simple language a story that calls for an explanation. When the days of reconstruction come architects will not be asked to take over executive control of the machinery of government. On the contrary, decisions will be made by a great many people who, till now, have thought very little about what reconstruction means. They must be educated in time. Every child in the country should be at least as familiar with the history of our own land as with the Latin alphabet. The man in the street should know enough history to understand that land can be anything he chooses to make it ; he should know what conditions have produced good results in the past so that he has some standard by which to judge what's going to happen to-morrow. History is interesting to some people for its own sake, but not to many. Most people like it only in so far as it helps to explain how and why things came to be as they are. Historians, unfortunately, don't bother much about the convenience of ordinary people, but actually it is very important that a way should be found of presenting history in a form the man in the street can digest without a pain, for upon the man in the street depends the success or failure of the coming Battle of Britain. In this battle, as in the last Battle of Britain, we must be ready to fight in the streets, in the hills, and on the beaches. There is no point that is safe from attack. A professional army is not enough ; we need a home guard that knows its business and is always on the watch ; always ready to detect and to distract enemies wherever they appear, and to contain them until the regulars can take over. This issue, done in collaboration with the Housing Centre, whose exhibition YOUR INHERITANCE, now touring the schools, both inspired the idea and provided much of the material, sets out to supply if not a plan of campaign, at least some of the powder and shot. Not, we repeat, for the expert, but for the many thousands of ordinary men and women—the Home Guard—who, under democracy, are the arbiters of the New Order.

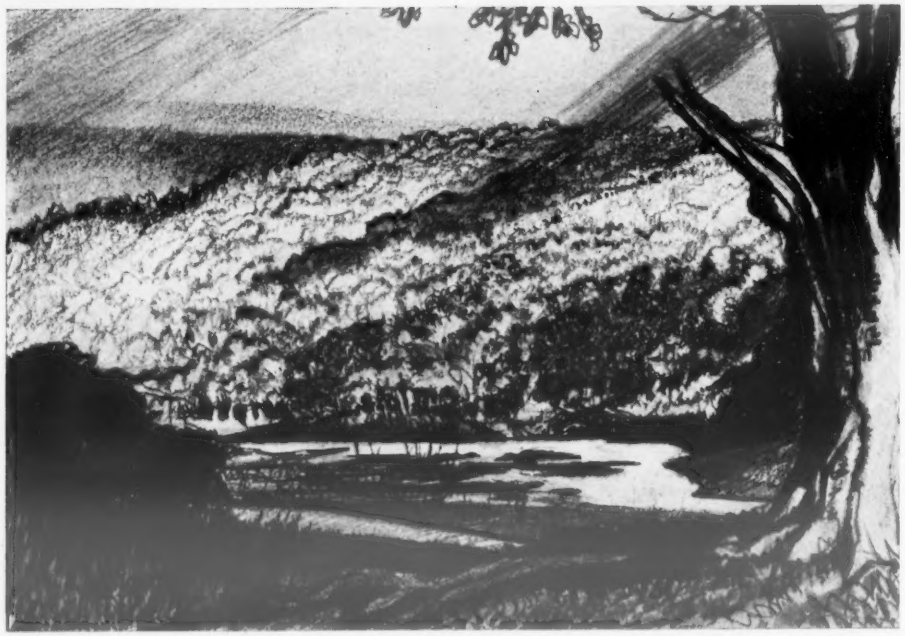
YOUR INHERITANCE

WITH DRAWINGS BY ROBERT AUSTIN, A.R.A.

Here is a typical English field, a piece of farm land with sheaves of corn drying in stooks, elms in the hedgerows and a church tower in the distance. It is so much a part of our ordinary background that we sometimes talk of it as OUR INHERITANCE : as if England had been handed over to the nation, ready furnished with all the houses, trees and country lanes ready in position. As if our only choice lay between preserving it as "country" or building over it and turning it into "town." To most people "town" is ugly and "country" isn't. So to them Progress means a gradual transition from something beautiful but useless to something useful but unlovely. They think, it's a pity but it has to be.

This column which crops up all through the following pages is frankly a DUMP. It is the place that is to say where the notes developing the argument of the main theme (large type) are dumped. Nothing is lost if you don't look at it at all. It is only useful for those who want detail.

I paleolithic man was a hunter and an eater of roots and berries. He was not a cultivator and left the country unchanged. Neolithic man came from Europe bringing his live stock with him—dogs, oxen, sheep and pigs. He needed pasture for his flocks. He did not attempt to clear the forest but settled on downs and uplands. The Brythonic Celts or Britons brought iron from Europe. Tree felling was easier. Forests were cleared and rectangular wooden houses became common. Agriculture made strides. Horses became common and poultry appeared for the first time.



THREE

first phase THE FOREST

Actually, the whole landscape is continually changing, even the soil has been made what it is by earlier generations of men and women who lived here before us. The climate, the contours, the coast line and the subsoil are really the only fixtures. Everything else is continually being changed by us. What we see round us is the work of our own hands. Dirty black sprawling shapeless towns are not the only things we have made. Whoever said "All nature is beautiful and only man is vile" forgot that he himself had never seen nature uncultivated by man. For the English Country is as man-made as the town. Long before the Romans[2], men were hard at work, changing the face of the land[3]. For better or worse? That is what this story has to decide.

FOUR

[2] Virgilian husbandry reigned until Jethro Tull. Roman villas were complex organizations; large farms under single ownership (possibly absentee), run by many officials, each responsible for a particular type of animal or crop, and worked by groups of slaves. They produced for export. In time of Julian the Apostate, 800 wheat ships were sent from Britain to the garrisons in Gaul.

[3] in small ways and large, by intention—and by accident. In Quiller-Couch's story Roman legionary slogs through muddy roads of Gaul to Britain. Channel crossed he flings worn-out mud-caked boots into ditch. Next year springs up on British soil a wild flower that never grew there before. Roman boot was made of single piece of leather, soles studded with iron nails—ancestor of our hob-nailed boot.

FIVE

SIX

second phase THE CLEARING

Prehistoric men, the British, the Romans, come and go. Then come the Saxons, boat load by boat load, fighting their way across Britain. They settle as they go, some on the good Roman lands, some, as here, in clearings in the forest which echoes to the grunts of their swine, thus the manor[4] comes into existence. Inch by inch the forest is cleared yet mile after mile of it remains, a sea of trees with islands of arable. As the South Saxons call it, The Wild. Through The Wild still run the Roman roads, now, like the Roman towns, tumbling down to grass. For the Saxons, always conservative, won't modify their way of life to include anything that belonged to the earlier civilization. They are farmers not traders, countrymen not townsmen.

[4] the manor took centuries to evolve. Heyday 800 A.D. to Black Death, 1348. First the lord, with large demesne (or home farm), cultivated by villagers who owed him this service in return for their land. Levied dues as well as service; eggs at Easter, fines on marriage of a daughter, or sale of a horse. Next the freeholders. Owed no service. Then the lesser tenantry, mostly villeins. Usual holding: strips on the open field of 30 acres (10 always fallow). They tilled lord's land as well as their own, gathered his harvest, Below them cotters; men without oxen, without share in pasture or common field. Usually had 5 acres by cottage, which they dug with spades. Lastly, village servants who worked for their keep plus a small wage. Cowherds, woodwards (in charge of forest), greaves (who kept ditches clear); also tradesmen—fishers, fowlers, bakers, smiths. Usually landless. Most things used on manor were made there.

third phase THE OPEN FIELD

[5] under Feudal system owners

not traders, countrymen not townsmen.

Usually landless. Most things used on manor were made there.

third phase THE OPEN FIELD

SEVEN

So the Roman Villa gives way to the Saxon manor. Both are farming machines. Their main difference—that while the Roman lord ran his on British slave labour the Saxon ceorl, though he has to work for his lord is no slave, for he holds land in return for his service which is the basis of the feudal idea[5]. This, the Normans, whose church tower now crowns the village green, erect into a cast iron system[6]. From now on for many centuries, Saxon, Dane, Norman, or as in time they become, the English, farm the way of the Saxon settlers co-operatively (rather like the Russians today) on what has come to be called the Open Field System[7]—"open" because the fields are not fenced. Like an enormously magnified allotment the landscape stretches to the woods

EIGHT

[5] under Feudal system owners and tenants, as it were, shared the land, each enjoying certain rights, each bound to perform certain duties determined by custom equally binding on both. A distinction was made between land, their common means of existence and chattels. Only chattels were private property in our sense of the word.

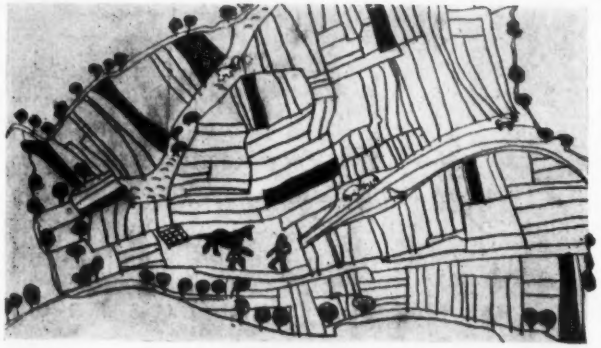
[6] a complete survey was made of all land and farming stock in Britain, called Doomsday Book. Purpose, to assess taxation; result, to entrench feudalism. To be taxed every piece of land had to have a tenant and be held of some Lord, even rabbit warrens.

[7] cultivated land usually divided into three vast arable fields and a pasture. Beyond them common land, waste or forest. Arable fields divided into strips to give each man fair proportion of good and bad land. Houses all together

NINE

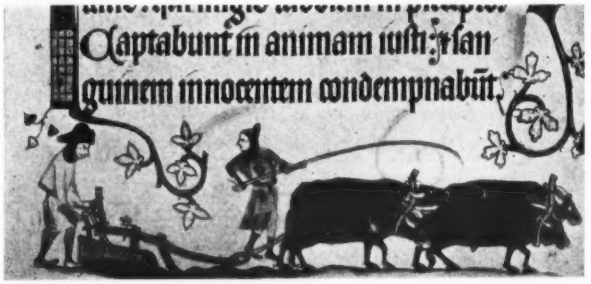
in village, not scattered over landscape. Usually five or six acres of land attached to each, called a croft or toft. Manor house or hall was larger, and surrounded by the demesne, a toft on a grand scale.

[8] teams of eight oxen were needed to pull clumsy wood ploughs of Saxons and Normans. Few men could master whole team (though often as many as 80 teams in a village), so they combined together to plough land held in common.



[9] twelve strips ploughed with eight ox team; the strips and their produce divided thus: First strip—*ploughman*; second strip—*owner of plough irons*; third strip—*owner of "exterior sod ox"*; fourth strip—*owner of "exterior sward ox"*; fifth—*driver*; sixth, seventh, eighth, ninth, tenth and eleventh—*owners of remaining six oxen*; twelfth—*man who maintained and repaired plough* (itself common property).

TEN



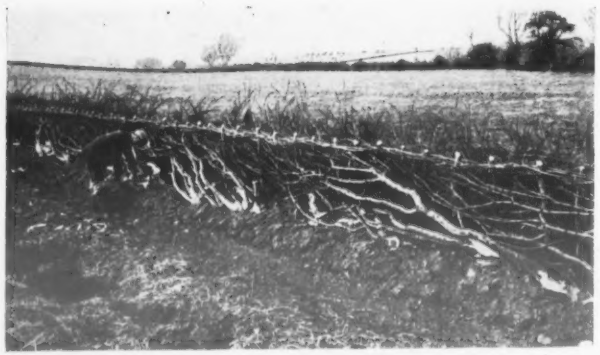
and as in an allotment the strips belong to different villagers, but they are worked[8] by a common plough[9]. The illustrations give an idea of the looks of strip cultivation[10]. Roads are mere tracks. The England we know is unrecognisable. As for the forest, once free to outlaw and honest man, it has been claimed by the lord of the manor so that he exacts a pig for every ten you quarter there[11], and hangs you to the high bough should you hunt his game.'

[10] usual custom of manor was three-year rotation: (1) Wheat or rye, (2) barley, oats or beans, (3) fallow—a year's rest during which cattle were turned into field to graze and to fertilize soil with their droppings. This was only dressing worth speaking of village fields got besides occasional marling and liming.

[11] called pannage: at the end of season all swine from woods were driven to hall to be taxed. Herbage dues also levied. In Battersea and Streatham 1 pig in seven, in Sussex 1 pig in ten. Another privilege of Lord was right of free warren—right to keep large tracts of ground for rabbits, hares and pheasants in charge of a warrener. 1340, Bishop of Chichester's rabbits ate most of wheat in village field. There were no fences and no redress.

fourth phase ENCLOSURE

But valuable though it is in giving the Little Man a stake in the land the Open Field system between 1250 and 1348 reveals a grave flaw; it progressively exhausts the soil[12]. More men have to work harder for less. Just when more hands are needed, the Black Death[14] wipes out a third of the village. The ploughman is laid under his own sod, which means the manor goes short of hands. "Sheep[15]" says the lord of the manor "need less labour[16] than crops, they ask nought but a fence. I will enclose my demesne lands and put them down to grass.



