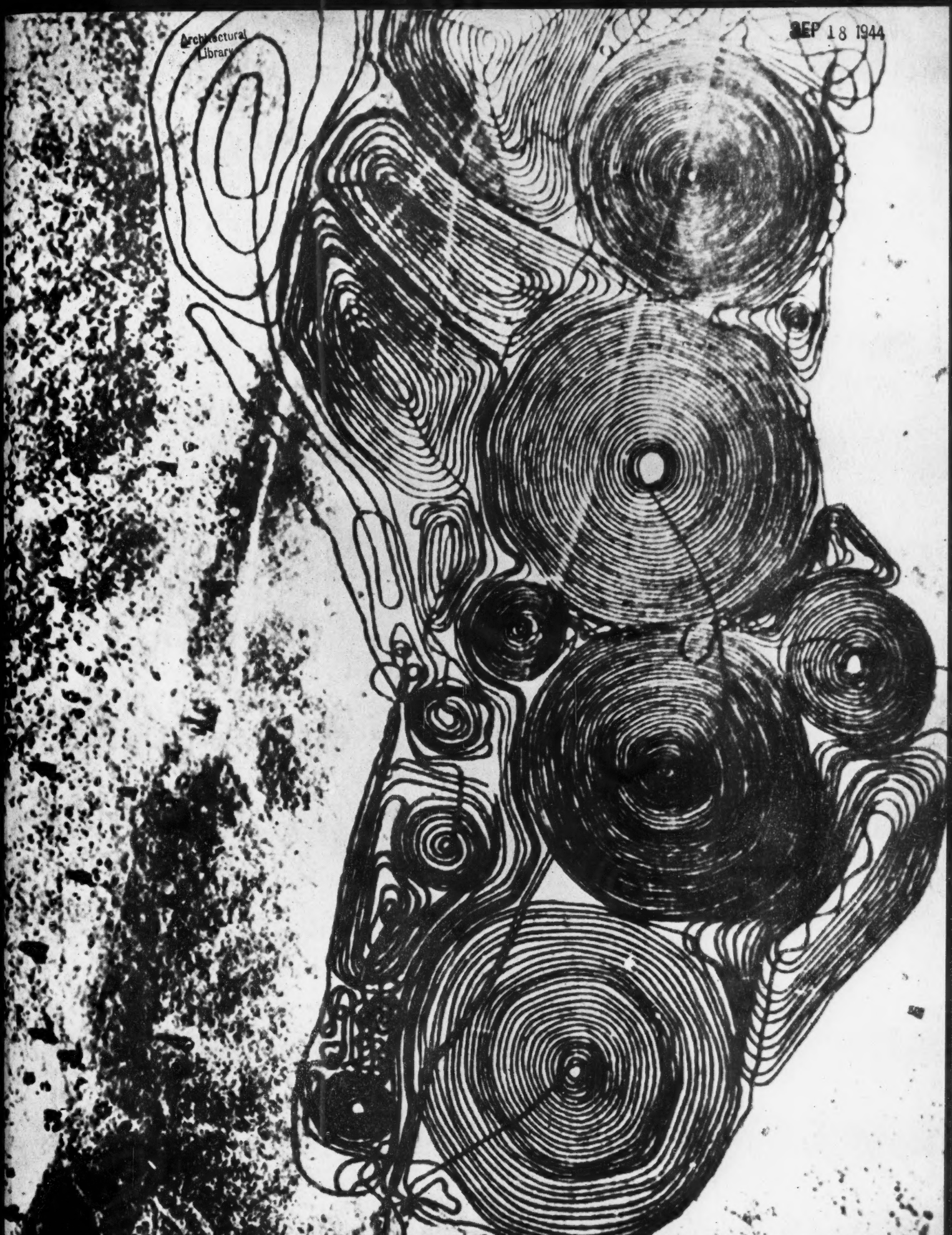

the architectural review, volume 96, september 1944, three and sixpence

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CONTENTS FOR SEPTEMBER, 1944

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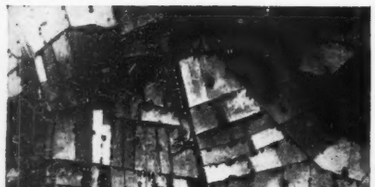
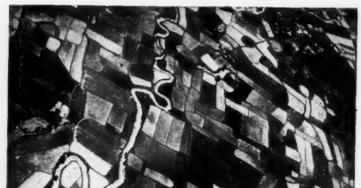
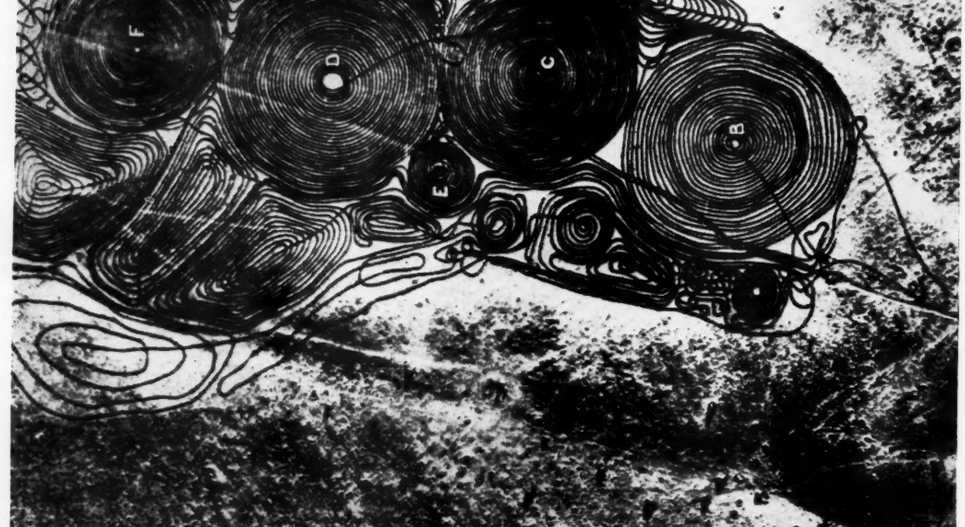
THREE SHILLINGS AND SIXPENCE

THE COVER. The central article in this issue is called "Art by Accident." But can there be such a thing as art by accident? Is it not a contradiction in terms? Is not art by definition a conscious and purposeful achievement of æsthetic (besides other) aims? That may be so; yet nature or another agent not bent on the creation of visual values can produce configurations apt to inspire the artist. Leonardo da Vinci knew that and recommended the study of specks, stains and blotches on old walls. In some rare cases such patterns may look deceivingly like art. The problem picture on this month's cover is one of these. It looks so unmistakably like a design by Paul Klee, or someone under his influence, that the incautious critic might easily set out to analyse its emotional meaning. He would be wrong in this, for the design is the work of three tractor-drawn ploughs and not of an artist. We must not therefore look in it for psychological subtleties. But if we confine ourselves to the appreciation of the pattern *qua* pattern, our pleasure surely cannot be branded as chimerical. Call it art or whatever you like—it is an effective generator of visual enjoyment. There only remains the question why these three ploughs should have taken the trouble to trace such intricate and artful patterns. The answer will be found on page 63, the first of nine pages dealing with the art and craft of camouflage.







CAMOUFLAGE

aesthetics and technique

HE NATURAL PATTERN

he contrast is impressive enough between English fields, hedgerows, individual ees and spinneys, and the much more ilense and matter-of-fact cultivation of rance with its close rectangular pattern irst and second from the left). Again ite different is the arid surface near the a in Malta. Note the characteristic long viding walls. A surprise is the Chinese esign on the right, close to one of the any tributaries of the Yangtze. The nd looks curiously European in scale nd in colour too). Such varied patterns e camouflage expert has to conceal.

HE PATTERN DISTURBED

owever, the camoufleur's *life would be asy if he had only to cope with natural atterns. In fact his worst bug-bear is e artificially disturbed pattern. Any rfield, camp, industrial hostel in the pen country, even any road or track forms ch a disturbance and gives away in- rmation to enemy reconnaissance. Here one of the most spectacular examples of e æsthetic thrills which the observer in his lane might meet in reading the ground er which he flies. This is not a Paul lce picture but a deserted German rfield in North Africa after it had been loughed up by three tractors. All three arted from A. Tractor one went to B nd started ploughing from the centre utwards. He was a bit jerky on his iving. Tractors two and three proceeded C, where tractor two started ploughing om the centre outwards. He ploughed ry closely. Tractor three went on from to D, where he started ploughing from e centre outwards. He made a specially eat job of it. Tractor two, after finishing made the little circle at E, and then ent on and did circle F. Tractor three, ter circle D, made circle G. At this oint they either packed up for lunch or r the day. At any rate they subsequently me back, but now having awkward apes to fill in, they started at the outside nd worked inwards. Hence the un- diness of some of the other parts. To amouflage such a complicated and tensive pattern would be an impossible sk. Fortunately it is beyond what the pert is usually called upon to do.*

HE DISTURBANCE CONCEALED

This concealment of a headquarters post in he Tobruk area is a very simple netting affair, et it is both effective and of rich intricacy f pattern.

ART BY ACCIDENT

Camouflage is functional design* par excellence.** ***Its only* raison d'être *is to conceal effectively. Whether this is done with aesthetically valuable or indifferent results, cannot matter in the least to those who commission it and pay for it. Yet—as it is mostly done by artists or at least experts of aesthetic sensibility—the results of camouflage often have a distinct visual charm and a curious similarity to the conscious creations of modern art. THE ARCHITECTURAL REVIEW is interested in both aspects of camouflage, the consciously functional and the accidentally aesthetic. However, any thorough treatment of camouflage and its spectacular progress as a craft between 1939 and 1944 is, of course, out of the question. As much of the technique and development of camouflage as can at this stage safely be disclosed is told in an article on pages 68 to 70 by Mr. Julian Trevelyan, who has had years of experience in army camouflage. Mr. Hugh Casson's work is connected with Air Force camouflage. He has chosen for his article, which begins below, a frankly aesthetic approach. Another difference between the two articles is that Mr. Casson is dealing exclusively with the camouflage of buildings against high-level or long-distance air attack, whereas Mr. Trevelyan rather stresses the concealment of smaller objects against level army attack. The illustrations are by the authors of the articles in which they occur.

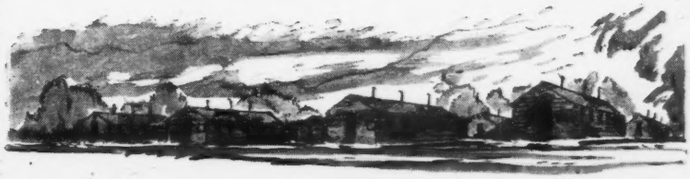
Hugh Casson: the aesthetics of camouflage

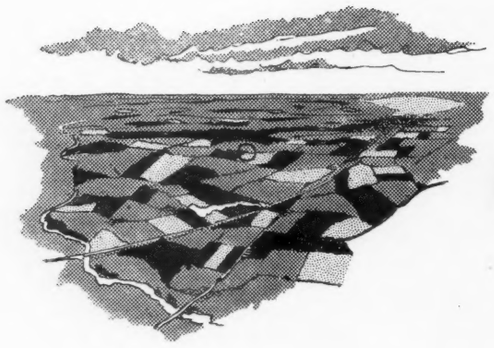
ART criticism is not among the extractive industries mentioned in the Scott Report and, to the casual observer, the professions of miner and critic would seem to have little in common with each other. Yet the characteristics which they share—the skilled laborious search for the rare amongst the worthless, the tireless prospecting, the "lucky strikes" and ensuing "gold-rushes"—are perhaps similar enough to permit the analogy. The contemporary critic, like the miner, is faced with fast diminishing resources. For him the mines of discovery, as Sir Kenneth Clark has recently pointed out, are nearly exhausted. The richest seams, of the Antique and the eighteenth century, have long since yielded up their wealth. To-day they lie deserted and only rarely disturbed by the fitful questing lamp of some obscure scholar scavenging his way along the abandoned workings. Raw material is not so easy to reach as it once was, and when found it is of uncertain quality. For this problem there are three possible solutions open to the critic. By elaborating his machinery of research—if the technical parallel may be pursued a little further—he can dig a little deeper and thus open up less accessible veins; or he can pick over the slag heaps discarded by his predecessors, select the likeliest-looking lumps, burnish them with his wit and learning, and then hold them up to the light so persuasively that they seem to sparkle like the Best Kitchen Brights: or he can adopt the fashionable wartime technique of "open-cast mining"—scratching for such material as lies on or immediately beneath the surface—the architecture of A.R.P. perhaps, or the iconography of military insignia. When such prodigies of effort are needed, it is difficult for him to avoid exaggerating—if only in self-justification—whatever results he may obtain. There is a danger of becoming overserious about the trivial, of enveloping the commonplace with so thick a fog of teutonic documentation and technical jargon that the true outline is obscured or falsified.