ELEVEN

12 farmyard manure was scarce since, owing to shortage of feeding stuffs, herds couldn't be kept during winter. Most slaughtered each autumn and salted down for winter eating. Custom of manor required bestowal of lion's share of manure on lord's demesne, where villagers were obliged to fold their flocks for stated periods. The common pasture, which gradually accumulated great reserves of fertility, was by custom never ploughed.

13 from 1300 onwards, as trade increased and money filtered through to manor, villeins and lords, for mutual convenience, arranged for money payments to take place of service. Money became more plentiful, rents remained the same, yields went down, but price of hired labour rose. The medieval manor ceased to pay, and began slowly to break up. Break up speeded up by Black Death, 1348.

TWELVE

14 not an isolated incident, but last and worst of a series of plagues, which swept over England for a hundred years or more, as regularly as trade booms and slumps do now. Other name, the great pestilence.

15 English wool was exported long before the conquest; early exports went to be woven in Flanders. England had virtual monopoly of continental markets till fourteenth century. Trade called "the flower and strength, the revenue and blood of England." Later as both gild and manor declined domestic manufacture of cloth increased. After Black Death home woven cloth gave employment to many deprived of work by sheep farming or enclosure. Profits flew up and trade expanded.

16 "Whether he leased his demesne (home farm) or enclosed it for sheep farming, he was saved the expense of the small army of servants and officials needed to run the medieval manorial farm." —(*Curtler: History of Agriculture*).

THIRTEEN

Where there was wheat there shall be wool[17]." (Upon wool grew up many an English town, Chipping Campden for instance, above,

17 not till latter half of the 15th century did enclosures give rise to serious hardship, for till then they had been largely confined to forest or demesne land. But

FOURTEEN

once the capital of the Cotswold wool trade). Or dreading the difficulties of the labour shortage, he lets the demesne farm to one of his retainers in return for a money rent. Passing the buck this is called. Thus Farmer-Chief becomes Gentleman of leisure; villein, Yeoman Farmer; personal initiative outs collective effort. Enclosure and individualism are catching complaints, and they turn out to be as catching for arable as for grass. Stock too can be bred for type behind fences. More and more manors enclose[18] forthwith, and as new opportunities come to men of enterprise, life returns to the land. From a running-down process agriculture starts to wind itself up. For where there are fences stock can be intensively grazed, exhausted land put into good heart, bigger crops grown. Bigger crops mean

now the game of enclosing the open fields began. "They call me extortioner, tyrant, cormorant or intruder on my poor neighbour's right, or grand encloser of what was common, to my private use."

18 gangster methods were used to evict even rival owners.

I'll therefore buy some cottage
near his manor.
Which done I'll make my men
break open his fences
Ride o'er his standing corn and
in the night
Set fire on his barns or break
his cattles legs,
These trespasses draw on suits
and suits expenses,
Which I can spare but will soon
beggar him.
When I have harried him thus
two or three year . . .
I will pretend some title; want
will force him
To put it to arbitration; then
if he sell
For half the value, he shall
have ready money
And I possess his land.

New way to pay old debts: Massinger 1600.

optimism and enterprise, enterprise leads to experiments with methods and machines, crops and animals[19]. Thus the turnip invades the garden

19 enclosures made scientific breeding possible. On commons animals could mate at will with the worst. The statute 27 Hen.

the Industrial Revolution, which might be called the village industry end of the agri-

21 between 1710 and 1795 the weights of cattle sold at Smithfield more than doubled largely owing to the efforts of Dishly and Bake-

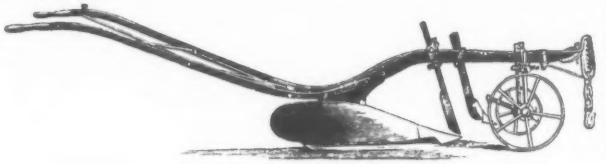
town, Chipping Campden for instance, above, forest or demesne land. But

optimism and enterprise, enterprise leads to experiments with methods and machines, crops and animals[19]. Thus the turnip jumps the garden wall[20], which means the farmer is saved from killing off his stock each winter (a revolution in itself). More stock, more manure. More manure, bigger crops, bigger crops bigger cities, bigger cities more demand for food, more demand better prices, better prices wealthier farmers. Wealthier farmers put more back into the land by stocking[21] and manuring, and the land yields a greater surplus. Upon the surplus thus built up millions of men, freed from the necessity of tilling their own strip, turn their fertile minds to the production of other goods than food. To the production of goods they apply the same revolutionary enterprise, and so is born the next major development (or catastrophe, whichever way you look at it)

[19] enclosures made scientific breeding possible. On commons animals could mate at will with the worst. The statute 27 Hen. VIII., c. 6, mentions great deterioration in horses, cause being that "in most places of this Realme little horsis and naggis of small stature and valeu be suffered to depasture and also to covour marys and felys of very small state"; therefore owners of deer parks shall keep two brood mares of 13 "hand fulles" (hands) at least. Another statute enacts that no entire horse under 15 hands is to feed on any forest, chase, waste, or common land.

[20] only on enclosed land. In open field the right of villagers to graze cattle on fallow field prevented change of rotation. Speed, 1659, first suggested growing large quantities of turnips (which are a winter crop), to be used as cattle food. Turnip Townshend, 1730, made them basis of new rotation: (1) Turnips, (2) barley, (3) seeds (clover and rye grass), (4) wheat, called the Norfolk four-course.

the Industrial Revolution, which might be called the village industry end of the agricultural revolution. For the roots of the Industrial Revolution go down to those fences which enclose the old Open Fields. Don't imagine though all the open fields were en-

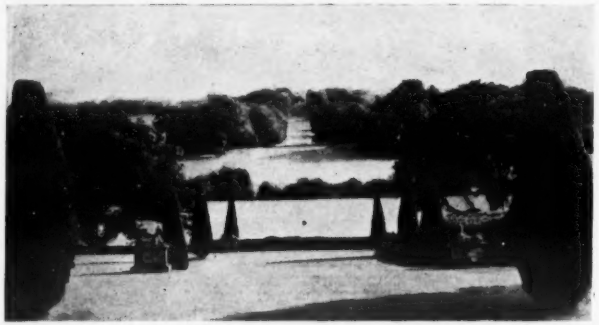


[21] between 1710 and 1795 the weights of cattle sold at Smithfield more than doubled largely owing to the efforts of Dishly and Bakewell. By 1795 beeves weighed 800 lbs., as compared with 370 lbs.; calves 143 lbs., as compared with 50 lbs., and sheep went up from 28 lbs. to 80 lbs. One of the results of enclosure: "The yield of corn was now much greater than in the middle ages: rye or wheat well tilled and dressed now produced 15—20 bushels to the acre instead of 6 or 8, barley 36 bushels; oats 4 or 5 quarters . . . no doubt this was partly due to the much abused enclosures." — *Curtler*: Short History of English Agriculture.

closed at the same time. Enclosures were being carried out from the time of the first Enclosures Act, 1235, until the 19th century, though the great age of enclosures was the 18th. Even to-day strip-cultivation is still practised at Epworth in Lincs., the last example in England. As to Our Village, from the new Tudor house with its formal garden and avenue it is clear the land has been enclosed[22] by the beginning of the 17th century. Let us give the picture a date, April 23, 1616[23]. By this time in Our Village the agricultural revolution is complete. The forest is gone, the common is gone, the open fields are gone, and in their place are those neat fences which speak of the new spirit, the new methods, and the new men. For the civil war and the Revolution of 1688 sees the old feudal world put down by the Parliament men, the first modern

[22] landlords enclosed because manorial rights were largely founded on usage or custom. Landlords had to maintain their rights or lose them. Right of way still depends on custom: paths are closed once a year to prevent establishment of public right of way. Landlords enclosed forest and waste, not for sheep only, but to prevent it becoming again what it was to start with, the property of the community. Farmers enclosed, in competition with the new capitalist class from the towns who were already putting their money into sheep. Sheep farming saved labour; novel methods of tillage produced bigger crops; both meant enclosure and the overthrow of the open field system.

[23] day on which in Madrid, author of Don Quixote, and at Stratford-on-Avon author of Hamlet, breathed their last, while at Sidney Sussex College, Cambridge, a young man of 16, Oliver Cromwell by name, matriculated as a fellow-commoner.



Englishmen, products of personal enterprise whether in town or farm, whose leaders, known to the history books as the Whig Nobility[24], play henceforth the leading part in English political life. Since land still represents social and political power they buy it; get themselves titles and country seats[25] in the modern[26] style; become landed gentry. "The most agreeable

[24] Cavendish, Russell, Bentinck and the like. About 70 families ruled England in the 18th century.

[25] notice hedges in photo, interrupting avenue from garden. Later invention of ha-ha (ditch like a small moat to keep park cattle out of garden) which deputised for hedge and thus avoided this annoyance to the eye, made possible later English fashion of bringing country right up to house. It was a ha-ha John Mytton jumped in his tandem when he wagered £150 he could drive cross country from house where he was dining to the turnpike. He won.

[26] what we call "Georgian." To-day "nobility and gentry" are looked on as the die-hards, but in 18th century important to remember they were the red hot modernists. Working man was the died-in-the-wool conservative and much irritated his "betters." Typical true story: a nobleman had two estates on one of which a four-coultered

NINETEEN

society England has ever known" they cultivate "The grand style in painting, the 'correct' in letters, the Latin tradition in oratory," making of their lives a work that "shines down the perspective of history like some masterpiece of natural art[27]," which under their hands the countryside[28] itself becomes.

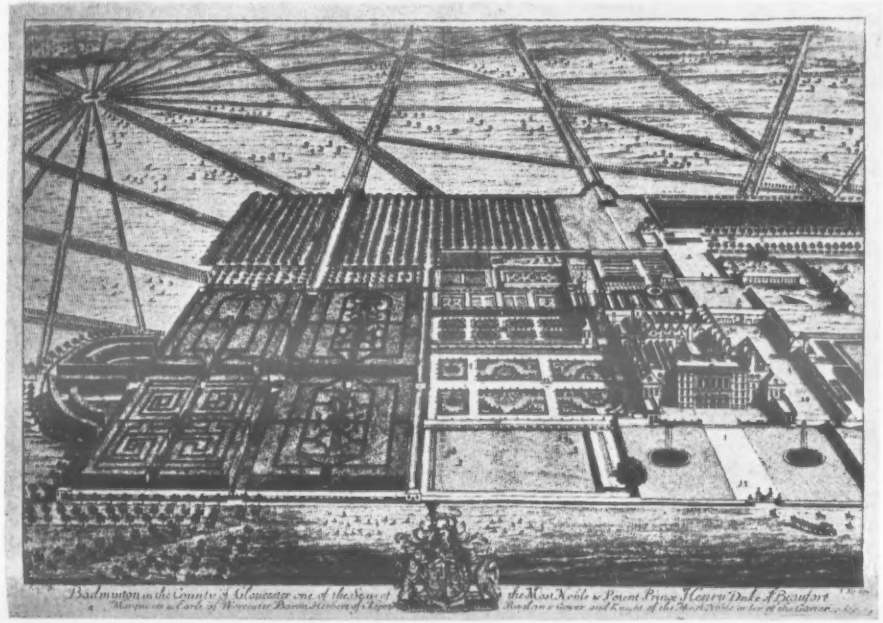
plough (the latest thing in streamlined modernity) had been successfully used. So he sent another to his second estate, but going down found not one furrow ploughed, bailiff steward and servants saying plough was unusable. "No argument his lordship could urge to convince them of their mistake prevailed, because they were resolved not to be convinced; till at last my lord went into the field, set the four-coulters with the wedges himself, threw off his coat (and ensigns of honour), then ploughed a whole land. . . At this the ploughmen were so ashamed they condescended to plough well with the four-coultered ploughs." —*Jethro Tull*, 1733.

[27] *Lord David Cecil*: The Young Melbourne.

[28] contrast in these two illustrations very marked between formal landscape of 17th and informal landscape of 18th century. Avenues v. Clumps, about which more anon.

TWENTY

TWENTY-ONE



TWENTY-TWO

fifth phase PLANTING

But a new crisis has gripped the countryside. Exhaustion has overtaken not the land this time but the forest[29]. By the Restoration men find that something besides a king has been cut down—the trees—for centuries the background of English life. The lords of Admiralty grow pale, but Charles II, alive to the danger, sponsors Evelyn's *Sylva*[30], said afterwards to be responsible for the planting of a million trees. Suddenly landowners, old and new, become alive to the duty, the profit, the spirit of Planting. Plant they do, at first in the continental manner, as they have always done, in symmetrical patterns, straight avenues and geometrical shapes on the model of Louis XIV's Versailles. Badminton for instance, or Boughton, whose second Duke's activities got him the title Planter John.

[29] 'Cromwell's men,' and fines incurred during the civil wars, had brought supply of timber periously low. Restoration planting gave us the oaks that won Trafalgar and the Nile.

[30] "I have read of a certain frugal and most industrious Italian nobleman who, after his lady was brought to bed of a daughter (considering that wood and timber was coming on while the owners were asleep), commanded his servants immediately to plant on his lands oaks, ashes, and other profitable and marketable trees to the number of 100,000; and undoubtedly calculating that each of these trees might be worth 20d. before his daughter became marriageable, which would amount to 100,000 francs (which is near £10,000 sterling), intended to be given to his daughter for a portion. This was good philosophy."—From Sylva (1678) by John (Evelyn's Diary) Evelyn (1620—1706).

Boughton, whose second Duke's activities got him the title Planter John.

Sylva (1678) by John (Evelyn's Diary) Evelyn (1620—1706).

sixth phase **LANDSCAPING**

But as the 18th century develops the new Whig gentry, brilliant and individualistic, evolve what constitutes England's greatest contribution to European art[31], although few people imagine it to be other than Nature in the Raw.

[31] Manifesto of the aesthetic revolution was penned by Lord Shaftesbury in 1711 ; he could no longer resist passion growing in him for things of a *natural* kind he said. Note the word *natural*. Leaders of revolution : Kent and Bridgman, Shenstone

TWENTY-THREE

Watch Humphry Repton. By a masterly redistribution of the timber in the first picture he re-creates in the second an Ideal landscape. Compare this with 21. Another revolution—this time in taste. Symmetry, avenues, formal patterns have been thrown out in favour of the new informal art of

the poet, Capability ("the site has capabilities ") Brown, Humphry Repton, first man to style himself landscape gardener ; Payne Knight, Uvedaile Price. Between them, though constantly quarrelling, they evolved theory of picturesque (or naturalistic or informal) landscape, antithesis of European formality. Theory stormed England, swept through France, Germany and Russia. Was

TWENTY-FOUR

TWENTY-FIVE

TWENTY-SIX

landscaping. The *Beautiful*, the *Sublime*, the *Picturesque*[32] are with us. Urged to plant the gentry plant ideal landscapes by Claude. First in their parks and pleasances, and then in the countryside itself where they drop their acorns in the hedgerow and rebuild the cow-house as a ruin. Tree planting of course is

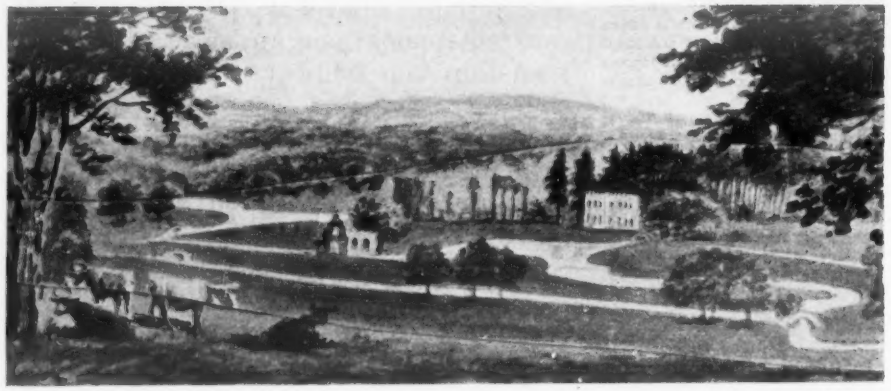
known on Continent as the English, in England as the Modern, style.

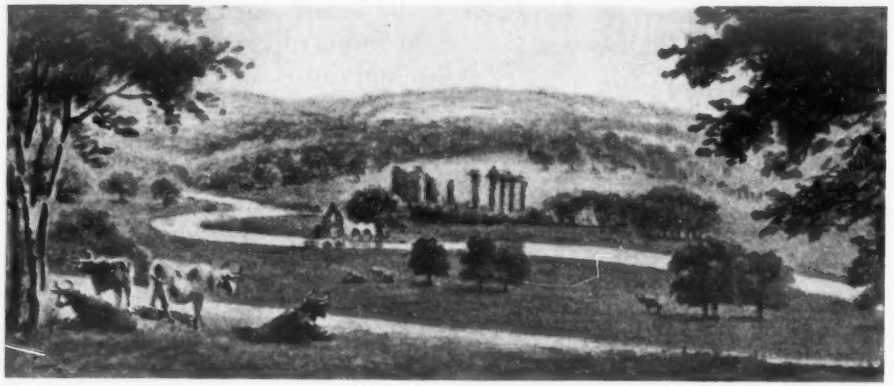
[32] Burke's *Sublime and Beautiful* (1756), defined passion caused by the great and sublime in nature as astonishment or horror, passion excited by beauty as love and complacency. Price defined picturesque as quality painter looks for in an object.

not the only trump in the landscape gardener's fist. Without water no scene can be said to be complete. So Repton[33] obliges with a lake.[34] An object lesson is how to turn an honest bit of arable into landscape. The oblique ride is a little masterpiece. From the terrace at Bayham Abbey he is lucky to

[33] Humphry Repton, 1752-1818.

[34] next time you find yourself near a lake go to place where original stream runs out. You will nearly always find a dam there with an overflow weir which villagers incorrectly call "the waterfall." If you do you will know that lake is an *improvement*, the word the 18th century had for *improving* upon nature.





spot a ruin, two ruins[35] in fact. Too many ruins he thinks. He pulls one down, and with it the distracting conifers. He tidies up the river. The finished article[36] is in the approved taste, awaiting only the full growth of the trees which it is worth remembering the improver himself will never live to see. *We* should see this landscape as Repton really meant it to look, if it were there to look at. But is it? Read on and compare.

35 Ah! then most happy, if thy vale below,
Wash with the crystal coolness of its rills
Some mouldering abbey's ivy-vested wall. —*Mason.*

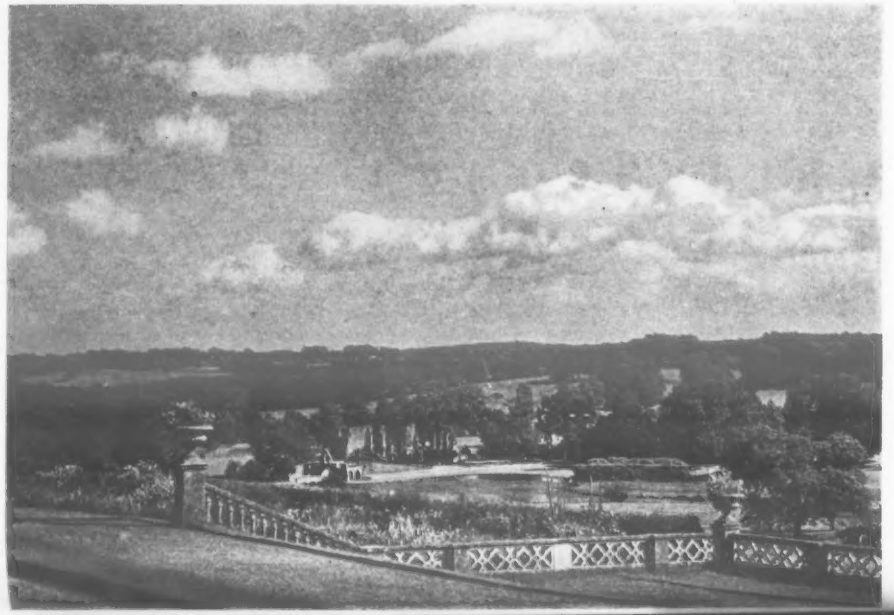
36 Repton did number of what he called *Red Books* for improving landlords of the day, with BEFORE and AFTER scenes designed to dramatise his suggested improvements. These from the Bayham Abbey Red Book, 1799-1800, are illustrated through the kindness of the Marquess Camden.

TWENTY-SEVEN

TWENTY-EIGHT

TWENTY-NINE

THIRTY



Here is the actual scene. Here, grown to their full size, are the trees Repton planted 140 years ago. Turn the page and you will come to its *industrial*[37] equivalent—with the church tower deputising for the ruin. Nature? Not a bit of it. Art. Great men whose names are hardly known to the average Englishman, have created the conditions for this scene, Evelyn, Tull,[38] Bakewell, Young, Townsend, Coke, Kent, those dreaming squires Uvedaile Price and Richard Payne Knight; not to mention active farmer and improving landlord. But the common Englishman is a tenant now; he has lost his land and his rights of pasture. The farmhand gets a wage and no longer has a field to keep a cow. By the middle of the eighteenth century the peasant, the yeoman and the Open Field are dead even if they won't always lie down. England

37 This isn't a misprint. Countryside *is* example of industrial development (agriculture) carried out by men with a sense of style.

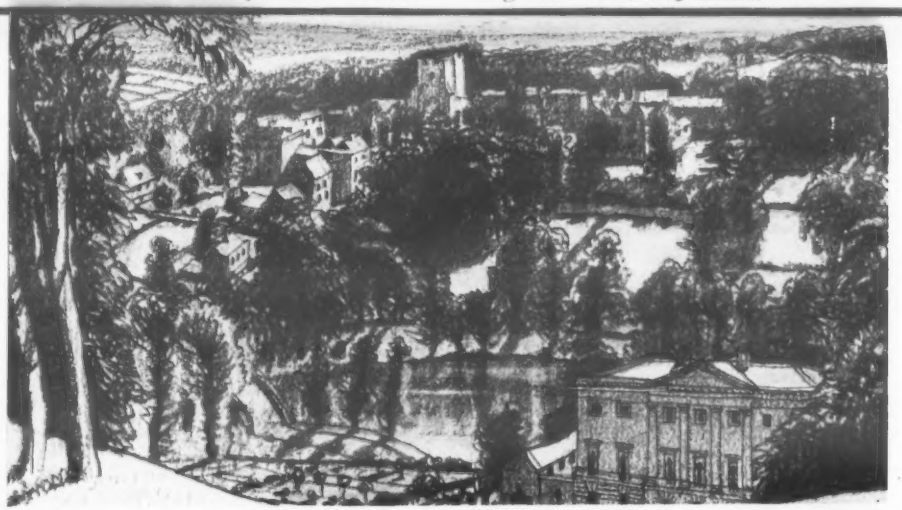
38 In *Horse Hoeing Husbandry*, 1773, Jethro Tull published the first modern scientific treatise on tillage. Said weeds exhausted fertility as much as crops; recommended drilling seed in rows, so that horse-hoeing could get rid of weeds, and invented a drill to do the job. Claimed that hard ground, by preventing roots of plants from developing, reduced available supply of food, so invented a horse-drawn harrow to stir soil between growing crops. Discovered that turnips kept clean and free from weeds, gave better results than traditional fallow. Such crops enabled farmers to winter instead of killing their stock, and thus to multiply herds and manurial dressings. Said to have increased effective acreage in country by a third. One of the great figures in world agriculture.

the yeoman and the Open Field are dead even if they won't always lie down. England

effective acreage in country by a third. One of the great figures in world agriculture.

begins to look what we mean by England[39], human in scale, full of incident and variety—

39 beginning of the 18th century about half arable land of country still open. As the century advanced more and more parishes



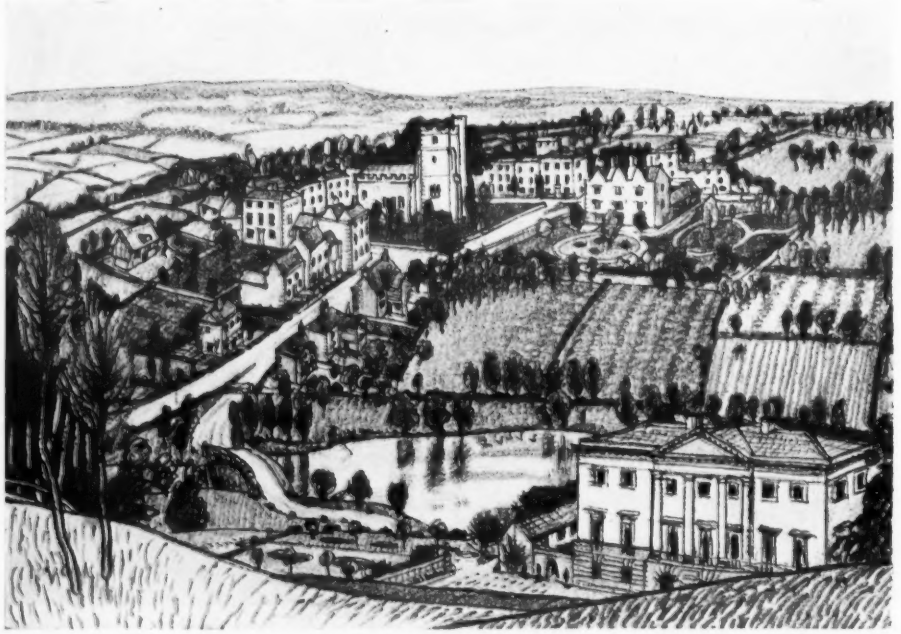
the humanised landscape. Not that the men who made this masterpiece lived to enjoy it.

were enclosed for cultivation; job practically completed by Enclosure Acts of early 19th century.