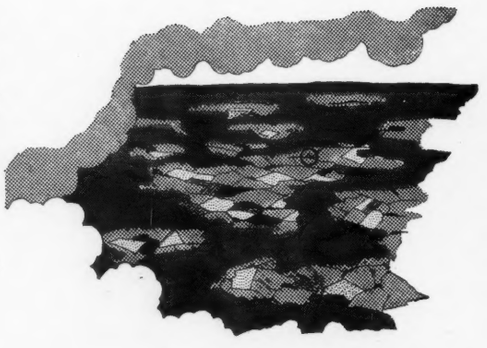
Such a charge, perhaps, may be levelled at the subject or at least at the attitude of this article. Camouflage, it will be rightly said, has nothing to do with æsthetics. It is not, intentionally at least, a question of shapely patterns, sophisticated line or sensitive colour contrasts. It is merely a scientific solution of an exact technical problem. In purpose it is as practical and unpretentious as a stirrup pump. Any connection with beauty is, as the film credit titles say, purely coincidental.

Yet beauty most certainly exists, the sort of bold irrelevant beauty flaunted by a string of multi-coloured signal flags fluttering from a masthead. Beauty, as it were, "off the record." To see a camouflaged building looming through a grey November morning or aflame in the angry light of a June sunset, is to receive a tremendous visual thrill from the flow and flicker of its fantastic patterns and strange colours. The fact that this æsthetic experience is, so to speak, accidental, does not blunt the sharpness of its impact, but its nature perhaps cannot be accurately assessed without some knowledge of the true aims and principles of camouflage of which this beauty is so exciting a by-product.

Camouflage is not magic. Despite popular belief to the contrary, particoloured patterns, violently contrasted, confer no mantle of invisibility upon the object to which they are haphazardly applied. They may, indeed, do the reverse. Nobody, for instance, with even the smallest flying experience could have perpetrated or placed trust in those dazzle-painted monuments to the







CONCEALING SITES. *The two drawings above show the visibility of two well-sited buildings. On the left, a gun site at a range of two miles and from a height of 2,000 feet; on the right, a small factory at a range of six miles and from a height of 6,000 feet. The photograph below this drawing is an example of the judicious placing of store sheds at Wilhelmshaven in Germany. They run parallel and not athwart the planting line of the trees. As they are, moreover, painted in dark browns and greens they will not be easy to spot at any oblique angle and long distance.*

gullibility of Big Business which, early in the war at least, could be seen in the suburbs of our big cities.*

The object of camouflage against aerial attack is simple. It is to deceive the eye of the pilot (*not* of the camera) in such a way that recognition of the target is delayed or prevented for as long a time as possible. As he approaches his target the pilot—and this applies particularly to the "sneak-raider," against whom camouflage is most likely to be effective—is a busy and probably uncomfortable man, clumsily clothed, beset by complicated instruments, harried perhaps by fighters or "flak." Flying in and out of cloud at high speed he must start looking for his objective when he is between ten and five miles away from it, and if within 20-30 seconds he has not spotted it, he must make another approach and thus remain for longer vulnerable to attack from the defences.

To attain this object, the camouflage designer can use one, or a combination of the following methods:

1. *Siting.*—The best camouflage of all is intelligent siting—the grouping and placing of buildings and roads to harmonize with, and be inconspicuous in, their surroundings. This is only possible with new buildings, but when well done, often no further work will be required. This is realized to-day, but the thoughtless layout of many earlier service establishments, their Beaux-Arts symmetries imposed so ruthlessly upon the informal background of the English countryside, at times rendered their successful camouflage almost impossible.

2. *Total Concealment.*—The placing of targets underground or beneath screens can only rarely be justified, and it is only resorted to when objectives of the highest importance (or smallest size) are concerned.

3. *Merging or Toning Down.*—Form is made less conspicuous by the elimination of light-reflecting surfaces, and by letting the patterns and tones of the surroundings follow through and over the target.

4. *Disruption.*—Conspicuous regularity of form is "broken up" by the considered placing of strongly contrasted tones.

5. *Imitation.*—Form is disguised by imitative painting or construction—dummy housing, roads, etc.

6. *Decoy.* — This, a sideline of camouflage, involves such bluffing activities as the construction near to the real target of a replica but dummy objective, the lighting of false fires during an attack (as frequently practised by the Germans), the moving of model tanks, guns or aircraft to mislead enemy reconnaissance (as was successfully carried out before El Alamein), or even such tricks as the issue of tropical equipment to troops embarking for the North Cape.

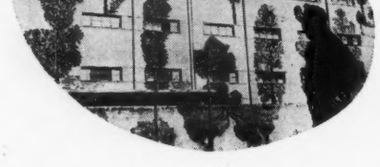
These are the methods, but in order to make proper use of them the *camoufleur* must know his grammar—the elementary principles of light and colour. Briefly they are these.

Light is visible energy and has three properties — wave-length (appreciated as colour), intensity (expressed as candlepower) and direction (extent of diffusion). Direct light is reflected back from all objects in straight lines, tone being the quantity, and colour being the quality of light so reflected. Each colour has a different wavelength which determines the amount of light reflected. Red, orange and yellow are "long-wave," green, blue and violet are "short-wave," white is a combination of wavelengths, a diffusion of all the spectrum colours. The human eye is most sensitive to medium-wave lengths (i.e. greenish-yellow), and red and violet are the first colours which fail to "register" at a distance.

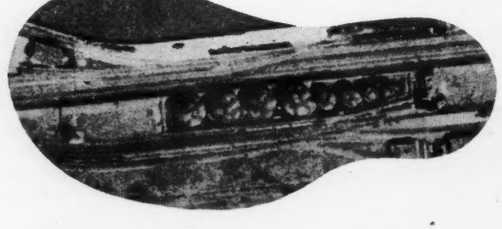
In general, tone values decrease as colours darken, but under certain conditions of light, colour and tone values conflict. A smooth horizontal surface, for instance, such as a road, a parade ground or a flat roof, when viewed "up-sun" gives maximum light reflection, and therefore looks white, whatever colour it is painted. This "shine" is the biggest worry of

* The climax of inanity perhaps was reached in a provincial town where magnified trees, stylized in the Aubrey Hammond manner, were painted in elevation upon the lofty sides of some concrete cooling-towers. If any bomb aimed at this target failed to find its mark, it must only have been because the pilot's aim was distorted by immoderate laughter.

INFANTILE. *These earliest stages of camouflage strike one as almost too childish now to be taken seriously. Who from air or level ground could be deceived by such inane pictures of trees and hedgerows?*



ADOLESCENT. *This is a more reasonable way to camouflage oil tanks. The marbled effect would perhaps do its job moderately well, if it were attempted in the open country. Here, where the roundness of the tanks is in contrast to the long lines of the railway sidings, this sort of deception is useless. Siting is often more important than camouflage.*



MATURE (COUNTRY). *An airfield in France camouflaged well by the painting of sham fields across—a continuation of the natural pattern visible on the left. The German camoufleurs have even painted in three dummy roads. Yet the runway could not be concealed and made the attack a year ago possible.*

the *camoufleur*, and he can only eliminate it by destroying the smoothness of the surface, i.e. by applying texture.

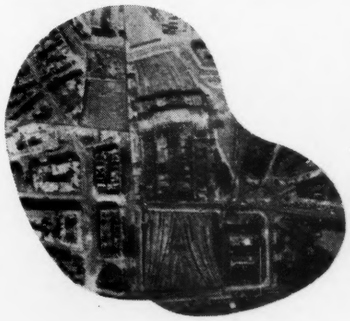
In this way the light is dispersed in all directions and at all angles, and only a small proportion is reflected back to the observer's eye. The tone of a textured surface, helped by its contained shadow, is therefore mainly dark from all angles of observation.†

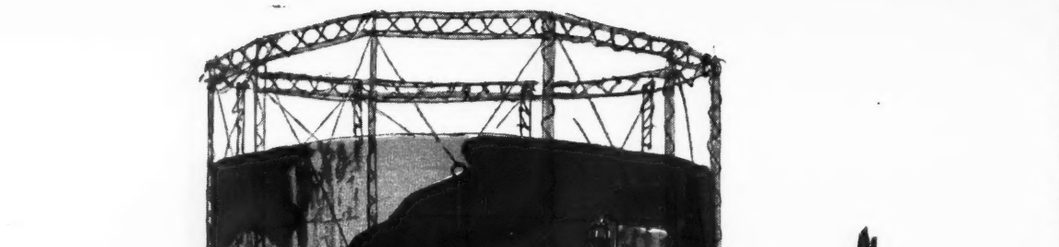
Form is revealed to the eye by cast shadows and by the tone values of the planes constructing that form. The contrasts of these tone values cannot be destroyed but they can be reduced, first, by texturing the horizontal (or maximum-light-reflecting) surfaces, and, second, by painting the planes receiving full light, dark and those receiving no light, light. The conspicuousness of cast shadows can be reduced either by darkening down the areas surrounding the surface upon which they fall, or by erecting lean-to screens.

Tone and texture, it will be seen, are far more important in camouflage than colour, and by night, when the landscape is seen in monochrome, colour has no value at all. By day, however, it still has a modestly important part to play. The range of shades in use is restricted to black, dark greens, earth-browns, dark greys and a few supplementary colours for the imitation of brick and slate, etc., and when using this palette the *camoufleur* must remember that different colours of the same tone value are only discernible as being different within a certain range. It has been established, for instance,

† The natural camouflage of animals, insects, etc., is greatly assisted by the texturing provided by Nature on the light-reflecting surfaces of their bodies—cf. the shagginess of fur and feathers, the powder on moths and insects, the roughness of a toad's back.

MATURE (TOWN). *Hamburg is the most famous example in Germany of bold camouflage in a densely built-over area. A, B and C are the most important items. The signature motif of Hamburg is the shape of Binnenalster and Aussenalster, separated by the Lombard Bridge with its heavy traffic. The Binnenalster, A, which is close to the city centre, has been completely filled up by rafts and a sham Lombard Bridge constructed about 600 yards higher up. Yet the railway lines, especially near C, give away the real lie of the land. The large station, B, has been painted into the appearance of a block of small houses—how ably is shown in the detail photo below.*





CAMOUFLAGE PATTERNS. *Can there be any rational explanation of the striking similarity of camouflage patterns to this "painting-poem" by Juan Miro, exhibited at the Museum of Modern Art in New York in* 1941, *and illustrated in the volume commemorating the exhibition? Is it possible to assume that artists of another age would have devised other camouflage shapes and believed in them?*

that 18 in. squares of alternate white and black only become separately identifiable to the eye at a distance of about one mile. Therefore at bomb-aiming range—say five miles—a shape of one colour would have to be at least 20 ft. across to read as different from its surroundings, and by moonlight the contrasting areas would have to be four or five times larger still if they are to be of any use.

Unless, therefore, the designer is dealing with small isolated objects against a broken background, or is concealing against close-range attack, small-scale and elaborate patterns (however pleasingly arranged) and a wide range of different but similarly toned colours (however sensitively contrasted) have more æsthetic than practical value.

These visual qualities which are so admired by the casual ground observer, can even be a danger. In fact it would be only a slight exaggeration to say that the more intense the æsthetic effect, the less successful is likely to be the camouflage. If the shapes are exquisitely formed, then almost certainly the designer has been obsessed with pattern-making. If the colours are contrasted with unusually imaginative daring, then in all prosaic probability some of them have faded.‡

But, of course, technically bad camouflage can be very pleasant to look at, just as it is possible to admire upon a hoarding the fortuitous "collage" of torn and overlapping posters without being disturbed by the fact that the weather, which has reduced them to such enchanting and faded disarray, has also rendered them illegible and therefore useless. The efficiency of a design as camouflage is the concern not of the amateur observer but of the technician. He, of course, must at all costs avoid being diverted into the dangerous delights of picture-making. Flying experience is the only cure for this complaint from which, in the experimental days of camouflage, the majority of designers, and particularly those who had been trained as painters, not unnaturally suffered. In those early days *camouflieurs* would spend hours in refining the outline of their patterns, making the line look more tense (or resolved) and the shapes more relaxed (or exhilarating). Certain designers at that time even developed so personal a pattern style that those who were familiar with it could recognize at moderate range a camouflaged object as being the work of A or B. This may have been æsthetically amusing but it was probably poor camouflage.

But faults such as these disappeared with experience. To-day, after four years of full-scale experiment under active service conditions, our camouflage designers have almost perfected the technique of their art-science. The effects they seek are broader, the methods they use less elaborate. The already limited range of colours has been still further restricted, and over-ingenuity (which often means heavy maintenance costs) is discouraged. Unfortunately for the casual observer the price paid for such improvement in technical efficiency is the sacrifice of that exuberance and fantasy which for so many people constitutes the thrill of camouflage.

This visual thrill is apparent to any æsthetically experienced eye, but for the architect it is particularly sharp, for in camouflage he can perceive so piquant a combination of strangeness and familiarity.

Architects are men trained in precision and in the sensitive expression of structure. Between the wars these qualities had crystallized into a sort of puritanism. Ornament disappeared, form was meticulously, almost anatomically expressed, materials were left unassisted to explain themselves. Buildings, crisp, gleaming, shapely, were designed and placed to contrast rather than merge with their surroundings. War, with its shortages, utility products and general austerity aggravated this rigorous approach. Yet here, in the midst of war, is two-dimensional ornament of the most sensational and boisterous kind, applied not to emphasize structure, but to destroy it. Solid is suggested where there is void, recession hinted at where there is projection. Beneath the rhythm of pattern, form seems to melt away. Here is strangeness indeed.