THIRTY-ONE

THIRTY-TWO

THIRTY-THREE

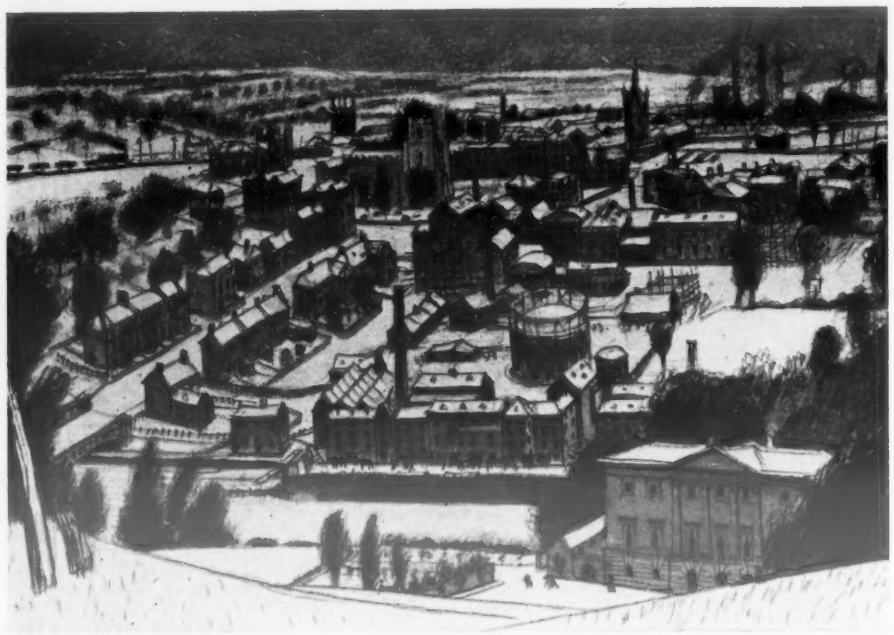


THIRTY-FOUR

They planted and improved; we reap the result. A landscape takes a long time to mature. Newly planted trees for instance (take a peep at our village in the early eighteenth century when the improving landlord got at it) look worse than no trees. You have to be public-spirited to plant trees. The great landowners of the eighteenth century were very definitely men who loved their land. You would have to admit that even if you didn't like them. They made it immensely profitable[40] to themselves but they did this by Improving it in every sense of that fashionable eighteenth century word. Not by exploiting it in the manner of the modern estate developer who buys land cheap and holds it idle till the growth of a neighbouring town puts up its value and he can sell out at a profit.

40 Coke, of Holkham, between 1776 and 1816 increased rent roll of his estate from £2,200 to £20,000. Spent half a million on improvement. 1818 was year of terrible distress all over England, yet at his sheep-shearing of that year Coke had trebled the population of his estate, and not a single person was out of employment, though everywhere else farmers were turning off hands and cutting down wages. Between 1790 and 1810, 2,000,000 acres of waste land in England were brought under cultivation largely by his efforts. Transformed agriculture of England. But for him the country would not have been able to grow enough food during the Napoleonic wars, and would have been starved out. A great planter when old he actually stepped aboard a ship built from an acorn planted by himself. Uncrowned king of European agriculture. Experts travelled from all countries to his sheep shearings, known as Coke's Clippings. 7,000 present at last one; English agriculture then acknowledged by European experts to be the most progressive in the world.

seventh phase FACTORICULTURE



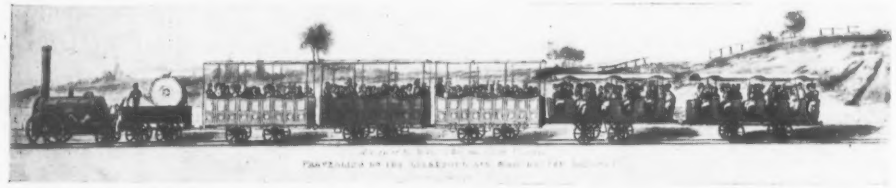
THIRTY-FIVE

So far the story of Our Village has been traced to the kind of rural apotheosis you expect in those books about *Britain Beautiful* that quote John of Gaunt's speech from *Richard II* on the title page. But now a grimmer scene is to be enacted which concerns us all. New machines working on water power are beginning to compete with the handicraft of village craftsmen. Machine-made goods are cheaper and drive the others off the market. These machines need homes[41]. And hands. Their homes are tied to the power that drives them, water. So to the river that his lordship dammed to make a lake, now come the mills, and to the mills come the villagers. Though Wesley's chapel bells are ringing the Norman church still dominates the scene. Then steam.

THIRTY-SIX

41 *Mr. Foster* : What think you of the little colony (Port Maddock) we have just been inspecting ; a city, as it were, in its cradle ?
Mr. Escot : I confess, the sight of those manufactories, which have suddenly sprung up, like fungus excrescences, in the bosom of these wild and desolate scenes, impressed me with as much horror and amazement as the sudden appearance of the stocking manufactory struck into the mind of Rousseau, when, in a lonely valley of the Alps, he had just congratulated himself on finding a spot where man had never been.
Mr. Foster : The manufacturing system is not yet purified from some evils which I conceive are greatly overbalanced by their concomitant advantages.
Mr. Escot : Complicated machinery : behold its blessings. Twenty years ago, at the door of every cottage, sat the good woman with her spinning-wheel. Where is the spinning-wheel now, and every simple and

THIRTY-SEVEN



THE NEW MONSTER

insulated occupation of the industrious cottager ? Wherever this boasted machinery is established, the children of the poor are death-doomed from their cradles. Look for one moment at midnight into a cotton-mill, amidst the smell of oil, the smoke of lamps, the rattling of wheels, the dizzy and complicated motions of diabolical mechanism : contemplate the little human machines that keep play with the revolutions of the iron work, robbed at that hour of their natural rest, as of air and exercise by day : observe their pale and ghastly features, more ghastly in that baleful and malignant light, and tell me if you do not fancy yourself on the threshold of Virgil's hell."—*Peacock, Headlong Hall, 1816.*

THIRTY-EIGHT

Steam engines replace water-power in factories. Steam is seen to be a way of pulling, as well as driving machines. Come the railways to haul goods[42] away and bring back food. The food bought with the goods supports more hands than the village can house. Cottages go up . . . more cottages . . . pack 'em closer. Before anyone can start in to get a system going. Our Village is a "town." And still it grows. Municipal offices are built, and they put "city" after our village's name. Don't be taken in by this. Here is no city[43]. It is Our Village which has been swamped by an industrial camp. Shapeless, black and sprawling, the camp has neither end nor beginning. It is just an area of land which has been engulfed by the lumber of mass production. And where do all the hands come from ? From near and far. Landless peasant, evicted tenant,

42 raw materials began to determine position of factories previously scattered over countryside wherever labour and food were available (i.e., in the villages). Cost of transporting coal, iron, cotton and wool directly affected manufacturer's costs of production and therefore profits. Cost of feeding and housing workers in towns didn't. Latter, therefore, was thought unimportant. Another thing which favoured concentration was need for personal contacts ; for centralized markets, exchanges.

43 about 1600 population of London was 400,000 ; of Bristol and Norwich 30,000 ; of Gloucester, Exeter, Plymouth and the rest less than 10,000. These were the great merchant (as opposed to market) towns of the day. 1763 population of England was about 7 million ; from then onwards population increased as fast as trade. Now it is stationary at *forty million, Greater London, 9¼ million.*

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forty million, Greater London, 9¼ million.

THIRTY-NINE

43 And this is a city
In name, but in deed
It is a pack of people
That seek after meed
For officers and all
Do seek their own gain
But for the wealth of the Commons
Not one taketh pain
And hell without order
I may it well call
Where every man is for himself
And no man for all.

Robert Crowley

"meed" = gain

FORTY

FORTY-ONE

ruined village craftsmen, famished Irish from Connaught cabins, their wives, their mothers, and their children,[44] crowd into cellars and back-to-backs. See the Irishman

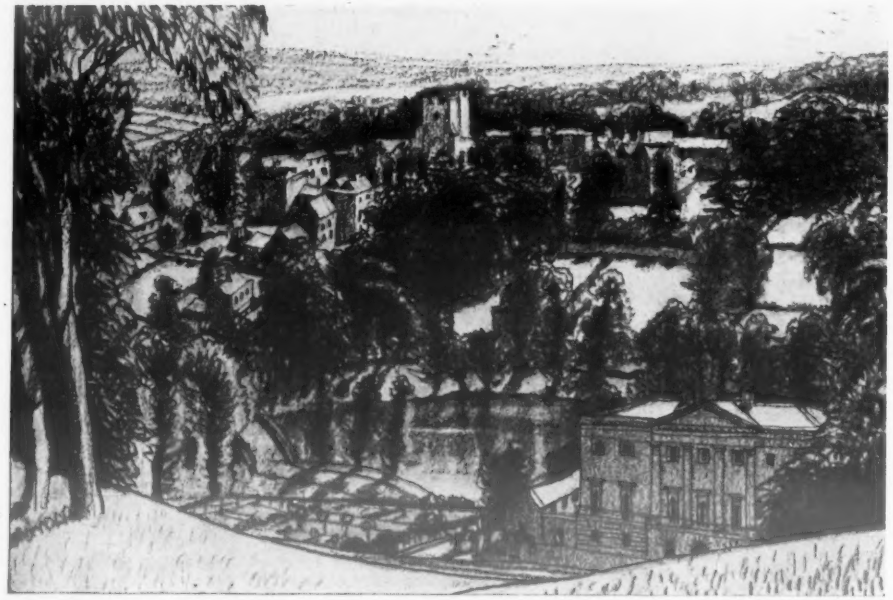
44 children were pressed into service. Poor law guardians would hand over orphans to factories, where they were housed in barracks and worked a shift system, three or four children to one bed.

FORTY-TWO

in the caubeen in the middle of the crowd opposite, and the "Irish" sign LOGINS FOR THRAVELLERS.[45] A landless proletariat of "free" men, they owe no one allegiance. No one owes them responsibility. They are paid a wage and there's a gin palace on each corner by the church. There is little else that they can afford to buy. Vice, crime, disease prosper. The "black coated workers" protect themselves and their property by setting up a police force. It becomes the thing to leave the "town," to live outside it. Dormitories rise beyond the slums with castles, gravel drives, wellingtonias, monkey puzzles, conservatories and croquet sets. The first game of croquet was played on Lord Lonsdale's lawn in 1852. The rich men who make their pile out of the machines hurry away to spend it in a sweeter part of the country. Not a nice end to Our Village is it.

Early 19th century industrial housing with open sewer between rows.

45 Chadwick reported in 1838 on sanitary conditions in London. "The houses are never cleaned or ventilated. They literally swarm with vermin. It is almost impossible to breathe. Missionaries are seized with vomiting or fainting upon entering them." Went on to say "in general all epidemics and all infectious diseases are attended with charges immediate and ultimate, on the poor rates," and suggested it would cost less to provide sanitary homes. Ministry of Health still town planning authority.



FORTY-THREE

eighth phase SUBURBANISATION

Now imagine a miracle. Imagine all that never happened in Our Village. Here it is just as it was, only still more desirable when one remembers the bad dream on the page before. For after all Our Village missed the railway age. Perhaps it lay off the main route up this winding road. Safe? Not yet. A new era has dawned—Electricity[46] is replacing steam, and the roads are ruining the railways. With the motor car[47] has come a new kind of camp, but because people don't think it looks like "town" they just call it "development"—ribbon development[48]. In a way it is more sinister even than factory development for no limit can be set to it. In a few months unplanned development[49] destroys the work of generations of Englishmen. In the

[46] in 1938 83 per cent. of factories in this country used electric power.

[47] Speed limit of 4 m.p.h. removed in 1896.

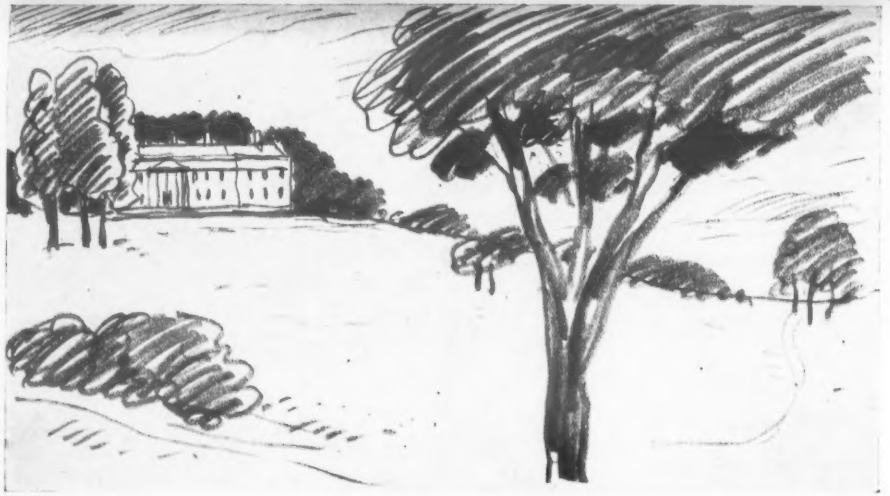
[48] new roads built for speed make tempting sites for speculators. Tempting because no cost remains but actual cost of building. Land lying back from road being inaccessible is left empty. So "development" is only a ribbon. A bad arrangement because it (1) defeats purpose of road—speed; (2) is dangerous for people living on it, including their children.