As unexpected as the patterns are the colours of camouflage. In the thirties architects had grown accustomed to a nervous rather costive palette—shades of white, air-blue and cloud grey, the pallor of blond woods, the greyness of stone, and the dull glint of metal. From these the dark earthy colours of camouflage are as excitingly different as the sombre turbulence of El Greco

‡ In these days of substitute materials, camouflage colours, which are already over-pigmented to prevent "shine," pass through the strangest metamorphoses as they weather. Olive green may advance to sulphur yellow or retreat to a sullen Atlantic grey. Brown will adopt as many hues as the earth with which it is supposed to tone—from creamy pink to Piper-purple. Even black plays unexpected tricks.

from the pale purity of Giotto. Strangeness again.

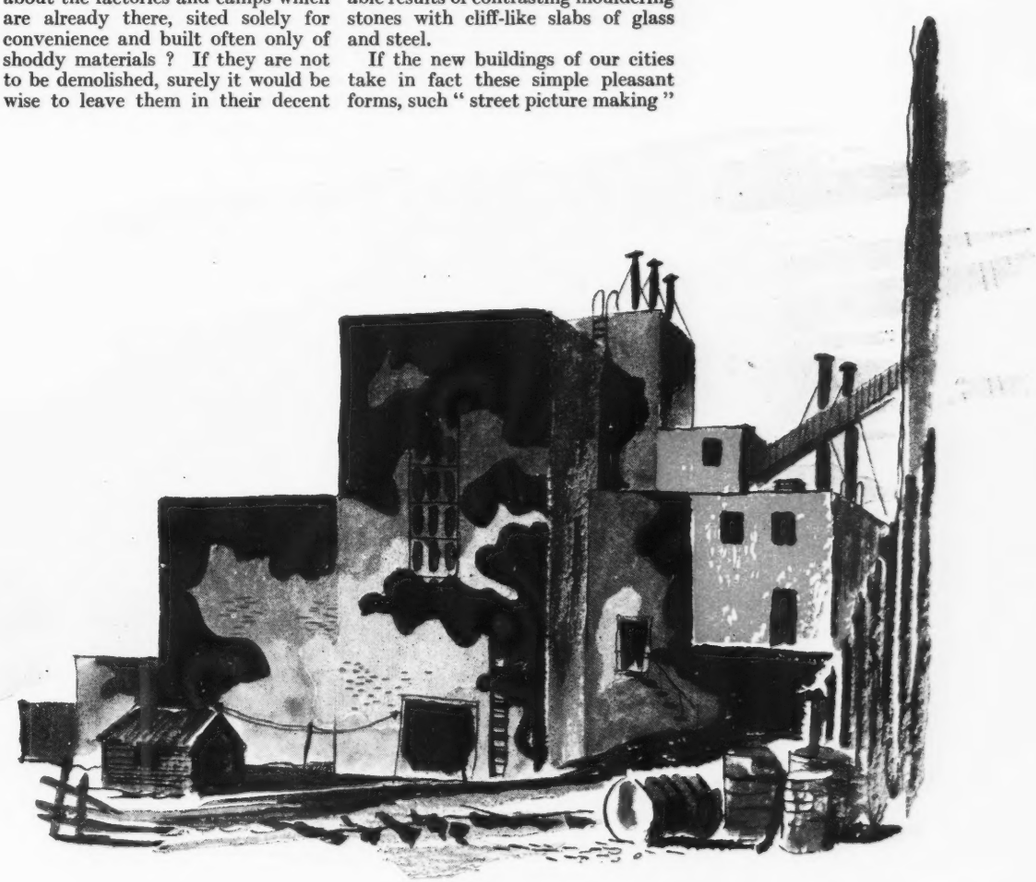
Yet no art form is entirely new, and through the full-throated and sometimes chaotic chorus of camouflage run several faint but familiar melodies which can be distinguished by the trained ear. The art historian perhaps will recall the quick-flowing line and dark colours of the English tenth century illuminators, or the complicated linear abstractions of early Celtic design. The landscape gardener may be reminded of Price, and Sir William Temple's "Sharawaggi," the painter, perhaps, of the great Venetians or, more closely, of men like Klee and Léger. For the architect a comparison with the playful scenic quality of eighteenth century rococo is irresistible. So many of the characteristics are the same—the use of optical illusion, the creation of fictitious movement in the structure, the carefully considered effects of light, the use of restless abstract ornament, the dynamic expression of the belief that the part has only value where it is considered as portion of the whole. The individual patterns too, which when combined create the whole composition, do not appear wholly unfamiliar to an eye which has grown accustomed to the abstract painting of the last thirty years.

Such comparisons, of course, do not raise camouflage to the status of a major art—for that would be absurd—but they are genuine enough to prove that it is not hopelessly ill-bred. Camouflage may be of bastard birth, but with Pöppelmann and Miro, Balthasar Neumann and Juan Gris among its ancestry it can claim at least to come of lively stock.

The pity is that it will probably remain a perpetual adolescent, destined never to reach maturity. Like the barrage balloon, camouflage is a certain war casualty. Few industrialists, it can safely be presumed, prefer their factories dressed in multi-coloured modesty vests, and certainly no government department is likely to spend money on the maintenance of protective colouring. When peace comes the aerodromes and camps, the ordnance factories and dumps, will emerge from their battledress into "civvies" as eagerly as demobilized soldiers, to strut once more across the countryside in the strident pinks and livid greys of brick and asbestos. If the recommendations of the Scott Report are implemented, such new industries as are permitted to be set up in rural districts will be carefully and inconspicuously sited. If they are also simply designed, well built of sound materials and not too untidy in their habits, they should be no intrusion upon the country scene. But what about the factories and camps which are already there, sited solely for convenience and built often only of shoddy materials ? If they are not to be demolished, surely it would be wise to leave them in their decent wartime obscurity ? Here is a peace-time job for camouflage, in the cause this time not of security but of amenity.

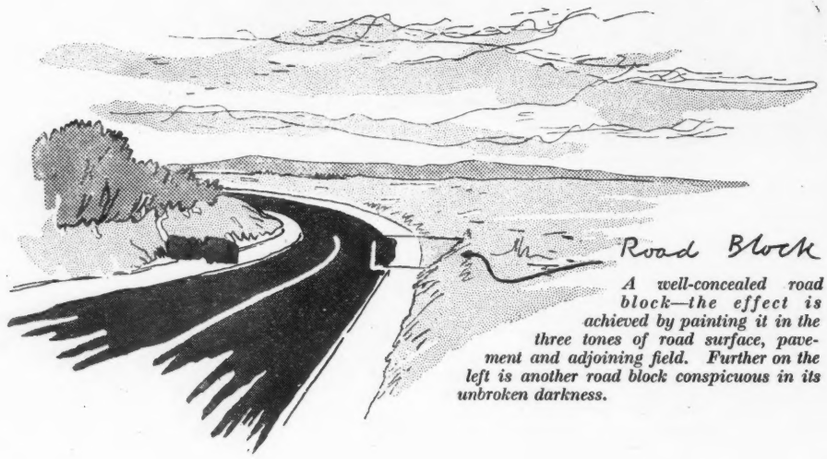
Nor need the urban scene be forgotten. Some months ago, a plea was put forward in THE ARCHITECTURAL REVIEW for the revival in our cities of the "Picturesque" tradition, in order "to reconcile in the urban scene—by contrast, concealment, surprise and balance—the surface antagonisms of shape which a vital democracy is liable to go on pushing up in its architecture." This admirable proposal was supported by enchanting little drawings (as cunningly persuasive as architects are traditionally supposed to make them) showing the visually pleasurable results of contrasting mouldering stones with cliff-like slabs of glass and steel.

If the new buildings of our cities take in fact these simple pleasant forms, such "street picture making"



will have the most exciting possibilities. But every neighbourhood is certain to have its quota of nondescripts, buildings either not individual enough to stand by themselves, or not disciplined enough to form an unobtrusive background. Here again camouflage perhaps can help—not in its narrow war-time idiom—but in the broadest sense, as the scientific use of texture, tone and colour, to complement instead of to disguise form. The handling of colour in this way to create accents or to emphasize different materials, planes or changes of direction, has been greatly developed recently in interior decoration. Its possibilities in the street have never—at least in this country—been explored. Used with imagination, control and the knowledge gained from war-time experience, it could surely be of the greatest and most stimulating assistance to those who will be faced with the task of bringing coherence and vitality into the post-war street scene.

Such suggestions may sound fanciful or flippant. They are not intended to be so. Camouflage has in the last few years performed with grace and gaiety a useful war service. In skilled hands and with less restricted aims, its post-war contribution could be equally entertaining and no less valuable.



A well-concealed road block—the effect is achieved by painting it in the three tones of road surface, pavement and adjoining field. Further on the left is another road block conspicuous in its unbroken darkness.

Julian Trevelyan: the technique of camouflage

Preamble

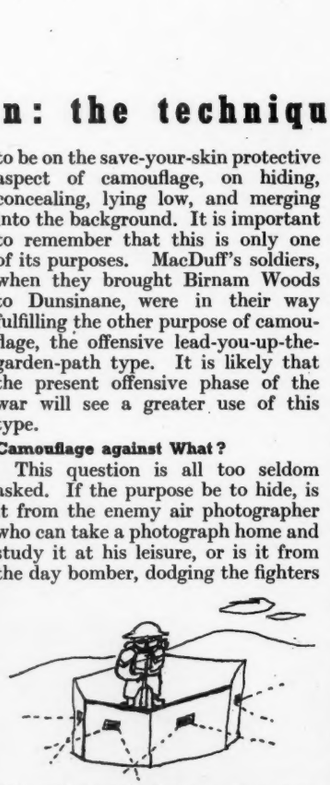
THE word Camouflage has come to-day to mean something different to almost every member of the community. To the soldier it is the ubiquitous net with a few pieces of scrim tied into the corner which he is supposed to throw over his truck when parking; to the architect it is the lozenges of green and brown paint that obliterate the features and symmetry of his buildings. To the ordinary citizen it is something between a sort of magic cloak of invisibility and a bad joke in *Punch*.

It is time that some of these misconceptions were removed. Unfortunately, hitherto the subject has not unnaturally been veiled in secrecy, and those who are most concerned with it have, through their very proper reticence, been raised in the public mind to the ranks of high priests in an occult art. In fact they are nothing of the sort. They have learnt much through trial and error and are continually learning. It is now possible to see the whole subject in a far clearer perspective, and it is hoped that the following notes may help to indicate a more balanced view.

Camouflage is visual warfare. Its purpose can either be defensive (protective, saving-your-skin), or it can be offensive in character, and designed to lead the enemy up the garden path and defeat him by surprises. This is not always realized. The emphasis in the past has tended to be on the save-your-skin protective aspect of camouflage, on hiding, concealing, lying low, and merging into the background. It is important to remember that this is only one of its purposes. MacDuff's soldiers, when they brought Birnam Woods to Dunsinane, were in their way fulfilling the other purpose of camouflage, the offensive lead-you-up-the-garden-path type. It is likely that the present offensive phase of the war will see a greater use of this type.

Camouflage against What?

This question is all too seldom asked. If the purpose be to hide, is it from the enemy air photographer who can take a photograph home and study it at his leisure, or is it from the day bomber, dodging the fighters



and anti-aircraft shells? Is it from the night bomber peering for landmarks, or is it from the enemy on the ground, advancing maybe in a tank? If the aim is to deceive and confuse the enemy with a false display of strength, how is he to see it, and what exactly is he expected to think?

In each case the camouflage will be different. Against the air photographer, for instance, it must be very perfect, whereas a mere toning down of prominent features may be enough to confuse the day bomber. Yet again the night bomber can often best be countered by an alteration of those landmarks, such as lakes and woods, that serve to pinpoint the target. Failure to consider these questions has led to the expenditure, especially during the earlier phases of the war, of much precious time, labour and materials on camouflage projects that the situation hardly called for. Now, for instance, with fighter protection in this country so adequate, the maintenance of elaborate camouflage against the day bomber on inland industrial targets is largely unnecessary and has been heavily curtailed.

The Air View

It is no idle predilection for joy rides that lures the *camoufleur* into the air. Failure to appreciate the peculiar characteristics of the airman's view of the world below him under all conditions makes camouflage absolutely impossible. In fact in all the services much of the Camouflage Officer's time is spent in explaining to all ranks the peculiarities of air view in the hope that once this has been understood the rest will follow.

Air photographs to-day have reached a high stage of perfection. The type most generally used, the vertical, gives an accurate map-like picture on which even the minutest

disturbances of the ground can be examined closely. The interpretation of these photographs is a skilled job, but with the help of the stereoscope and infra-red comparative photo-

graphs, the relief, form, texture and nature of most features can be accurately determined.

Even a quick glance at a vertical photograph reveals the characteristic pattern of the country. It is as if each landscape were a repeating wallpaper of which the particular air photograph was merely a sample. The diversity and richness of these patterns is a constant pleasure. One passes from the quilted pattern of the English fields, hedges and copses to the more rigid chessboard of the hedgeless plains of northern France and Germany—from the terraced vineyards of Italy to the fierce dragons of blown sand and mud along the coasts of North Africa—from the tangled curves of the Indian jungle to the neat tesselated paddy fields of Burma. Each is an abstract pattern with a dynamic of its own. Yet to the *camoufleur* the appreciation of these designs is a more practical issue; for if he is effectively to hide anything from a slit trench to an aircraft factory, he must learn not to disturb, or at least to re-create, the basic pattern of the country.

Good Siting is Good Camouflage

Here is perhaps the first and unfortunately often the most neglected principle of camouflage—siting to conform to the pattern of the country. To take the familiar examples of the wallpaper or the patterned carpet, the stain on the wallpaper or the cigarette end dropped casually on the floor would probably escape notice if the pattern is sufficiently strong, but on the bare floor or the plain distempered wall they leap to the eye. So, too, does the hutted camp sprawling across the open fields, or the anti-aircraft gun site with its white concrete service roads striking like spears across the intricate pattern of hedges and copses. Such eyesores cannot be erased by any magic of the *camoufleur*, and it is now somewhat tardily realized that the place of camouflage is rather with the planners before the pattern has been defiled, than after this stage, when little or nothing can be done about it.

Sometimes, particularly in the siting of camps and factories, the interests of good camouflage and administrative convenience are, as might be imagined, diametrically opposed as, for example, where good camouflage may involve dispersal along damp woods and valleys. Then it is a question of considering carefully which should have priority and deciding accordingly.

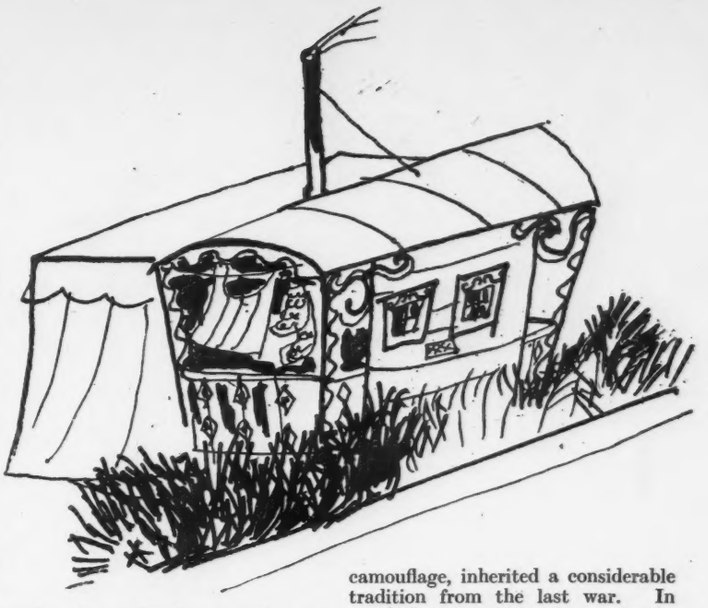
Tracks and Spoil

Another aspect of air view that is invariably overlooked by those unfortunate mortals who are confined to the surface of the earth, is the singular conspicuousness of tracks and the spoil thrown up by excavations and constructional works. This has to be seen to be believed. The whole story of man's activities lies spread out for all to read in the tracks he makes; even the passage of one man across a field of grass can be seen on the vertical air photograph.

The reason is not hard to find. Briefly, the ground in temperate regions is covered with a varying texture of grass and vegetation that holds considerable contained shadow. Viewed from the ground this is not particularly apparent, but from the

air it is very considerable. By walking over or driving over the grass, the blades are pressed down and the texture destroyed. Thus tracks that are hardly visible from the ground appear as shining gashes from the air; moreover once destroyed the texture takes a long time, often many years, to replace. (The tracks along which the stones of Stonehenge were dragged are still visible on air photographs.) Hence in modern warfare track control plays a very important part in the life of the Camouflage Officer. Soldiers are instructed not to stray aimlessly across fields, and for every activity a track plan is, or should be, devised.

In civil life the contractor is generally the *camoufleur's* worst headache. Around any project acres of shining subsoil are thrown up and in a short space of time a spider's web of tracks radiates out in all directions. Indeed such an installation as a modern aerodrome is hardly possible to camouflage at all, since



works of one kind or another are almost continually in progress with their attendant scars. Artificial materials to re-create the texture, such as steel wool, are sometimes used to cover up the mess, but they are expensive and not always effective; re-seeding is possible as a long-term policy only.

The only comfort that can be derived from this dilemma is that the enemy has apparently equal difficulty in concealing his works.

The Give-aways

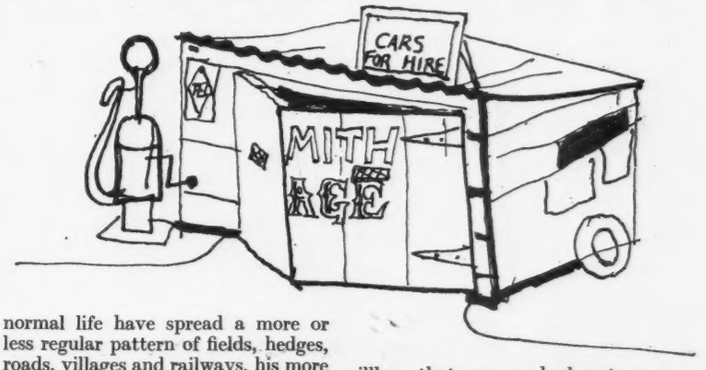
All man's activities seem in some degree to defile the existing pattern on the earth's crust. Trampling, scratching, digging, terracing, draining, hedging, building, all leave their mark. The difference is that while the activities of his normal life have spread a more or less regular pattern of fields, hedges, roads, villages and railways, his more extraordinary activities especially in time of war, are those that are often the most conspicuous. The shine on large areas of roof, the excessive regularity of the typical depot or camp layout seen against the irregular background of the countryside, the plumes of smoke that rise from so many industrial activities, these are some of the "give-aways" to which the *camoufleur* must find an answer.

Camouflage Grows Up

The history of camouflage in the present war is one of steady growth. For some time now a Central Committee of Camouflage and a Technical Sub-committee has been in existence with representatives of the three services, the Ministry of Home Security, and various specialists, so that all new knowledge and techniques have been largely pooled. The Army, one of the principal users of camouflage, inherited a considerable tradition from the last war. In particular the overhead cover in the form of the scrimmed net supported on posts concealing artillery positions was well advanced. So also was a technique developed in the more or less static phases of trench warfare, for building elaborate false works out of plaster, such as dead trees for snipers to hide in.

The Pillbox Age

After Dunkirk when an invasion of this country was expected each weekend, the demand for the more protective forms of camouflage was, as might be expected, both urgent and insistent. Many artists, architects and art-directors were rushed into uniform and set to work to hide the new defences of the country almost as they were built. In particular the ubiquitous hexagonal



pillbox that appeared almost overnight in so many unexpected places made tremendous demands on the Camouflage Officer's skill. Here the problem was to conceal or disguise the pillbox from the enemy on the ground till he came well within range; moreover no obstructions to view or arcs of fire were permitted.

Those hectic days are now thought of as "The Pillbox Age," a golden age in which almost unlimited money and labour were forthcoming for the execution of the wildest fancies. Some early pioneers of pillbox camouflage conceived the idea of disguising the little hideosities along the esplanade as tea kiosks "closed for the season." The idea caught on and, in a short while, the coasts were lined not only with tea kiosks, but bus stops, petrol stations, fair booths and public lavatories, all mysteriously shut up for the dura-

tion. Inland, too, the idea caught on, and everyone has probably by now seen some haystack, road-menders' hut, signal-box, or wood-pile that, on closer inspection, turns out to be nothing more than a disguised strong-point. In some areas real master-pieces were created with an almost eighteenth century flavour of the *trompe d'œil*, Strawberry-gothick lodge gates, ivy-clad ruins, gypsy caravans and thatched toll-houses. Indeed two schools of thought came rapidly into conflict, those who favoured the use of real materials for construction, such as tile, brick, stone and timber, and those who relied on plaster-cast sheets of these same materials to achieve their effects. Of the former school the architects and artists were the principal champions, while of the latter the art-directors. On the whole it can now be said that time has been kinder to the users of real materials, though even these need constant maintenance; credulous cows, for instance, are apt to tear the straw off sham haystacks, leaving the empty frame of wire netting gaping below.

Several useful tips were elaborated for simulating the effects of wind and weather on too suspiciously new looking materials. Cow dung in particular was found to be invaluable; washed on pure to newly creosoted timber it produced a patina equivalent to years of exposure, and when mixed with sand and lime, a useful form of moss-gathering plaster resulted that could be applied to sheets of hessian. Local building techniques were often used, and thus, for instance in Devonshire, there are many pillboxes camouflaged with that famous local mixture of straw and clay known as "cob."

In the last analysis the purely "clever" pillbox disguise is now recognized as having overshot the mark. Many more pedestrian pill-boxes that were merged into the hedges and banks, with the help of a little brushwood and turf, probably fulfil their purpose better. The lonely toll-house may be amusing, but to the advancing enemy, despite the excellence of the disguise, it is still a target.

The Next Phase

Disguise and make-believe were not confined to this country. The idea spread or was carried overseas by earnest evangelists, and in the Middle East, long after the pillbox age was over in England, camps of Nissen huts sheltering under an irregular framework of wattle and mud, seemed from both air and ground to be nothing more than tumbledown Arab villages.

But when it became clear that this country was not to be invaded, the age of fun and games was at an end. Contracts were cancelled, economy was the rule, and Camouflage Officers either walked dejectedly round in search of further jobs or sat down to a little solid thinking in order to prepare for the next phase of the war.

Reports from the war in the desert were coming in. There, on the flat featureless background, concealment from the air was almost an impossibility. Vast armies of men and machines with their attendant litter, tracks, dust and shadows could not be hid; protection from air attack through dispersal became the rule, and apart from certain elementary measures of concealment, camouflage concentrated its attention on its other and more offensive purpose, sometimes known as deception.

Wavell had achieved striking successes against the Italians by disguising his tanks as lorries, and thus was able to strike in full force with his armour when least expected. The idea caught on, and during all the desert campaigns it became popular to disguise trucks as tanks, and both tanks and guns as trucks. Also there were numerous concentrations of dummy tanks and guns made out of sticks, canvas and the numerous odds and ends that are to be found on any battlefield. The effect of all this was that though the enemy might see, and in fact was tacitly invited to see, these displays of force, he could form no accurate picture of what was afoot. The climax to these activities that preceded the battle of El Alamein, when an entire armoured division moved up into the front line, leaving a dummy replica of itself in its previous location, is now well known.

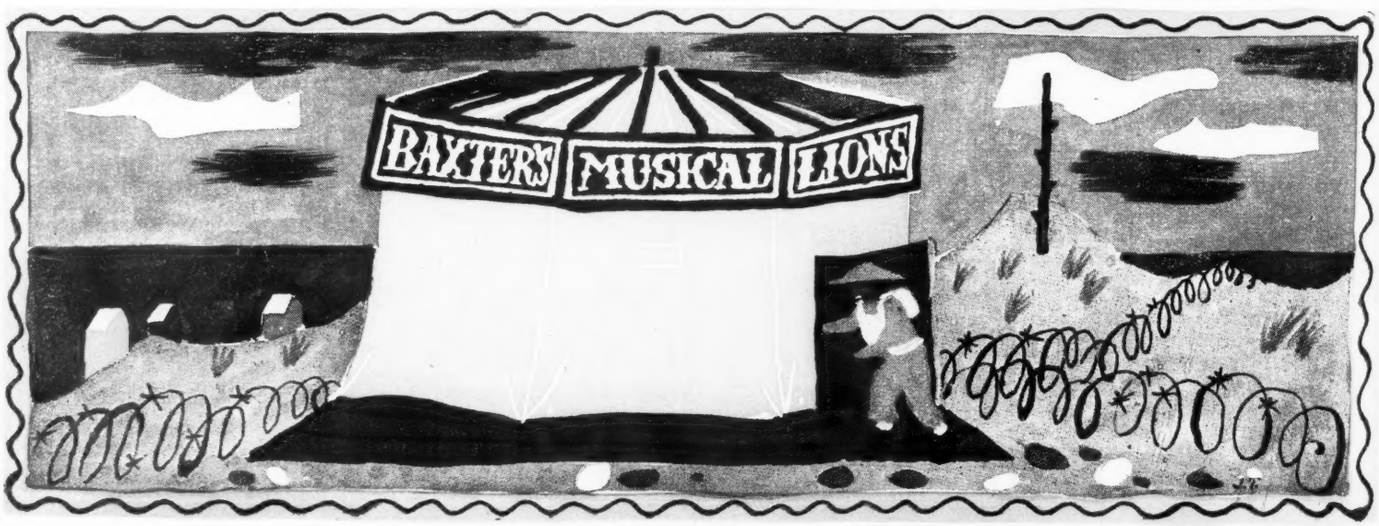
Such hoaxes, for they are nothing more, have now become an accepted part of camouflage. Indeed these sinister games of bluff are now commonly played by all ranks in the army, as they were once before during the latter stages of the last war.

The properties for these activities would form a strange and macabre museum. Dummy aeroplanes, tanks, trucks, and trains; dummy hedges on wheels to break up the open expanses of aerodromes, dummy cows (the top half) for the same purpose, and dummy men to give all these signs of life.