[49] estate developers buy land cheap, and sell it dear for building. Turning farm land into building land means investing large sums in drains, roads, mains, wires and cables. But developers don't lay these. Laid afterwards by town councils and utility companies; you and I pay for them. Thus estate developer is subsidized by you and me.

FORTY-FOUR

FORTY-FIVE

FORTY-SIX



industrial camp the great house was turned into a museum and its lake into a municipal garden, but here[50] the house is left derelict,

FORTY-SEVEN

[50] These two drawings are by architect Maxwell Fry of an actual site. This is *not* improvement. Trees should be left standing so that country is not again stripped

the trees cut down and the park "developed" with Desirable Residences. Well why not? People want to get away from town. Why

bare. Parks preserved as public open spaces. Country mansions, if their owners have to sell, turned into clubs or holiday homes.

FORTY-EIGHT

FORTY-NINE

not let them? Is there something intrinsically vile about roads and houses? On the contrary nothing better. What is wrong is not building development, but building development without a plan[51]. For consider, in the absence of a plan who is to reconcile the self-contradictory wish of Mr. Smith to live in the country and yet remain 15 minutes from his office? Who is to prevent Mr. Smith's pleasure from being interfered with by Mr. Brown and his friends who want

[51] Roads and houses are the vertebræ and flesh of cities; fine things in their way, but not all of what is wanted. A few features are necessary too (civic centres and such like) also some vital organs (shops, drains, health services, factories), not to mention sinews to hold the thing together (clubs local feeling and a proper local government), lungs (open space), and a good circulation (communications). Finally, of course, it is desirable to have a brain. Theatres, concert halls, libraries, picture galleries and schools are all parts of a town's brain. Planned development means seeing that a town is anatomically correct, right from the start, even though all its organs may not be fully developed for many years. Unplanned development means allowing roads and houses to spread over the land in the hopes that by some artificial means this mass of flesh and bone can be given a human appearance when it reaches its majority. Apart from the inconvenience of an uncomfortable childhood this procedure involves a number of very expensive operations which

FIFTY

to build houses in the charming field next door without realizing that their action will turn country into town? Without a plan the

are not as a rule particularly successful, and are very painful at the time—street widening, for instance.

Browns and the Smiths are wasting their efforts. Here is the process going on. The country itself is always receding as new

[52] between 8.30 and 10 in the morning and 5 and 6.30 at night, majority of people go to work. During peak periods most passengers must stand. Rest of the day

FIFTY-ONE

building development goes after it. The journey to work grows costlier, longer, and more crowded.[52] The old residents become en-

trains are nearly empty. The average London family spends £16 3s. per annum on fares. A tenth of Londoners live by carting the rest about.

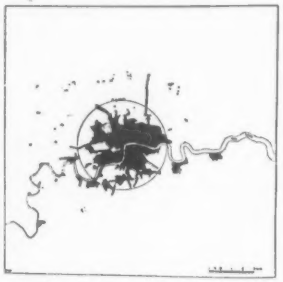
FIFTY-TWO

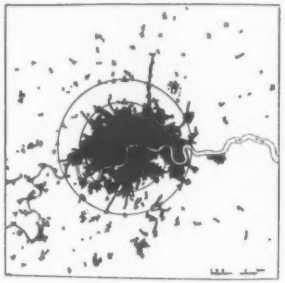
FIFTY-THREE

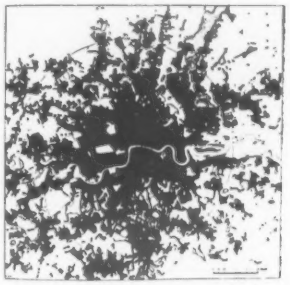
tirely built in. Look how London[53] has grown in the last hundred years. Nearly 30 miles across it measures now. London we call it, but of course it isn't. It is a shapeless rash of building development spawned over the Thames Valley from Chalk to Chalk. Historic

[53] Eleven-twelfths of population (2—2½ million) worked on land in 1485. As manor declined, village servants set up in trade in towns, and formed gilds, or trade organizations, to govern their affairs. Trade as opposed to commerce was local. The names of gilds give a good idea of character of town life. Barbers, fishmongers, etc.

FIFTY-FOUR







London would regard the title we give this travesty of a city as a slander on a great name. Stand on Epsom Downs on Derby Day and you will get an idea of the fantastic waste Unplanning involves. Stretching into infinity,[54] a small portion of "London," 700 square miles in all lies revealed to the eye. And there in front of you, taking up with their cars a few acres of the downs are a million Londoners. One tenth of its entire popu-

[54] In middle ages town and country quite distinct (foreigner was opposite to town freeman; applied equally to Dutchman or neighbouring squire). Rigorous limit set to immigration from country. Town was like a good club, difficult to get in to. Elizabethan Statute of Artificers forbade anyone to set up in trade or even work for wages as journeyman artizan without first serving seven years' apprenticeship. Also forbade anyone withdrawn from agricultural pursuits to become an apprentice. No

Thames Valley from Chalk to Chalk. Historic

a good idea of character of town life. Barbers, fishmongers, etc.

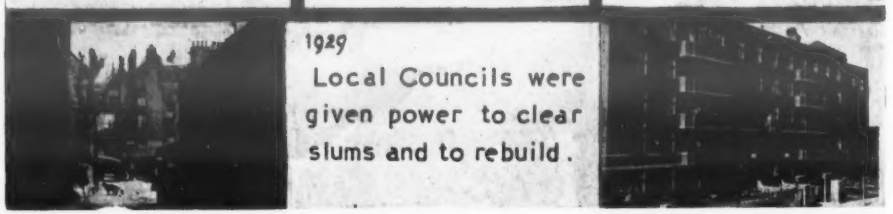
Londoners. One tenth of its entire popu-

drawn from agricultural pursuits to become an apprentice. No

1830
Uncontrolled building allowed sunless courts & back to back houses.

1870
Bye-laws were made to control spacing. This meant wider streets.

1909
A limited number of houses per acre meant space for gardens.



1929
Local Councils were given power to clear slums and to rebuild.

lation. True their cars aren't quite as big as their houses but . . . . *Circumspice.* Some of

one under rank of yeoman eligible for apprenticeship as merchant or shopkeeper. Younger

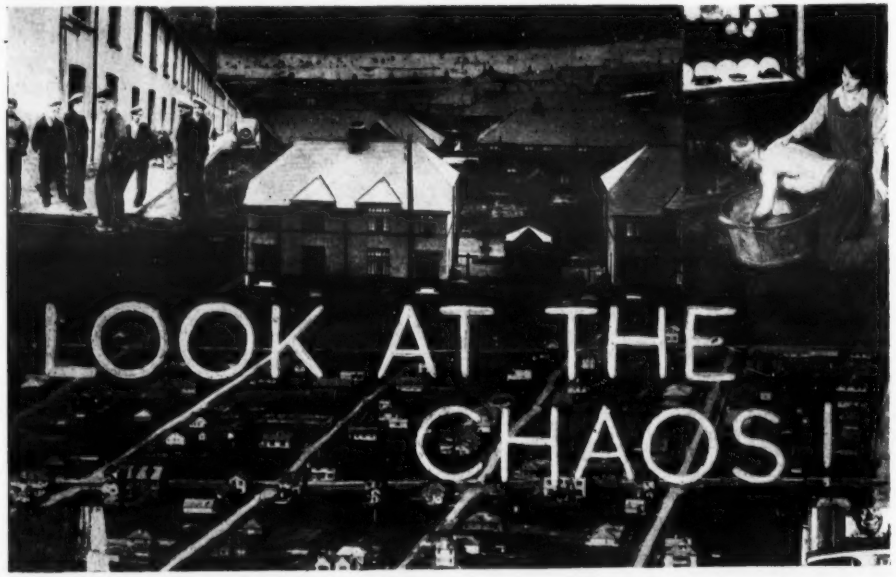
1935
Overcrowding of houses was forbidden.

1938
Out of every 1000 children born in England & Wales, only 53 died before they were 1 year old.

those 700 square miles must be taking life pretty easy. If all that waste meant freedom we wouldn't need to worry. It doesn't. It means just the opposite, inconvenience, frustration, and, paradoxically enough, congestion. Reformers have been able to get improvements in detail, but the real problem, how to live a handsome urban industrial (as opposed to rural industrial) life has never yet been solved[55]. After the Great War a unique oppor-

sons of nobility might go into trade. Such was town planning in that age. Avoided anarchy of modern city, but became too inelastic. Industry had same trouble with gild, as had farming with open field system ; gilds held back enterprise. So enterprise got out—out of the town, outside jurisdiction of the gilds, back into countryside, into homes of villagers put out of work by enclosure—and this saved their bacon in every sense through the lean times.

55 Lack of space, filthy air, sunless



tunity for reconstruction occurs, but the will is lacking. Slogans like Safety First which seem monstrous enough to us breathe balm over an exhausted public. And Homes for Heroes does the rest. The real housing work is done by the building societies, but it is unrelated to a general plan. In this way the speculative builder between this war and the last covers with houses an area as big as the 700 square miles of London we have just been looking at. At such a rate does Unplanning grow.

streets, asphalt playgrounds, traffic jams, all result from muddle.

56 Building societies neither plan nor construct. That work is left to thousands of small builders, usually without the resources to lay out roads and plan estates. Only when Mr. Brown decides to buy does building society step in. It lends him money if he can't afford to pay cash down, because builders won't wait. 2,885,000 out of 3,998,000 houses built since last war have been built in this way.

ninth phase DESTRUCTION

And then one day the old regime cracks up. Very suddenly. On a moonlit night of good visibility an epoch closes. To the sound of bricks and mortar coming down faster than they went up.

FIFTY-NINE

57 "Roads blocked, warehouses still burning. Not a pall of smoke, but a thin fog of smoke and steam like a concentration of the blighted November weather with that strange new smell that this war has produced—mixture of the smells of saturated burnt timber and brick dust with the emanation from cellars and hidden places. The ruined cathedral a grey, meal-coloured stack in the foggy close ; redder as one came nearer, and still hot and wet from fire and water ; finally presenting itself as a series of gaunt, red-grey facades, stretching eastwards from the dusty but erect tower and spire. Outline of the walls against the steamy sky a series of ragged loops . . . walls flaked and pitted, as if they had been under water for a hundred years."

SIXTY

SIXTY-ONE

58 " demolition squads have transformed the battered streets, and already people are talking of the better planned Bristol that destruction will make possible. The city architect (Mr. J. Nelson Meredith) foresees a new and more beautiful city."

59 " slowly but surely and with cheerful determination Southampton is making order out of the chaos created by air raids. Departmental stores are starting again in small shops. Business firms have found accommodation addresses in private houses."

SIXTY-TWO

I saw Coventry after its heavy blitz its main shopping centres were demolished. But Coventry refuses to be wiped out. Not only have the bombed sites been cleared and these temporary, but attractive, little shops sprung up, but trees have been planted along generously wide pavements. A complete row of these shops can be run up in a day."

tenth phase TRANSITION

When the smoke clears, in London, Southampton, Coventry—and in Our Village too— men count the cost, and here they discover a curious thing; though the cost is high in terms of masonry, the damage done isn't on a scale to make replanning more essential than it was before the blitz. And yet the will to plan which the industrial revolution and the Great War couldn't kindle, a few hundred thousand incendiaries have set fire to. Reconstruction is born, and the age of transition is upon us. In Coventry they fill up the gaps with cheeky little asbestos shops designed to carry them through until Reconstruction can begin.

60 " mushroom shops built in a few hours are now open in Coventry for the duration. When

61 " the routine life of the inhabitants of Coventry moving methodically against a background of yawning craters and demolished houses is one of the phenomena of the war. The 16,000 people left homeless by the savage November and April air attacks have long ago been rehoused ; along the main thoroughfare rows of shops have been established in temporary structures, and from one end of the town to the other communal feeding centres are operating, serving an average of 7,000 people a day."