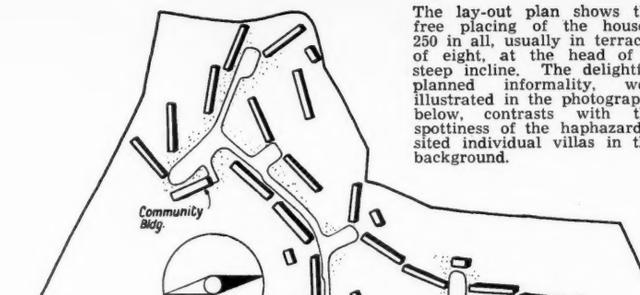
Conclusion

Camouflage as it is practised to-day is at once an art, a craft and a science. It was once an instinct. But that instinct has been largely lost by civilized man. It is now widely recognized that animals depend largely for their survival on their various and subtle forms of protective colouration. Concealment, disguise, displays of false strength and certain instinctive patterns of behaviour to emphasize these, all play their part in equipping creatures for the undeclared state of war that exists in the animal kingdom. It is only when animals become the slaves of man that, with their new and unnatural life, the need for protective colouration ceases. Thus the red and white spotted cow is a sort of aimless caricature of what was once a far subtler form of pigmentation. Primitive man, savages, Red Indians and even children, all share the same instincts for hiding, sleuthing and a sort of unconscious capacity for becoming part of their background. Even the old tramp in his rags and squashed felt hat seems more at one with nature than the stockbroker.

To-day, under the stresses of war, we have had to re-acquire this lost instinct. To those who are most practised in the art of seeing, to artists, architects and photographers, camouflage presents no great difficulty; they are used to such problems as the reduction of colour to tone and of tone to texture. But to the ordinary townsman, using his eyes only to catch the right bus and creep home in the blackout, camouflage does not come easily. Even the pilot is generally more concerned with the clocks in front of him and the possible Messerschmitt behind, than with the features of the ground below him, and he often has to be visually educated for his tasks. In the last instance the whole subject is bound up with that faculty for visual awareness that it is now recognized our society has lost to such a dangerous degree.



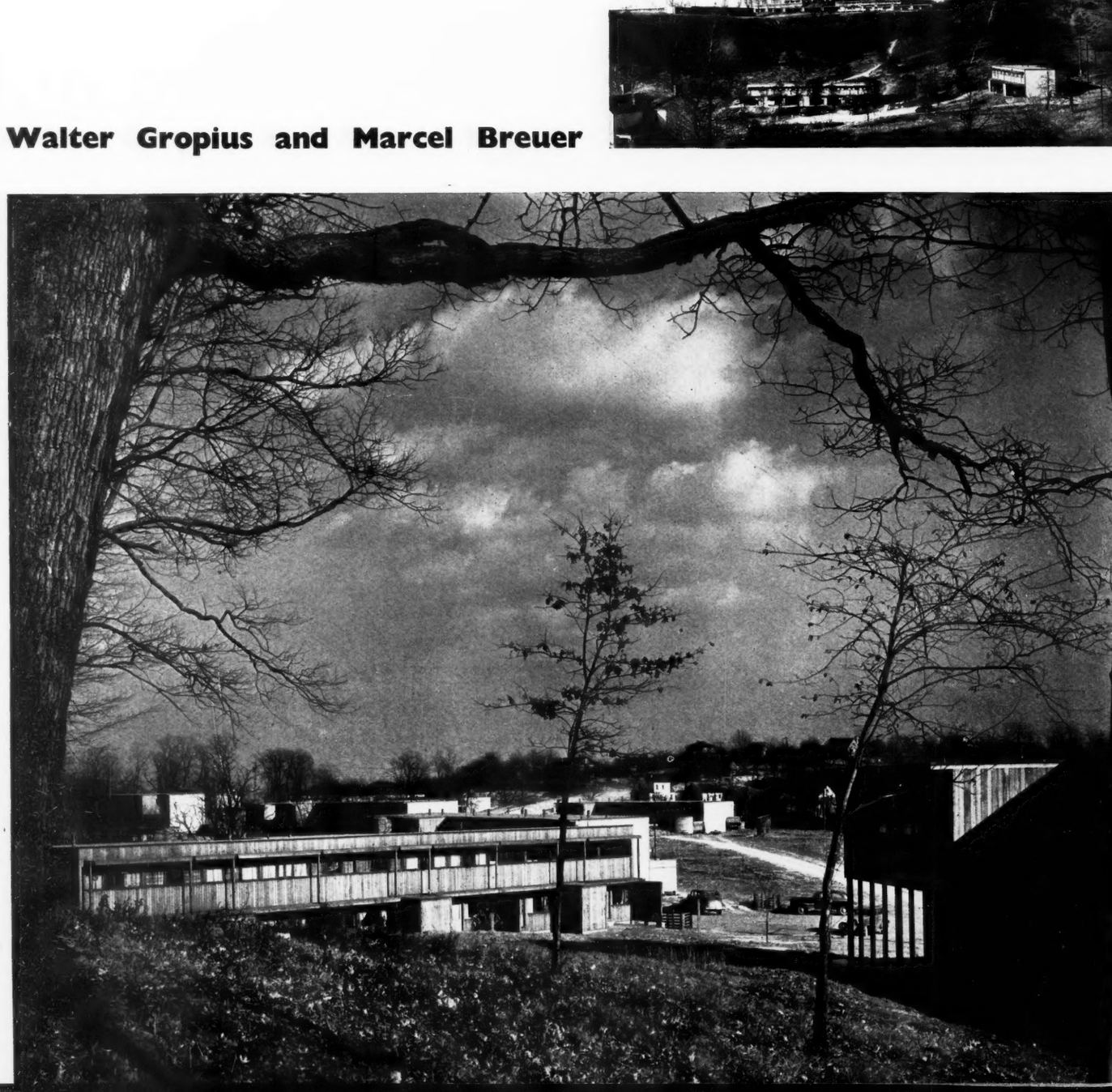
WARTIME HOUSING ESTATE IN PENNSYLVANIA



The lay-out plan shows the free placing of the houses, 250 in all, usually in terraces of eight, at the head of a steep incline. The delightful planned informality, well illustrated in the photographs below, contrasts with the spottiness of the haphazardly sited individual villas in the background.

2

Walter Gropius and Marcel Breuer



3

ENERAL—Aluminum City at New Kensington, ear Pittsburgh, Pennsylvania, was built in 942 under the U.S. Government Defense lousing Scheme. It is managed by the West lorland County Housing Authority, Queens-urg, Pennsylvania. The estate consists of two undred and fifty houses and a community entre. Sixty houses have three bedrooms, one undred and fifty two bedrooms and forty one edroom. All one-bedroom houses are single orey. The community centre comprises assembly all, demonstration kitchen, arts and crafts oom and a playground for pre-school children. he average price was $3,280 per house, the least xpensive but one of fourteen projects built in he Pittsburgh area at the same time.

The estate is part of a vast emergency pro-ramme, and speed in erection was essential.

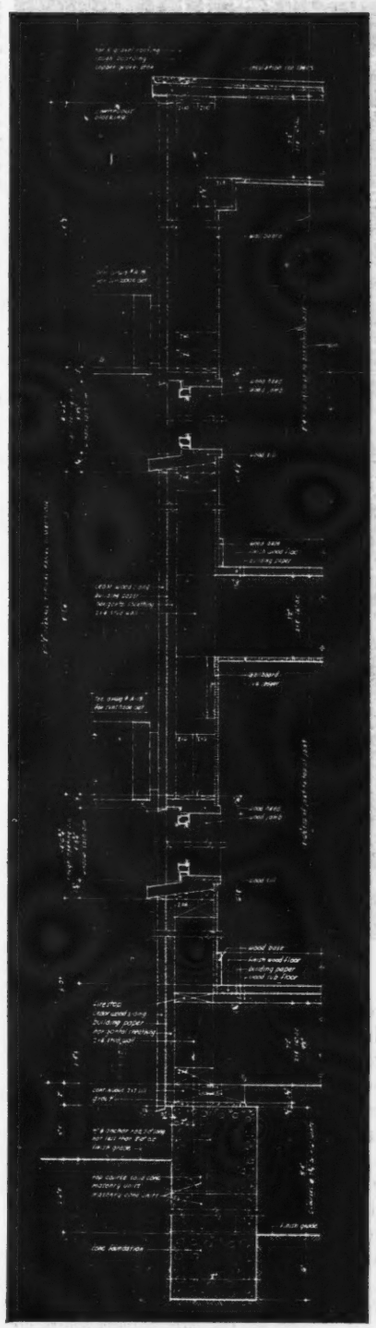
AYOUT—The informal placing of the houses, enerally in terraces, derives from orientation, iew and the changing contours of the land. The te is bowl-like, steeply sloping in parts, and he houses are grouped generally along the con-ours in the higher part. Orientation of the living eas is south. Single storey houses sited at the dge of the dip are supported on steel columns, here the inclines are so steep that the site could ot be used for normally constructed houses. he length of the supports varies with the changing ontours and site grading work is eliminated.

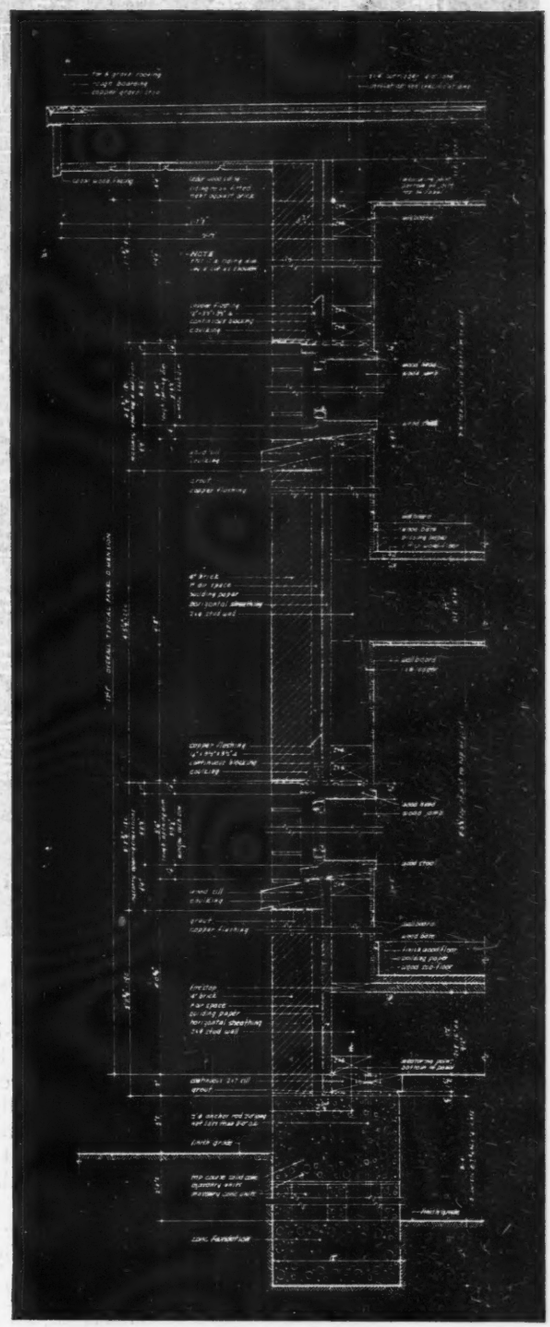
LANS—The two-bedroom houses have a living oom area of 170 ft. super and a combined dining-itchen area of approximately 100 ft. The bed-ooms are 115 ft. and 150 ft. respectively, including uilt-in wardrobe space.

The three-bedroom houses are identical, with he addition of an extra bedroom, projected out first floor level on the north side. This room as a superficial area of about 125 ft. and is onstructed wholly of timber and carried on ttended studs. Plans are reproduced on page 74.

One-bedroom houses are of two types, for rraces and pairs or " twin units." The terrace pe has a partitioned bedroom, but in the twin nits a curtain separates the bedroom from the ving space. The combined area of the living-ning-kitchen-bedroom space is about 400 ft. d the total floor area of the unit is 525 ft. he terrace houses have outdoor sitting porches the garden side, screened from neighbouring ouses and from the wind by projecting tool eds or horizontally boarded fences. The twin nits have covered sitting porches cantilevered om the end of the living room.