62 world-famous for Lady Godiva, this ancient city has a Cathedral,

When the smoke clears, in London, Southampton, Coventry—and in Our Village too—

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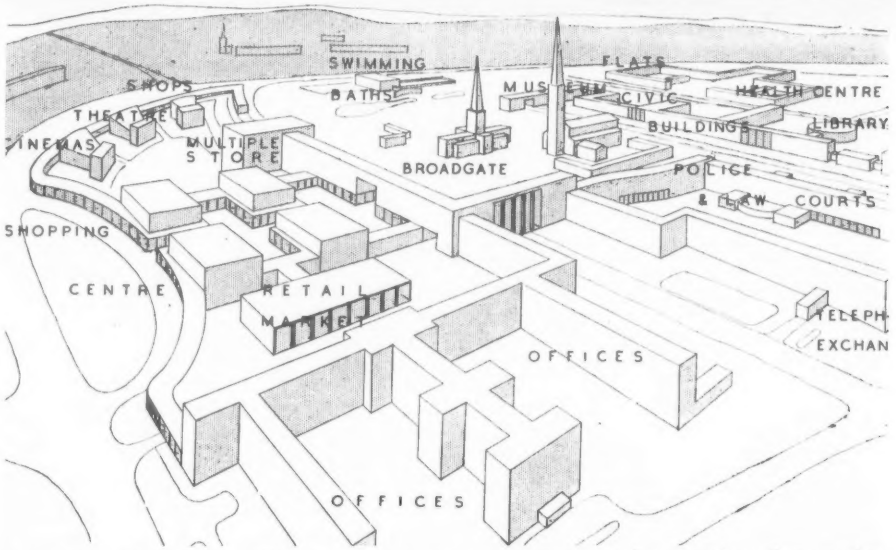
62 world-famous for Lady Godiva, this ancient city has a Cathedral, a market place, two or three churches and a network of narrow streets. Round these a vast new industrial area has sprung up, manufacturing motor cars, bicycles principally. But centre of city remained as before, unrelated to the new industrial growth; queues of traffic, blocked streets that were never designed to receive it. When war began city architect was already preparing scheme to remedy congestion. Blitz has made it possible to prepare a much more ambitious scheme. So much of the centre of the town has been destroyed that it is possible now to redesign it as a whole.



eleventh phase RECONSTRUCTION

When *does* Reconstruction begin? Answer. Now. Here is a new plan for Coventry[62] already in the round. But there are many other plans

63 Liverpool also is being replanned, though plans are not yet public. Central feature of plan is said to be an inner ring road on which most of the arterial roads

actually going up. The Government right now is spending £1,000,000 a day on building.

and two main railway stations connecting city with hinterland will abut. Underneath this boulevard will be space for

SIXTY-THREE

SIXTY-FOUR

SIXTY-FIVE

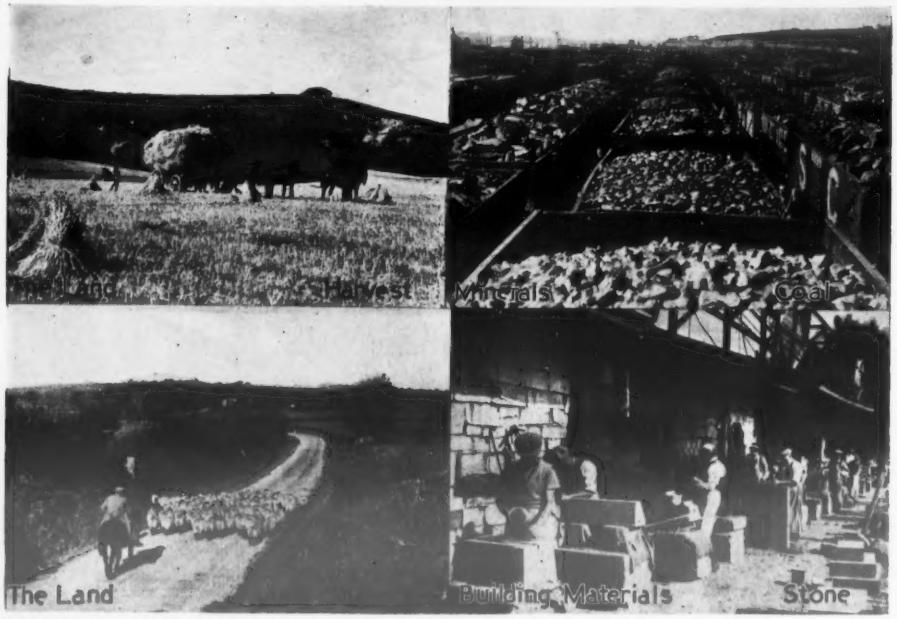
SIXTY-SIX

That is why reconstruction should start now. For every unplanned building that goes up now is something that will get in the way when planning begins. Is planning difficult? Not a bit. It takes many men to build a million pounds but very few can make a plan. We can start planning now. What we have to realise is that in a democracy the will to plan involves all of us. A few architects can make all the drawings. But they can't do all the thinking. They can't do all the shouting. They can't tell the House of Commons its job. That is *your* job. To do that you have to understand what the problems of national planning are. And that is where you need to understand something about your inheritance. The message the countryside is trying to pass on is a simple one: just to say in this matter of planning, pick up thy musket. That was the

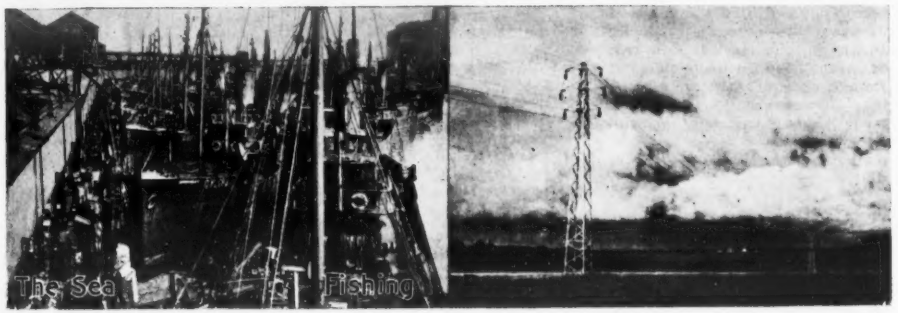
underground railway if one is ever needed, and inside it in an area where no trams are to be allowed space is to be reserved for an enlarged civic centre.

64 'Alderman Hogan said: "We do not believe that we have finished with the bombing here yet, and we have not drawn up any detailed plans, but we have agreed that the slums must be rebuilt in such a way that they will never be slums again."'

65 "the authorities in Liverpool have too much work to do to spend much time talking. There are thousands of people waiting to be rehoused. This is going to be done partly by building new one-storey houses, a development on the one-storey shop idea, introduced in other towns. These one-storey houses are to be built with walls of regulation shelter thickness, with flat roofs so that after the war another storey can be added, so that an emergency measure will become part of permanent rehousing."



SIXTY-SEVEN

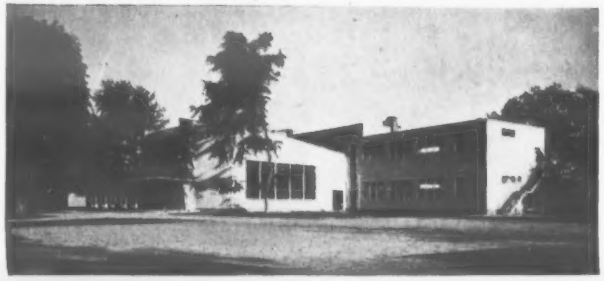


message Bakewell, Young and Coke had for farmers when agriculture broke away from the manorial system, that earlier international plan. William the Bastard's Domesday Book was national planning on a grand scale. Planning is neither un-English nor new, but in each age a new crisis develops new problems[66] even though the basic problems of planning are always the same:—How shall we use our resources? First

[66] Planning enters into every organized operation, large or small. No machine would exist without complicated planning. McCormick reaper for instance, a wonderful instrument, growing out of the agricultural plan, and then repercussing on it. John Common, of Fenwick, Northumberland, invented first modern reaper, 1812, but like most new ideas it was so unpopular he had to make his early trials by moonlight. His machine was improved by the Browns, of

SIXTY-EIGHT

SIXTY-NINE



Alnwick, who emigrated to Canada, taking model of Common's reaper. McCormick, of Canada, knew Brown, got model of Common's machine, exhibited first McCormick reaper at Great Exhibition, 1851. (McCormicks are to-day world's great agricultural implement makers).

[67] this mapping out of the country into towns, ports, mining, grass, corn growing, and industrial areas—that is into areas which geographically and geologically call for their own special development—is called Regional Planning.

SEVENTY

and foremost, how shall we use the basic raw material, land? How much to agriculture? How much to industry? How much to roads, railways and golf-courses, to parks, suburbs and housing?[67] How much to cleaning up the cities that need cleaning up.[68] Coventry needs it. Hitler helped; now the city architect's depart-

[68] Infant mortality rate for England and Wales as a whole is 57 per 1,000. For Glasgow it is 103, Liverpool 86, Newcastle 80, Edinburgh 70, Manchester 71 (clearance areas 120). Bradford still has 30,000 back to back houses. Birmingham 38,772, Sheffield 60,000 and Leeds 70,954. In 1936 one dwelling house out of every fifty in Leeds had to be treated for bugs.

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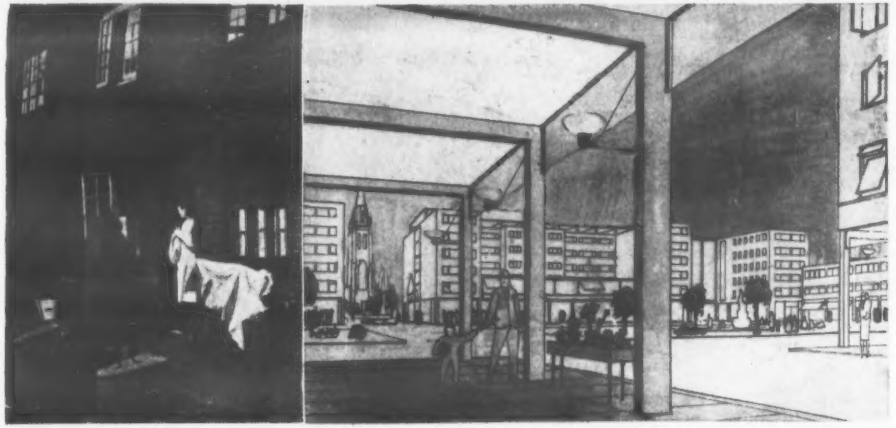
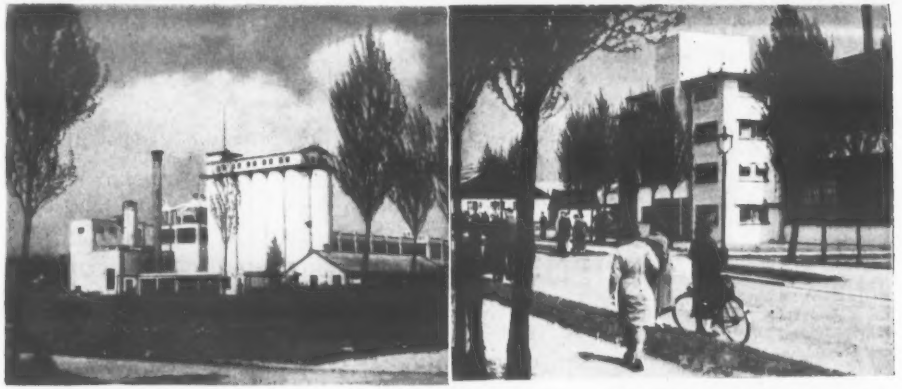


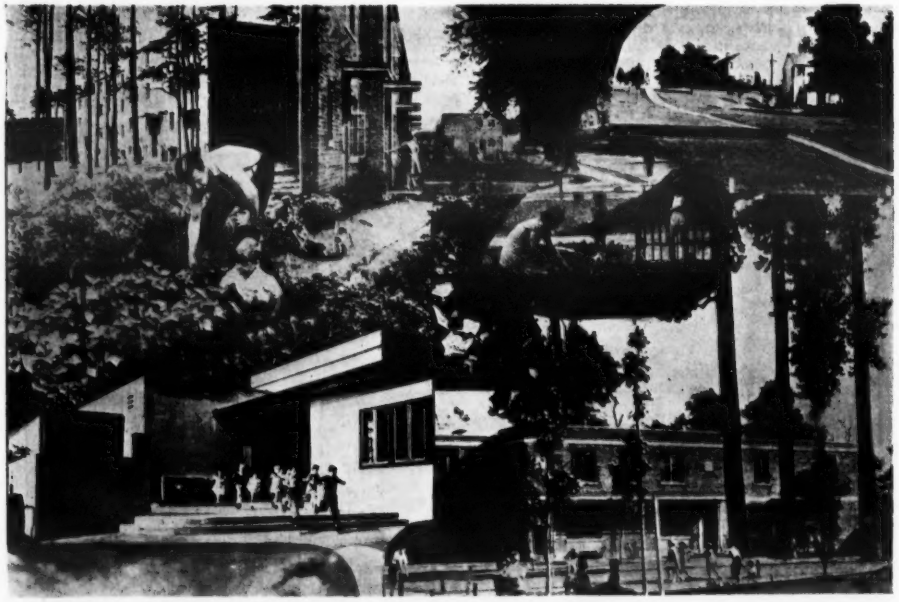
ment is hard at work getting out schemes for the city's centre. *Central Redevelopment*[69], this is called in planning terms. The question planners discuss is what the inner ring of a city should consist of:—Factories and Flats? Shops and offices? Parks and public build-

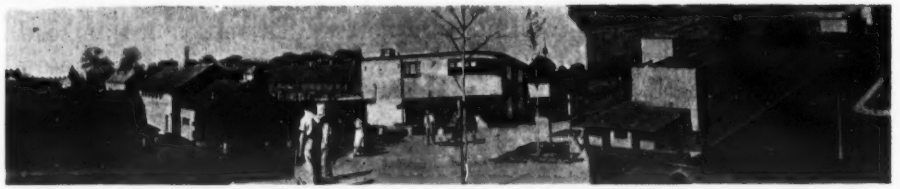
69 Why redevelop city centres? Because they don't work. In parts of Manchester 61 per cent. of daylight is shut out by smoke. In London traffic is reduced to average speed of 8 m.p.h. Why not move out of old towns and build new ones? Because millions of pounds have been invested in roads, railways, sewers and gas mains.