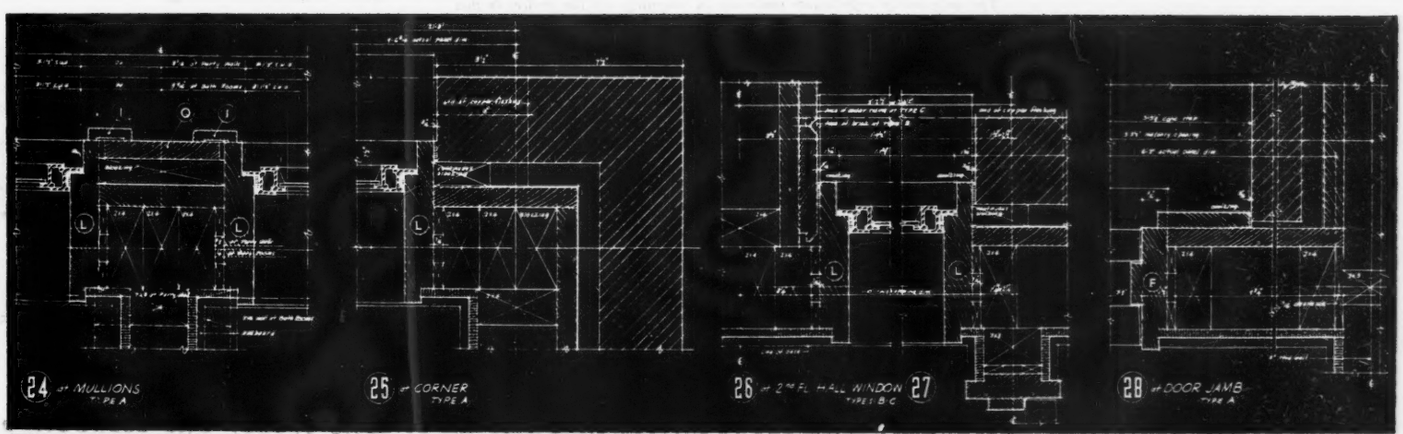
ONSTRUCTION—Orderly planning has been lated to a timber panel system of site fabrication which the members are spiked together on the or platform and then raised into position as



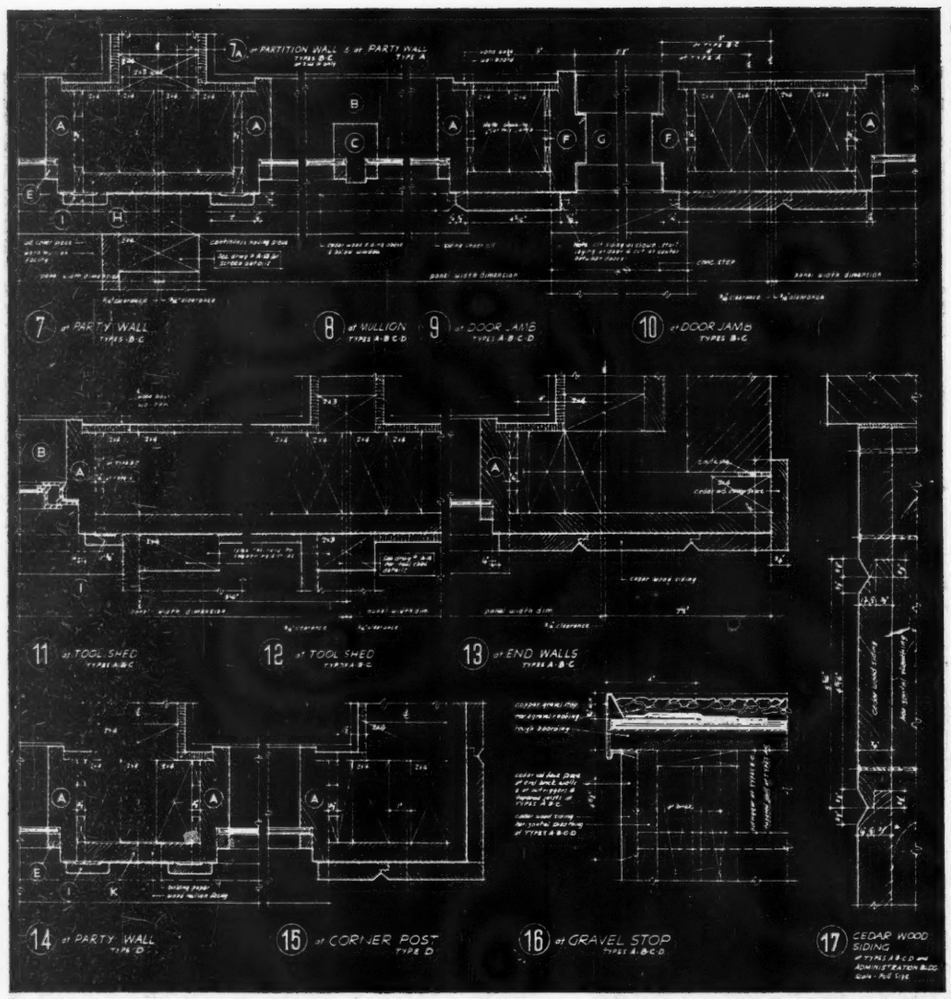


The diagrams above show: Left: A section through a typical stud frame, faced with cedar wood siding, used for south walls, which have wide openings. Right: Stud framing veneered with 4in. brickwork, typical of north and end walls in which the openings are narrow. Below are typical details used with brick veneered walls; overleaf the corresponding details used with stud frame walls.

LEFT: STUD FRAME WALL SECTION
RIGHT: BRICK VENEER WALL SECTION



BRICK VENEER DETAILS

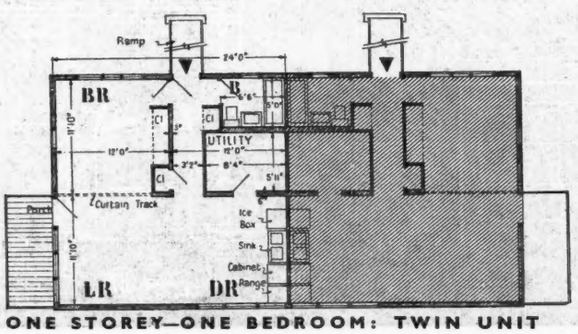


STUD FRAME DETAILS

large composite units. When the stud panels are fastened together the end studs are doubled to form four-inch posts.

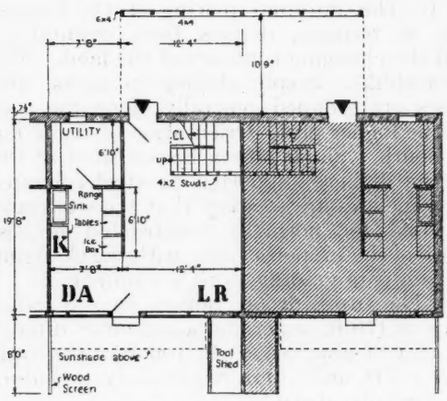
There are large glass areas on the south fronts of the terrace houses, and windows on both floors are practically continuous. The south walls are therefore constructed entirely from timber; and the 2 in. by 4 in. studding is faced with horizontal timber sheathing, building paper and cedar-wood siding, fixed vertically. The end and rear walls, in which the openings are narrow enough to be spanned easily, are veneered with 4 in. brickwork.

POSTSCRIPT—*Mr. Breuer wrote from a recent visit to the project as follows: Tenants—chiefly belonging to the working class—seem satisfied. Rents at $32, $34 and $38 for one, two and three bedroom houses are regarded as reasonable, considering that gas heating, gas cooking, electric light, refrigerator and hot water are included. Tenants appreciate layout and construction. They find heat insulation excellent. But they object to the natural wood on the exteriors which, they think, indicates that there was not enough money for brick. It is therefore suggested that the wood should be painted. The community building is to be enlarged, and a nursery to be built. At first an unoccupied house was used as a nursery. The only really unfortunate omission in carrying out the project is that only 25 per cent. of the money allotted for landscaping was used for the purpose. The scheme, although put up for war workers, is used chiefly for slum rehousing, that is permanent housing. The reason was that the aluminium works decided to enlarge their factories in the T.V.A. area rather than in Pennsylvania.*

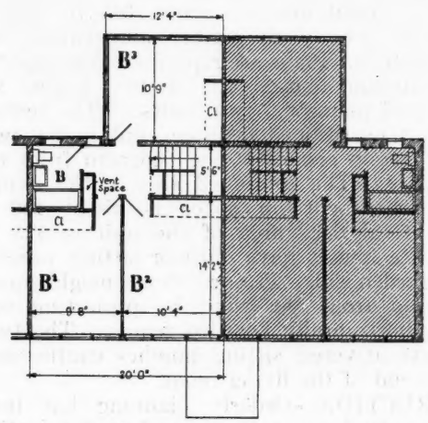


ONE STOREY—ONE BEDROOM: TWIN UNIT

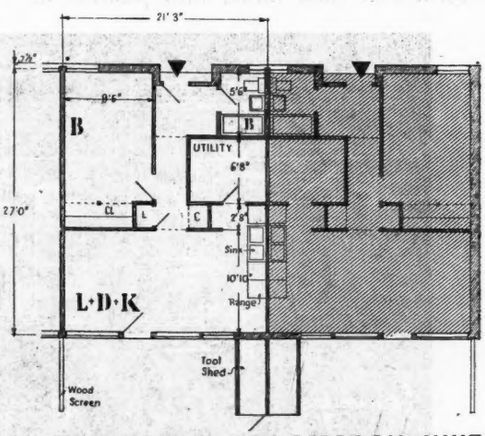
25 per cent. of the two hundred and fifty houses are three-bedroom, 60 per cent. are two-bedroom and 15 per cent. are one-bedroom. Two- and three-bedroom houses are on two floors. Plans of these houses are identical, excepting that where a third bedroom is required it is added, as a timber structure, projecting from the first floor on the north side, and is carried on extended studs, so that it provides a sheltered entrance at the hall door. Two- and three-bedroom houses are grouped in terraces of eight units. One-bedroom houses are single storey. Some are in pairs—twin units; and others are in terraces. The twin units are illustrated on pages 71 and 76. They are wholly timber construction, and are carried on steel columns with concrete bases. An interesting feature of the plans and one that is popular with the tenants, is the elimination of partitions between kitchen, dining and living room. In the two-storey units the staircase is screened from the living room by open studs. All the houses have a separate utility room.



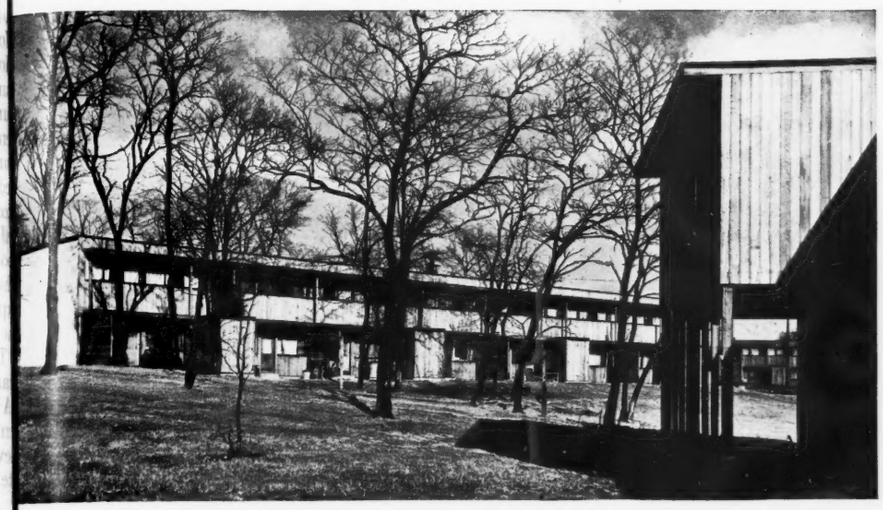
TWO STOREY—TWO OR THREE BEDROOM: GROUND FLOOR

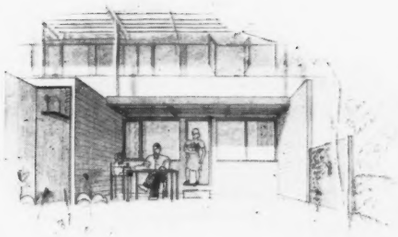


TWO STOREY—TWO OR THREE BEDROOM: FIRST FLOOR



ONE STOREY—ONE BEDROOM UNIT





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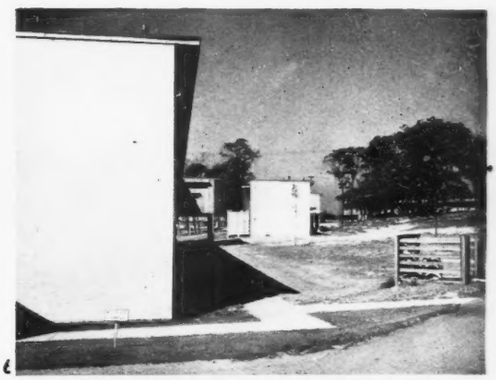

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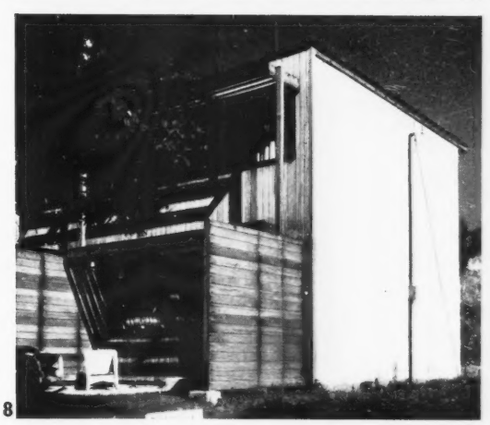
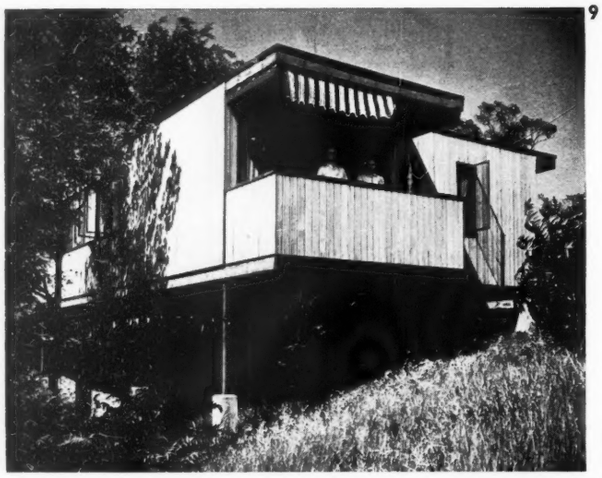


8

The two- and three-bedroom units face south, and have cedar faced timber panel units on this side. This system enables the wide window openings to be spanned without difficulty. The end and rear walls with narrow openings are framed in timber but are veneered with 4in. brickwork. The projecting third bedroom, on the north, is framed and faced with timber. The south front, **4**, has continuous windows on both floors, excepting where the tool sheds occur to form projecting divisions that give privacy to the terraces, **8**, and architect's drawing on top of this column. A terrace of eight houses has four two-bedroom and four three-bedroom units, arranged in alternate pairs, the doors with small hoods over the entrances to two-bedroom units, **5**, **6** and **7**. Entrances to the larger houses are sheltered by the projecting third bedroom. The rooms facing south are protected from summer sun by a series of vertical boards arranged as louvres above the openings. Whilst the summer sun is excluded, the winter sun can penetrate deep into the rooms.