ings? What do *you* think? Factories[70] today are different to the mills of the nineteenth century; airy, light, cheerful, and spotlessly clean (these two buildings are factories at Welwyn). Because good roads and electric power are widely available, planners realise that what are called the *untied industries* could be located

70 Factory — derived from the word Factor, which meant agent. When roads were primitive, merchants and traders at home and abroad worked through representatives. 1582 the word factory used to mean an establishment for traders carrying on business in foreign country. At home factor's job was to hand out material, collect finished goods, make payments; in short to

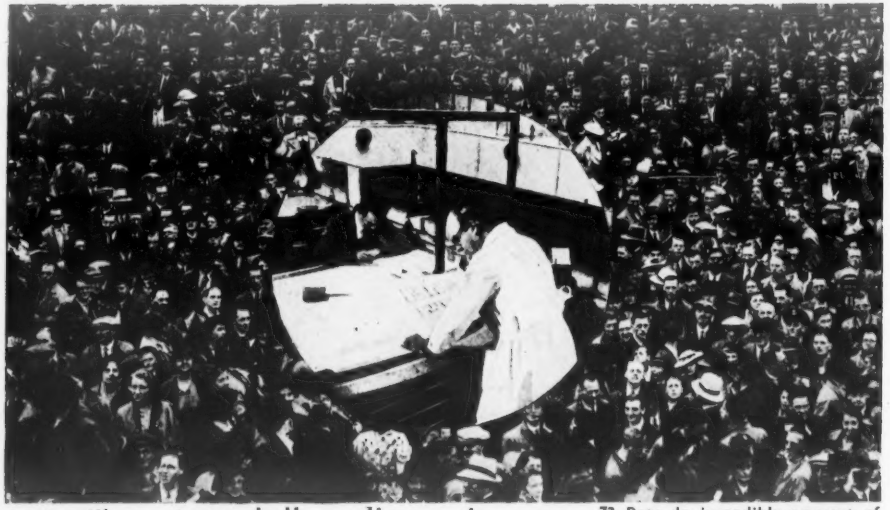




in any of a thousand sites. Should industry be *decentralised*[71] they ask themselves, that is taken out of the towns which have grown too big, and sited in country districts where the workers can live near their work. If so what will become of the country? Should the great cities be made smaller by building at a greater *density*; for instance, by building skyscrapers? Or do people prefer to live at low *densities?* However we live we live in groups. Our houses are arranged to be in touch with *services* that are there to serve us—shops, schools, clinics, cinemas, fire-stations,

organize process of production at first scattered amongst large numbers of cottagers and villagers. Later as custom grew up of collecting workmen together in one building, word factory came to mean a building with a plant for the manufacture of goods.

71 One way 'of decentralising industry is to build new towns. New towns round old city are called satellites. Two big difficulties: First to find a site that doesn't just join two existing towns together. Second to persuade people to go there. Letchworth and Welwyn not yet filled to capacity.



post offices, town halls, police stations, gas, water, electricity and drains, along with which come an army of human parasites and pests—rats, for instance[72]. Finally *communications* which bring the milk, the paper, the post and the air mail. Which today enable one to breakfast in New York, and dine in London the same evening[73]. Communications provide the contacts by which our complicated society lives; indeed largely determine *where*

[72] Rats do incredible amount of damage; in Cardiff 36,983 were killed in one year. Modern grey rat first entered England by ship, 1730, from Russia, and gradually did in old English black rat, which had carried deadly plague flea. Their one good service; since then plague hasn't reappeared. One imported rat carrying plague might infect entire population.

[73] Atlantic Ferry pilots have breakfasted in Britain, flown to Newfoundland, and returned to dine in Britain *the same day*.

it lives. When people get sentimental they quote "Our England is a garden." Our England is *not* a garden. Or if it is the rubbish heap has run amok. But it might almost be thought of as a large, a very large, Estate: run at the request of the life-tenants by 600 more or less carefully elected stewards (still mostly Whigs at heart). A big chance has come the way of the people on the estate, the biggest in its history. We must learn what is required of us. And then we must act. First a Survey—then a plan of action—*and then the action*. Remembering that the distinction we have been in the habit of making between the beautiful country and the dreary town is false. The countryside is an industrial area, nice because our fathers took the trouble to make it so. We can make it as vile as our towns or our towns as good as our country.

[74] The culture of a nation by general consent, would, I suppose, be regarded as its greatest heritage, but a heritage perhaps equally worthy of being cherished is the land surface which a nation occupies. . . . I am concerned primarily with the proper utilization of the land surface of Great Britain, and it seems to me that the first thing to be decided is the priority of the innumerable claims that a modern state makes on its land surface. When a country is vast and the population small, the question of the priority of claims hardly arises; but in these small islands the matter is of extreme urgency. If we take any long view of the case there is obviously not an inch of land to spare, and it is an outrage on posterity to misuse a single yard of land—the outrage has been more than sufficiently perpetrated already.—*Sir George Stapledon, The Land.*

Societies and Institutions

POST-WAR HOUSING

Following are extracts from a Chadwick Trust paper, "Post-War Housing in the light of War-Time Experience," read by Mrs. Blaise Gillie, of the Society of Women Managers, at a meeting of the Royal Society of Tropical Medicine and Hygiene, held in London on December 9.

THE problems of post-war housing and to a certain extent the experience derived from the war in connection with housing are bound up with the work done in the twenty years between the wars. To see the problems clearly it is necessary to review the work done and to note the mistakes made in that time. The work done can be summarized under the following heads :—

1. Four million houses built by public authorities, nearly all of them bodies who had scarcely built a house prior to 1914.
2. After an initial misunderstanding of the problem plans were made to deal with slum clearances (1930 Act), with overcrowding (1935 Act) and the provision of communal amenities (1937 Act).
3. A beginning was made under the Central Housing Advisory Committee to improve the standards of maintenance and management of housing estates.

That is no mean achievement despite the body of well-informed criticism that can be levelled against it. The chief defects of that period as I see them are :—

Lack of vision in the planning of estates so that nearly every town in England now possesses a "Council housing estate" of mediocre planning and design quite unworthy of the traditions of English architecture.

Bad building particularly in the early years due to the urgent necessity for houses being met while materials were still scarce or inferior in quality after the depredations of the last war.

Although the problems of slum clearance, overcrowding and social amenities were at length realised they were always perceived much too late, and the problems themselves were not treated on a big enough scale.

The question of the education of some of the tenants to a social standard fit for the homes they were to live in had been largely ignored.

That was roughly the position on the outbreak of war. The cessation of building and the reduction in certain of the social services has, of course, aggravated it considerably. The main facts brought to light by war-time experience seem to me to be :—

Evacuation has shown that an enormous number of people need a great deal of social education to raise them to the lowest minimum standard of decent living. Although this fact was well known to all those working in the slums, it has been brought home in what one might call a striking manner to everyone in England. This is invaluable publicity and may prove to be one of the greatest contributions made by the war to housing.

Also it has been realised that the two problems are inextricably connected. You cannot hope for decent standards until you have decent housing accommodation for the people, but the people themselves cannot attain to those standards if left to themselves in the new houses.

The enormous increase of neighbourliness and local co-operation over A.R.P., fire fighting, etc., is doing a great deal to break down social barriers. Rightly developed this should make for more vital democracy which, combined with proper public control, should simplify some of the more difficult aspects of the problem.

The various experiments in communal living that are becoming increasingly part of our national life may affect profoundly our way of living, e.g. hostels, school meals, nursery centres, communal feeding centres, etc.

Experience in the control, allocation and redistribution of materials is considerable, and if carried over into the post-war period would be capable of helping us to avoid many of the mistakes made last time.

Provision of temporary dwellings on a large scale by the Government for munition workers provides a key to an immediate solution of the post-war shortage without the necessity of blighting our land with the erection of too hastily built permanent dwellings.

Experiments in new materials, particularly plastics, will, if imaginatively used, be invaluable for post-war housing.

The awakening of civic consciousness is very real. All sorts and conditions of people are aware of some of the faults in our social system, and although they may have no idea of how they should be put right or what they can do to help, are perfectly prepared to encourage and support plans put forward by others.

And now to the actual problems and possibilities of post-war housing. They may be summarised under several different heads :—

Publicity.—This should be a much more essential part of housing policy than it has been in the past. Real interest and consultation with the local people will make the new building much more a living part of the locality in which it is built than any amount of planning will do.

Planning.—This must be done by experts and the State must have statutory powers to see that the public authority employs people of a sufficiently high calibre.

Design.—The same thing applies but here it is largely the architects themselves who can help. A movement within the R.I.B.A. to make work with a public authority both popular with, and lucrative for, architects would do an incalculable amount of good.

Type of dwelling.—The relative merits of flats, houses, terrace houses or any other form of accommodation must be decided by the needs of the locality, the preferences of the people who are to live in them and the area in which they are to be built. They should not be decided by the theoretical declamations of people who are passionately wedded to one particular type of building.

Materials.—A dislike of the more extreme forms of modern architecture should not be allowed to force us into building acres of drab houses that belong to no kind of architecture. New materials and new methods should be tried out and used if they are right for the purpose, particularly bearing in mind that some of the old materials, e.g. wood, may not be available in good enough quality. The standardization and mass production of such things as sanitary fittings, window frames, tiles, slates, etc., could considerably reduce the cost of building.

Equipment.—The Englishman's house, even if it is his castle, could be considerably better equipped without losing anything in the process. This raises big issues, such as the reduction of the cost of electricity, the possibility of the distribution of hot water over a wide area, etc., which cannot be properly discussed in a lecture of this kind but which are essential to a solution of the problem.

Legislation must be sufficiently elastic to provide for the erection of houses, within the framework of a good plan, for every class by private and public enterprise. The speculative builder must not be allowed to spoil the balance of a good design by building fringes of unsuitable houses on the edges. But it should be noted that, despite the errors that the speculative and jerry builder makes he has, by virtue of his trade, a very real knowledge of his customer's requirements and his co-operation should be enlisted and could probably be obtained if the building industry is able to carry through its much needed programme of re-organization.

C.P.R.E.

War-time Progress Report, July, 1940—July, 1941, has recently been issued by the C.P.R.E. Dealing with "Service Departments and the Use of Land," the Report says :—

"It is the practice of the Ministry of Works and Buildings to refer developments in connection with the siting of Royal Ordnance Factories, and the hostel accommodation associated with the factories, to the C.P.R.E. for comment. There have been more than a hundred of these cases during the period under review, all of which have been investigated and reported on by the C.P.R.E., sometimes with notable results. One scheme, for example, in a famous potential national park area was abandoned altogether as a result of the Council's representations and important modifications in many others have resulted. It is not, however, possible to refer to these activities in detail as the whole of the correspondence and reports are secret and confidential. The thanks of the Council are due to the planning officers and county branches for their valuable work in this respect.

"There have been many cases where possession has been taken by Service Departments of common lands and open spaces which have been used to provide sites for factories, camps and other purposes in connection with the war. It is essential that when hostilities cease, such land shall be restored for the public use and enjoyment."

L.C.C.

At last Tuesday's meeting of the L.C.C. it was announced that Mr. Ewart G. Culpen, F.R.I.B.A., had been recommended to the Army Council and Air Council for appointment on the Territorial Army and Air Force Association of the County of London, during the term of office ending October 31, 1944.

APPOINTMENT

Mr. T. Forbes MacLennan, F.R.I.B.A., has been elected Moderator of the High Constables and Guard of Honour of Holyroodhouse.

★ *WHAT examinations should be taken to become a local authority Building Inspector?* - - Q 852

★ *WHAT is the cure for a damp wall?* - - Q 853

★ *WHAT are the names of manufacturers of black-out shutters for north lights of factory buildings?* Q 854

THE ARCHITECTS' JOURNAL

INFORMATION CENTRE

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

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

Questions should be sent to—

THE ARCHITECTS' JOURNAL

45 THE AVENUE,
CHEAM, SURREY

Telephone: VIGILANT 0087

Q 852

ARCHITECT, KENT.—*A young foreman carpenter working for me WANTS TO BECOME a local authority BUILDING INSPECTOR. He has good general experience and has been general foreman on a number of smaller jobs. What steps and examinations should he take.*

He should take the Institution of Municipal and County Engineers' examination for the Institution's Building Inspector's certificate.

Members, Associate Members and Students of the Institution are automatically granted permission to sit for the examination, but other persons must obtain permission, and should apply to the Secretary for the application form 1 (B.1). Full particulars of the examination can also be obtained on request. The address of the Institution of Municipal and County Engineers is 3, Branstone Road, Kew Gardens, Surrey. Telephone Richmond 1576.