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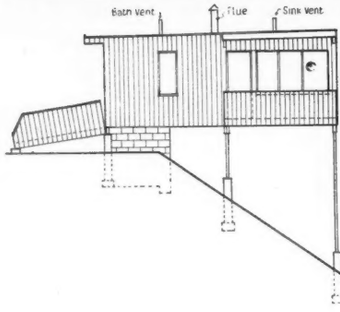


10

Twin units (plans on page 74) are single storey, one-bedroom houses in which there is no structural division between the living room, dining-kitchen and bedroom. A curtain track is fixed at ceiling level between bedroom and living room. A separate utility room is entered from the kitchen. The bathroom is approached from the entrance hall. Each house has a cantilevered covered sitting porch at the end of the living room. The units are carried on free standing steel columns, with concrete foundations. This arrangement enables steep inclines, normally unsuitable as building sites, to be used economically, and as the length of the supports varies with the irregularities of the slopes, site grading work is eliminated. Gang planks, similar to those on boats, are used as connections between entrance paths and doors. **9** and **10** are views of a typical twin unit. **11** is the community centre building containing meeting hall, demonstration kitchen and an arts and crafts room.

11

THE COUNTY OF LONDON PLAN

MR. FORSHAW and Professor Abercrombie's County of London Plan has now been out for about a year. It has met with a universal welcome and surprisingly little criticism from planners. It is still being considered by the many committees which have to be consulted. Meanwhile, however, it seems as though after the first harvest of press criticism—on the whole more descriptive than analytical—not much is being done in the way of close study. Yet the plan is so enormous in its consequences, and the report incorporates so much material of test value to any other of the town and country planning enterprises now in preparation or under consideration, that THE ARCHITECTURAL REVIEW felt more was needed than a straightforward account. The following ten pages, therefore, deal with the Forshaw-Abercrombie Plan in two ways. On the one hand experts have been called in who have not so far had a chance of expressing their views ; on the other hand, a detailed discussion is provided between the proposals of the plan and our own views.

Pages 77-82 contain comments on the plan by five of the most distinguished town planners from America : Jacob Crane, Director of Urban Studies in the National Housing Agency, Washington ; Frederick P. Clark, Director of the Regional Plan Association, New York ; Clarence S. Stein, the designer of Radburn ; Professor John M. Gaus, Professor of Political Science in the University of Wisconsin ; and Catherine Bauer, author of *Modern Housing*. They received copies of the book, were duly impressed with the lavish yet sensible manner of publication, and wrote what they felt about the attitude and the proposals of the plan.

Then, on pages 83-86 an analysis of our own follows in which, under the most important headings, the Forshaw-Abercrombie proposals are summarised and commented upon by THE ARCHITECTURAL REVIEW. The attitude is, it will be seen, on the whole very positive. The recent publication of the City Plan has brought out clearly what a high standard of planning, ethics and technique the L.C.C. Plan represents. In spite of that certain points of principle and detail will need clarification and revision. It is these that are chiefly singled out.

However, the approval and general optimism of these articles is not the end of the story. A postscript had to be added in quite a different mood. The plan obviously can only be carried out in its original or any form not revised out of recognition, if legislation supports it, legislation, for instance, on compensation and betterment such as the Uthwatt Report visualised it. The White Paper and Bill published in July and meant to replace the Uthwatt proposals is therefore of vital importance to the Plan. Its disappointing half-heartedness might easily kill all our hopes and the hopes of our American contributors.

1 AMERICAN REACTIONS

PLANNING THE DEMOCRATIC METROPOLIS

By Jacob Crane

Jacob Leslie Crane, Junior, was born in 1892. He trained as a civil engineer, and in this capacity concerned himself with emergency housing during the last war. He has since then worked on sixty town plans, in America as well as in Russia, China and Columbia. He is Director of the Division of Urban Studies in the Office of the Administrator of the National Housing Agency, Washington.

THE County of London Plan has far wider significance than as an instrument for the planned rebuilding of war-damaged London. The courage to plan for a brighter future, in the darkest days, inspires others to translate their present hopes into definitive plans for meeting the heavy responsibilities of peace. Under the stress and urgency of war, it is a great achievement for the County to have found the time and talent to produce a report so thorough and comprehensive.

Admiration for great European cities of the Renaissance has unfortunately sometimes led, in city building, to the repetition of the autocratic urban forms of a Mannheim, a Saarlouis, or a Versailles ; while the more human and informal city patterns developed in London have been neglected, even perhaps in their own country. The unique character of London—its parks, its squares, its polite architecture—has grown in an atmosphere of consistent and politically effective opposition to absolutism. The preservation of open space for the use of the people and not for kingly parade, and the reserved and self-effacing character of the shaded residential square reflect an evolving democratic spirit. The success or failure of any plan for London would seem to be measured by the aid it gives to the furtherance of the democratic way of life. For, though man may shape his surroundings, they in turn will shape his destiny.

Measured in such terms the proposals in the Plan for the redevelopment of London County on the precinct and neighbourhood principle promise opportunities for the individual to participate more actively in civic affairs. For United States people there is still great value attached to the neighbourly spirit of the old New England town meeting, where everyone could speak his mind and few missed the opportunity—each man gaining a personal dignity difficult to achieve for the masses of the metropolis. If from the nature of his physical surroundings a man may draw inspiration as well as health, and if thereby he is encouraged, in concert with his friends and neighbours, to help mould the future, then the planner will have helped to build a true expression of democracy.

Therefore, it is most significant that the Plan gives first priority to housing, and not to the opening of grand vistas nor avenues for military or social parade. Where Haussmann concerned himself with new façades which still concealed the slums behind, London concerns itself first with the human problems of housing and its inseparable partners—open space and the amenities of life. The architects of post-war London will need the intuitive foresight and political sagacity of those men who preserved for London so much of the seventeenth and eighteenth century open space ; and in their development of a new pattern of living they will need the imagination to create forms as expressive as were Bedford Square or Nash's Regent Street. Upon the genius of these men will ultimately depend the success of the translation of wishes and plans into stone and mortar, open space and greenery, which can give a sense of liberty and fullness to people's lives.

Two Misgivings

It is not possible to establish unchangeable standards for housing and urban development which can have validity over a period of fifty years, a half-century during which standards should be constantly rising. The expectation that more generous ways of living will be possible as man's productivity increases leads to some misgiving that it has been found necessary in the Plan to deviate from Londoners' expressed preferences in the proportion of houses to flats and in the proportion of open space. For certainly standards based on compromise to-day are likely to be unacceptable to-morrow. However, the broad tendency considerably to increase the existing open areas and to anticipate reduced densities of population, coupled with a clear recognition of the essential interdependence of housing, schools, playgrounds and amenities, contrasts most favourably with some recent redevelopment proposals in New York City. Still, when more flats and less open space than is generally considered to be desirable are recommended in a fifty-year plan on grounds of practicability, it may be fair to question the premise. The problem is : first, how far is it desirable to anticipate dispersion of the population ; and, second, how can a desirable balance be maintained between the amenities of life in a suburb and in the centre, in order to prevent too great a desertion of the city. Since it is the high cost " for what you get " that drives people to the outskirts, it becomes a question whether it is truly " practical " to build deliberately at standards currently recognized as lower than desirable and out of harmony with the preference of the people. Is it not likely that dispersion and suburbanization *will be stimulated* by continued close building in older areas, as well as by industrial relocation and improved transportation, thus in fact finally producing the over-all lower densities which now seem impractical or too idealistic ? Will not the forces at work create the open regional city ? And are we not required to plan for it ?

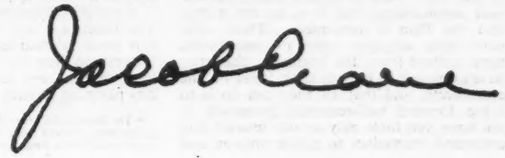
This is not to suggest that all the charms of the outer quarters or the countryside can be reproduced within the central city. And for some people the attraction of city crowds and city excitement will more than compensate for the virtues of well-planned life in a suburb. In any case, the development of realistic methods for analysing and measuring the social and economic desirability of urban concentration as against suburbanization needs the urgent attention of planners. For, until such methods are evolved, decisions tend to be based upon personal preference, prejudice, or the pressure of group interests.

Cities in the United States have become acutely aware not only of the need to cure the disease of slums, but also of the need to prevent the spread of blight to still adequate middle-aged areas, while at the same time preparing means to make their ultimate rebuilding more feasible. London may be less acutely faced with this problem because of a lesser mobility of population and a greater permanence in its residential building. However, the middle-aged neighbourhood constitutes a major element for planned city building, and it requires special measures.

Educational Values

To attain the highly desirable goals set in the London County Plan many new tools must be forged ; although the report does not make clear what additional measures or legislation are required. Until the means are found, of necessity the value of the Plan must remain largely educational. Yet, in a democratic society the educational effect of these proposals may be of immense influence in shaping the thoughts and desires of the people who, on seeing the possibilities more clearly, will come to express their desires politically. The indications in the United States of the generally warm reception accorded the Beveridge, Barlow, Scott and Uthwatt reports, which undoubtedly raise grave political issues, gives hope that in the same liberal and open-minded spirit the means will be found to execute this Plan, or a still better plan. The will to do the job could hardly have more timely expression than in the appointment of a Minister of Reconstruction.

The cities of the world are going to be rebuilt, with or without planning. The London County Plan seems to be a symbol of conscious and conscientious effort to adapt the rebuilding to human needs and aspirations. In such enterprise lies one of the greatest adventures of the post-war generations.



LONDON PLAN AND NEW YORK PLAN

By Frederick P. Clark

Frederick P. Clark was born in 1908. He graduated in architecture at Cornell University and entered town-planning on the staff of the Fairfield County Planning Association (Connecticut). He later served as planning consultant to the New England Regional Planning Commission, and as State Planning Director for New Hampshire. Since 1942 he has been Director of the Regional Plan Association, New York, an organization started in 1922. The regional plan for New York itself appeared in 1929. At present Mr. Clark is an officer in the U.S. Navy.

Introduction

TO the many thousands of Londoners actively concerned with the rebuilding of their bomb-scarred city, the County of London Plan must come as a hopeful, guiding document.

There is apparently little in the Plan impossible of accomplishment. But that was also true of Wren's plan for rebuilding London after the great fire. It is not primarily engineering or financial feasibility which determines whether city plans are translated into actual accomplishment. Rising over all considerations is general public understanding of the opportunities and advantages to be secured from following the plan in rebuilding, and an active public demand that the plan be carried out.

Without such a backing of public acceptance and demand, no city plan can ever be really effective. Yes, public works of one sort or another may be built, dramatically reclaiming some portions of cities. But city planning worthy of the name must produce a city which is a better and more efficient place for living and conduct of business and industry.

A prime consideration in evaluating the County of London Plan, therefore, must be not only the soundness of its specific proposals, but also its ability to inspire Londoners with a vision of what the Plan can achieve in bettering the conditions in which they are interested.

In so far as one who is not immediately conversant with the present-day situation of London and who has only had a chance to make the most cursory study of the Plan can see, the Plan report seems to have been prepared with a prime objective of achieving public understanding and backing. The authors have prepared a report which combines a careful presentation of factual evidence and recommendations with a persuasive and understandable portrayal of the opportunity which is London's. As Lord Latham so aptly states in his Foreword, " We can have the London we want . . . if only we determine that we will have it."

The Plan is not a collection of public works but is clearly a statement of present conditions, opportunities which should be seized and objectives to be followed in rebuilding. It is aimed at stimulating interest and showing broad possibilities, rather than a hard and fast blueprint. It is not of major importance that all the proposals of the Plan be carried out exactly as recommended. It is essential that the broad conception of a better London become a part of the thinking of all those who may, in however small a part, have anything to do with public or private action in construction or reconstruction of this great city.