Q 853

SURVEYORS, NOTTS.—*We were recently asked to advise a CURE FOR A DAMP WALL caused by a serious leak at the side of a chimney breast, just below the roof. The wall, when we saw it, was saturated with water. It seemed to us that there must be some defect in the leadwork and the gutter behind the chimney, and the whole of the flashings were renewed to very generous dimensions.*

The damp is appearing again and re-examination of the wall seems to show that this is due to the action of the hygroscopic salts which have been deposited on the face of the plaster during the long period of the trouble. The damp patches are extending but we suppose this can be expected in such a case. The wall is papered and behind the paper there are in places deposits of 1/16th of an inch or so in thickness.

We have recommended the entire removal of the paper and thorough washing with warm water to remove the salt. Can you suggest any further treatment to neutralise whatever may remain of the salt?

We quote from a communication we have received from the Clay Products Technical Bureau of Great Britain, Ltd., which we think gives you the information you require :—

(*a*) ORIGIN: the source of the salts can be any or all of the following :—bricks, mortar, plaster, parging of flue (which gets impregnated with sulphates formed by the action of sulphurous flue gases on flue parging). Wherever the salts originated they have been transported by solution in water leaking into the chimney stack and through the brickwork and plaster, and the evaporation of the water at the inner wall face has left the salts as an efflorescence beneath the wallpaper.

(*b*) TREATMENT: whatever the origin of the salts may be, the treatment is the same. (1) The prevention of further solution of salts and their water-borne transport to the inner face of the wall :—this, it is assumed, is done, and the leaky chimney repaired. (2) The removal of the existing efflorescence deposit. *Under no circumstances* must the deposit be wetted or washed off. Directly water is applied the salts will dissolve and be absorbed by the dry plaster and brickwork beneath. (N.B.—If it were not a relatively dry surface, crystallation would not have occurred).

The deposit *must be dry brushed off* with a stiff scrubbing brush or wire brush and scraping with a metal tool may be necessary on bad spots. This operation will reveal whether or not the plastering itself has been radically affected: if unsound the whole of the plaster should be taken down, and the wall replastered with a hemihydrate plaster (such as "Pioneer" plaster): if still sound, only the surface if marred by the scrubbing may need finishing with a floated Pioneer finish. The wall should be re-papered only after the plaster has thoroughly dried out. If gross efflorescence should reappear, then the source of the moisture has not been stopped and the faulty chimney stack and the d.p.c. should be re-examined.

Q 854

SURVEYORS, HERTS.—*Can you give us some names of manufacturers of*

[Continued on page xiv.

Continued from page 440.]

***BLACK-OUT SHUTTERS** for north lights of factory buildings.*

The Crittall Manufacturing Co., Ltd., 210, High Holborn, London, W.C.1.
Hawkes & Snow Co., Ltd., Birmingham.
Helliwell & Co., Ltd., Brighouse, Yorks, and 68, Victoria Street, London, S.W.1.
Heywood & Co., Ltd., 39, Victoria Street, London, S.W.1.
Hills Patent Glazing Co., Ltd., Tower House, Trinity Square, London, E.C.3.
Henry Hope & Sons, Ltd., 17, Berner Street, London, W.1.
Mellowes & Co., Ltd., Sheffield.
Paragon Glazing Co., Ltd., 1, Victoria Street, London, S.W.1.
Williams & Williams, Reliance Works, Chester.

Q 855

ENQUIRER, GLOS.—*Please could you give me particulars regarding brickwork in Quetta bond; the information is required for estimating purposes only.*

What is the price per rod? Per yard super, I assume, would be pro rata to the price per rod, as also would per ft. super.

Extra over ordinary brickwork in Quetta bond for fair face and flush joint. Would this be more expensive than fair face with a normal bond?

Would the usual brickwork labours be the same for this type of bond, such as plumbing to angles, forming jambs, also what percentage increase would there be for cutting holes and forming holes through walls?

I give below a detail of this bond as for 13½ in. wall and would be grateful for the amount of materials, etc., used.

We should expect the cost of reduced brickwork in your district at the present time for this class of work to be between £30 and £35 per rod. The difference between ordinary bond and Quetta bond is problematical. The cost of the fine concrete or mortar infilling is less than brickwork, but there is the extra labour to be considered in working to an unusual bond, and of building around reinforcing rods. Theoretically we would say that there is little difference between the cost of ordinary brickwork and brickwork in Quetta bond, but some estimators might be inclined to price the Quetta bond rather higher, as it is an unusual item.

The cost per foot super. and per yard super. would be pro rata, thus £34 per rod is equivalent to 2s. 6d. per foot super. or £1 2s. 6d. per yard super.

The cost of supplying and fixing reinforcement is, of course, extra to the above.

We consider that fair face and the usual labours on brickwork would be the same for Quetta bond as for normal bonds. The cost of leaving holes through walls would also be the same. The cost of cutting holes would undoubtedly be more expensive, as cutting through the concrete is more difficult than cutting through brickwork. In the absence of actual experience it is purely a matter for the estimator's judgment, but 25 per cent. extra over the cost of cutting holes through ordinary brickwork would not be unreasonable.

Assuming that you are using standard brick, $2\frac{5}{8}$ in. by $8\frac{3}{4}$ in. by $4\frac{3}{16}$ in. with $\frac{3}{8}$ in. horizontal joints, you would require 128 bricks, $1\frac{1}{2}$ cu. ft. of mortar for beds and joints, and $1\frac{1}{2}$ cu. ft. of mortar or concrete for infilling, exclusive of all waste. The quantities of cement, sand and aggregate would depend upon the mix of mortar and concrete specified.

REFERENCE BACK

[*This section deals with previous questions and answers.*]

Q 805

In answer to this enquiry giving the names of manufacturers of pre-cast unit construction buildings, we included the name of H. G. Dyke, of 14, Langham Place, London, W.1. We have been asked to state that the temporary address is now "Oaklands," Chesham Road, Amersham, Bucks.

CLASSIFIED ADVERTISEMENTS

Advertisements should be addressed to the Advt. Manager, "The Architects' Journal," 45 The Avenue, Cheam, Surrey, and should reach there by first post on Monday morning for inclusion in the following week's paper.

Replies to Box Numbers should be addressed care of "The Architects' Journal," 45 The Avenue, Cheam, Surrey.

Public and Official Announcements

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

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**

Architectural Appointments Vacant

Advertisements from Architects requiring Assistants or Draughtsmen, and from Assistants and Draughtsmen seeking positions in Architects' offices will be printed in "The Architects' Journal" free of charge until further notice. Other "Appointments Vacant" and "Wanted" will be found under later headings, and are subject to the charges given under each heading.

Wherever possible prospective employers are urged to give in their advertisement full information about the duty and responsibilities involved, the location of the office, and the salary offered. The inclusion of the Advertiser's name in lieu of a box number is welcomed.

ASSISTANT required by London Chartered Surveyor. Must be efficient in Measurement of Builders work and preparation of Constructive and Working Drawings. Permanent and progressive position for right man. Box 356.

ARCHITECTURAL ASSISTANT required—Liverpool district. Important priority work.—State particulars of experience and salary required, and when free. Box 383.

Architectural Appointments Wanted

ARCHITECTS' ASSISTANT 23, Belfast born, military exemption 2 years. University, Architectural and Technical Institute training, experience on site and office, wide business experience and used to responsibility, desires position offering scope and opportunity. Prefers outdoor position such as responsible position on site. Can drive car. Reply "Architect," 11 Little Britain Street, Dublin, Eire. 324

A.R.I.B.A., wide experience in all types of work specialised in factories and hospitals, requires executive appointment where experience as architect, surveyor and quantity surveying can be fully utilised. Box 361.

DRAUGHTSMAN SEEKS POST, London or Provinces. Experienced Royal Ordinance factories, hostels, A.R.P., working drawings and details. Box 365

YOUNG MAN, just 18 years, desires to enter architectural profession London district. Has had 2½ years structural engineering experience as draughtsman and now undergoing training at Arts and Building School. Box 364.

QUALIFIED ARCHITECT, age 27, single, requires responsible position on work of national importance. Experience of factory dispersal work and temporary hutment camps. Prepared to travel. Thoroughly experienced in preparation of plans, specifications, etc. Capable surveyor and leveller. Able to direct and supervise in office or on site. Salary by arrangement. Box 368.

SURVEYOR, qualified (building sub-division), seeks position in Liverpool district. Experience includes surveying and levelling, measurement, drainage, workings and detail drawings, etc. Box No. 367.

QUANTITY SURVEYING, ARCHITECTURAL ASSISTANT (21), wage £7 per week, medical exemption, Student Royal Institute of British Architects, Student Institute of Quantity Surveyors, Student Institute of Engineering Technology; 6 years' experience including 4 years' Articles to Architect, 3 years in Quantities (1 year abstracting and billing, 2 years' final measure by Standard Method of permanent buildings), desires progressive and responsible position of National Importance with appreciative employers, preferably within 20 miles radius of Preston, Lancs. Box No. 369.

BUILDING SURVEYOR AND CHARTERED ARCHITECT (33), school-trained, seeks essential work in either capacity, Leeds or Bradford district. Experienced in all branches. (At present in Local Government employment). Salary by arrangement. Box 371.

SURVEYS. Schedules of dilapidations, war damage reinstatement, etc. Qualified senior assistant offers part-time services in London area. Box No. 370.

SENIOR ARCHITECT would be glad of position. All-round experience including quantities and surveys. Box 375.

Classified Advertisements continued on page xviii.

LADY DRAUGHTSMAN (27), desires post, five years full-time School of Art, five years drawing office experience. All types working drawings and perspectives. Box No. 362.

YOUNG LADY requres position in drawing office; age 19; 2½ years' experience; 2 years Technical College training; North West London district preferred; tracing, colouring and scale drawings from sketches. Box No. 374.

YOUNG ARCHITECTURAL ASSISTANT desires employment; exempt on medical grounds. Much experience constructional camouflage. Models and perspectives. Highest refs. Box 376.

QUANTITY SURVEYING ASSISTANT (19½), exempt military service, seeks position with Chartered Surveyor, London or Middlesex area preferred. Two years' training at Regent Street Polytechnic (Day) School of Architecture, one year with firm of chartered architects; student C.S.I. Salary 3 guineas. Free January. Box 377.

DRAUGHTSMAN, over military age, requires position. Experienced in Maintenance, repair and War Damage Survey. Used to interior and perspective. Box 378.

YOUNG MAN, 17 years, desires to enter architectural profession, London district. College education, R. Hatton, 70, Rosendale Road, S.E.21. 354

CLERK OF WORKS (disengaged) extensive experience, expert knowledge all trades. Highest London references. C. Staples, 49, Highview Avenue, Edgware, Middlesex. 358

ARCHITECT AND SURVEYOR, qualified and registered with over 18 years' experience of domestic and commercial buildings, will undertake preparation of specifications and plans for reinstatement of war-damaged buildings in accordance with the War Damage Commission, or with license. Moderate charges. Box 359.

YOUTH, aged 14, just left school seeks opening in Architect's office. Gordon Lewis, 75, Cavendish Mansions, Holborn, E.C.1. 379

SOUTH OF IRELAND ARCHITECT'S ASSISTANT seeks position, 14 years' experience in the preparation of sketch plans, working drawings, details, specifications, surveying and levelling. Salary by arrangement. Box 380.

A.R.I.B.A. over military age, has facilities for working in spare time. Surveys, working drawings for factories, munition works, workshops, industrial buildings, etc., etc. Box 382.

BUILDING AND QUANTITY SURVEYOR (25), unlikely to be called up on medical grounds, requires change of employment, preferably to Birmingham. Good all-round experience in all branches of surveying and architectural work. Box 381.

SENIOR ASSISTANT, qualified A.R.I.B.A., P.A.S.I., urgently requires spare-time work in London. Surveys, working and detail drawings, specifications, war damage schedules and estimates prepared with minimum supervision. Box 384 or Tel. Rodney 4496.

Other Appointments Wanted

Four lines or under, 2s. 6d.; each additional line, 6d.

QUANTITIES. Experienced Surveyor (over military age), in private practice with office in quiet N. West area, invites confidential enquiries from firms requiring assistance on work of national importance. Box 715.

The Proprietors of **The Architects' Journal** have placed this space at the disposal of the **British Legion Officers' Association, Employment Bureau,** 20 **Grosvenor Gardens, London, S.W.1** (Tel.: Sloane 2315), to whom all replies should be addressed, quoting number of advertisement, date of insertion, and the name of this paper.

MASTER BUILDER (M.Inst.R.A.); assistant architect and surveyor; general foreman or clerk of works; age 40; married. 3249/A/AEN

EX-OFFICER: (1914-1919) aged 43, general building knowledge; 10 years contact with Councils, Architects, Builders: reinforced concrete and scale model specialist; controlled own and other works; desires progressive post of responsibility. Dis. 456

In addition to the above-mentioned, the Officers' Association Employment Bureau has on the Register a large number of ex-officers of various qualifications, and the Secretary would be very grateful if Employers would kindly notify to him at 20 Grosvenor Gardens, London, S.W.1, particulars of any vacancy they may have available. Telephone: **Sloane 2315.**

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.

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