Experience of the New York Regional Plan

The experience of the Regional Plan of New York and its Environs may be of interest in this regard. While it is more comparable with the London Regional Plan, not yet published at the time of writing, it, too, was prepared with a view to presenting opportunities possible of achievement in development of the metropolitan region and to inspiring citizens and officials to an achievement of the objectives outlined in the Regional Plan. It was not a blueprint but was intended to create a favourable public opinion for the specific projects of public officials aimed at accomplishing an improved development and functioning of the metropolitan area.

As stated in the letter of presentation of the New York Regional Plan, " It will bear emphasizing that it is to the public that the Plan is presented. Those who have been engaged upon its preparation have realized from the beginning that they have no power to impose their ideas on the community, and that all they can do is to bring forward well-reasoned proposals in the hope that these may arouse interest and commend themselves to public opinion and the judgment of experts." The Foreword further states: " The Committee (responsible for the preparation of the Plan) hopes and believes that the results already obtained from the Plan* fully justify all the effort and expenditures made. It has been notably successful in the intangible forms of creating a city planning consciousness and stimulating local effort, as well as in influencing and guiding actual developments in the right direction. It has also, we believe, rendered a real service in establishing some of the principles underlying the problems of city and regional planning."

No power to carry out a single recommendation lay with the unofficial citizen agency which prepared this regional plan. Yet to-day, fourteen years after its publication in 1929, more than half of the proposals have been accomplished in one-third the time originally contemplated, and much of the remainder of the regional plan is incorporated in official post-war plans.

The Regional Plan Association was organized in 1929 to promote the accomplishment of the Plan and to keep it revised in the light of changing conditions. The continuing activity of such an agency, official or unofficial, is essential to actual accomplishment of planning objectives. Otherwise planning reports may remain merely interesting documents.

Interrelation of City, County and Regional Plans

It is recognized that city planning must deal with the total extent of the city regardless of political boundaries. The Plan deals with only the County of London. It is fortunate, therefore, that the preparation of the London Regional Plan lies in the hands of one of the two authors of the County Plan. We can therefore assume that the proposals of the two plans have been automatically co-ordinated. There are intimations in the County Plan report that this is so. But what is not clear is whether such co-ordination is taking place between the County Plan and the special plan of that ancient administrative unit, the City of London. That such is absolutely essential is obvious. The foreword of the Report makes this perfectly clear. But not a word was permitted in the Report on what must then already have been known of the plans of the City. At the time of writing nothing could yet be ascertained either as to whether the City had made good use of the principles and individual suggestions put forward in the County Plan.

It would have been preferable to have had the City, County and Regional plans prepared as part of a co-operative programme. Certainly, the social and economic factors involved are similar or identical for all three plans. The authors of the County Plan very properly say that " the Region is the only satisfactory basis for co-ordination," and further that " though we are not called upon to submit plans for this out-county area, its general planning has been kept constantly in mind, because the policy adopted for it will have a fundamental effect on the county."

The Functional Approach

That the opening chapter should be devoted to a " social and functional analysis " of London is indicative of the type of planning report this is. In other words, the prime emphasis is not on building this or that project, but on insuring the healthy social and economic development and functioning of London, with public works considered only as a means to that end.

A city is a tremendously complex organism. The functional map and study included in this report should aid Londoners better to understand their city. This sort of functional analysis has been too infrequently used in city planning to date.

* The Regional Survey part of the Plan and various preliminary reports were issued over a period of five years prior to the final report on the Regional Plan.

The County Plan wisely retains the best of the existing structure and provides for far-reaching improvements of the remainder. This is the only proper course, since the basic character of London is eminently worth preservation.

Especially sound is the decision to make the maintenance and strengthening of the community structure a guiding light of the Plan. The big city has many advantages. But these have too frequently been offset by the effect on people of the increasingly impersonal aspect of city life. A combination of social organization on a community basis with the stimulating and varied social and cultural opportunities of the metropolis should have an important effect on the future stability of great urban areas.

It is of interest to note that the neighbourhood unit principles received their pioneer development as part of the preparation of the Regional Plan of New York.

Decentralization

An outstanding feature of the County Plan is the recommended decentralization of over half a million people from the county's congested areas. At first reading this appeared a bold suggestion, particularly in view of the avoidance of such a question on the part of most congested American cities. Then, as one reads further in the report, it appears that during the 1931-37 period the inner London area declined by 348,000 persons. In fact, an examination of the data in the report discloses that between 1921 and 1938, the twelve boroughs listed for decentralization lost about 400,000 persons.

In other words, the prime point is not the decentralization of population (already heavily in progress) but the *guidance* of it so as to reduce the most seriously congested areas and to direct the movement so as to prevent the creation of congestion elsewhere.

On the question of where these people are to be resettled, the report is not clear, and reference is made to the forthcoming London Regional Plan. It is important to know what proportion of this population is proposed for redistribution within the county area, and how much would be shifted to the outer edge of the region.

The relationship of this recommended decentralization of population to the recommended decentralization of industry is not made clear. It obviously will require considerably more study. The authors recognize that industrial movement is " a less certain factor " and more difficult of achievement than decentralization of residence. Yet if the redistribution of London population is to be achieved and is to be a worthwhile step, places of employment will have to be carefully related to it.

For while the principle of avoiding too great a concentration of population is sound, that of having a good relationship of people's homes to places of work is almost equally desirable. Unless these decentralization programmes can be adequately related, increased travel must result with its severe strains both on the worker and the transportation system.

The difficulty of relating these two programmes has specifically affected the plan as it relates to population density. The reason given for adoption of the 136 persons per acre housing standard rather than the 100 persons per acre standard preferred by the authors is that the amount of decentralization required under the latter standard would be " difficult to equate with the amount of industry which could be expected to migrate." This is a quantitative relationship.

There is also the question whether any decentralization of industry could be easily achieved on a geographical distribution which would approximate the distribution of population decentralized. Of course, should the British Government provide for the control of industrial distribution after the war, as suggested in the plan, this relation to the population decentralization programme could be achieved.

Housing

The housing portion of the County Plan understandably receives predominant treatment, partially because of the urgent need of rebuilding bombed areas and partly because of the extensive pre-war interest and activity in housing, which will unquestionably be resumed after the war with increased vigour.

The greater emphasis on houses than on flats in rebuilding is in contrast with New York City, where no thought is given to rebuilding in other than apartments (flats). As to density the more recent housing projects in the central part of New York City provide for more than double the maximum density suggested in the London County Plan. Costs of land and construction are controlling factors, although official city planning standards for areas classified for rebuilding allow high densities.

However, questions are being increasingly raised in New York as to the end result of building to such densities. New legislation has been developed in New York and a few other states authorizing public co-operation with private redevelopment (housing) corporations in an effort to offset high land costs and difficulties of assembling adequate tracts for properly planned developments.

Zoning Proposals

Of considerable interest to those engaged in city planning in the United States are the zoning proposals which are directed toward overcoming the indiscriminate mixing of residential, business and industrial uses. The proposal that zoning be placed on a " directive or positive rather than a permissive or negative basis, in order that a developer may know to what height and bulk he *must* build rather than between what limits he may build," would seem to be of questionable wisdom. Do we yet have city planners of adequate skill and experience as to know exactly what should be done in the developing of each individual piece of property ?

Parks and Open Spaces

The standard of parks and open spaces recommended in the County Plan—4 acres per 1,000 of population within the county and 7 outside—is highly desirable, as is the stress laid on distribution of this open space in relation to population, taking care of deficient areas first. This calls for practically doubling the present open space area of the county. It is worthy of comment that in 1930 the City of New York had 2.15 acres of public open space per 1,000 population, about the same as the County of London now has according to the plan report. During the last ten years, however, New York City has increased this acreage over 56 per cent., now having about 3 acres of public park and open space per 1,000 population.

For clarity in comparison, it might be pointed out that New York City covers 299 square miles and has 7,380,000 people (1940). This compares with the County of London's 117 square miles and 4,094,000 people (1937). The New York metropolitan area which compares with Greater London covers over 5,000 square miles and has a population of 12,308,000. This metropolitan area has approximately 11 acres of public park and open space per 1,000 population.

As in London, however, much has yet to be done in securing new open space convenient to some of the more heavily populated areas.

Transportation and Highways

The importance of transportation and highway circulation in permitting the efficient functioning of the city is well recognized and treated in the report with the important exception of air transportation.

It is to be hoped that the well-considered road plan will receive approval and speedy action at the war's end, if indeed some of the recommendations may not be carried out as part of improved highway movement for the military forces. The road plan with its radial routes and the three " ring roads " corresponds closely to the New York Regional Plan's radial highways and three " circumferential " routes. The location of major traffic routes in between existing communities carries this desirable principle further than perhaps any other urban area plan prepared to date.

It would seem that considerable question could be raised with regard to the fairness of the authors' assumption that motor vehicles on the roads of England will double and triple the 1938 total. That they will increase few will debate, but it is doubtful that plans should be based on two or three times the number of vehicles.

It is interesting to note that the " cul-de-sac " street, so popular a feature in American planning of residential areas because of safety, quiet and economy, is practically non-existent in the sample plans for reconstruction areas.

Air Transportation

An outstanding deficiency of the County Plan appears to be the lack of any real analysis of the basic requirements for air

transportation. A factor which may have a far-reaching effect on the future development of London, air transport receives a total space of a page and a half, with more than forty pages devoted to highways and railways. And not only is the space small, but it is primarily devoted to a reiteration of the authors' opinion that it is not at present feasible to plan for air transportation needs.

A first reaction was that the question had been sidestepped in order to avoid disclosing military information. But a reading of the list of studies made and omitted from the report for security or other reasons, discloses no single reference to airports or air transportation.

With fairly detailed airport and air transportation planning going forward in many large American cities and actual construction of a completely new major air terminal for post-war use rapidly progressing within New York City, the reluctance to consider even the general functional requirements of London's air transportation is hard to understand.

It would seem desirable to add to this plan at the earliest possible date a statement of general planning objectives for air transportation in London and preliminary studies of terminal location possibilities, so that these may be related to the other transportation facilities and to the plans for distribution of population and land uses.

Summing-up

While it is undoubtedly true that the Plan could be carried out at a cost no greater than that for the war for a few weeks, it is well to keep in mind that the primary purpose of a city plan is not the spending of additional moneys, but rather to see that those funds which will be spent on public improvements over a period of years in any event, are so guided as to secure maximum public benefit.

The people of New York and other American cities will follow with the greatest of interest the public discussion of this County of London Plan and the action on it. All large cities are confronted with major rebuilding during the years ahead, correcting most or all the defects listed for London. We hope we may learn much from London's experience.

Plans alone are not enough. Even the best plans must be backed by public interest, enthusiasm and demand. The ability of this Plan to inspire that public backing will determine whether it is to gather dust on a shelf, or be a vital and living force for city improvement.

Frederick P. Clark

PLANNING TECHNIQUE AND LONDON PLAN By Clarence S. Stein

***Clarence S. Stein is among the most famous of practical town-planners in the United States. He designed Radburn (in partnership with Henry Wright), worked on the planning problems of the Appalachian Trail, one of the most ambitious recreation projects ever undertaken. He was associated with Lewis Mumford in the production of the film* The City.**

Approach to the Problem

THE ultimate success of any scheme for constructive rebuilding of a gigantic metropolis depends on the fundamental approach to the problem.

The planner must first determine his objectives. What are the evils he intends to cure? Above all, his solution will depend on whether he believes it is the ungovernable size or merely obsolete, defective organization that has caused the breakdown of immense cities such as London.

The authors of the County of London Plan are clear in their choice. They indicate in the preamble that theirs is not a plan for disbanding. It is a scheme for rebuilding within the framework of the old structure so as to make it workable under modern conditions. True, the Plan does propose to arrest population growth of the county. But the purpose of dispersing half a million people is that of decreasing the density of population in over-crowded areas and thus preventing an even greater migration of desirable workers and industries.

The County of London Plan is a bold and constructive solution of the problem as limited by its authors. Its proposals are based on the convictions that restrictive negative regulations are a weak and worthless substitute for constructive action; that large-scale rebuilding of entire communities must replace individual, lot by lot planning and building; that the exodus of people from central areas of cities can only be arrested by setting up in those cities conditions similar and equally attractive to those workers seek (and ultimately so seldom find or retain) in suburbs and outlying towns; that highway plans, housing plans, zoning plans, recreational plans and all the rest are meaningless as separate entities; that they must all be conceived of and thoroughly integrated into a plan for living.

This is a plan for living in small communities. It recognizes that the city region is so big that the individual has been swamped and submerged, the community obliterated. The Plan, therefore, proposes to rebuild much of London as a series of integrated communities made up of neighbourhoods in such a way as to do away with traffic congestion, obsolete, crowded houses, inadequate open spaces and indiscriminate mixed development of working places and homes.

I thoroughly agree with the Plan's basic approach to the problems of community reorganization, recreation, housing, zoning, and traffic; and the principles of planning followed.

Here at last is a broad, gauged plan which integrates a thoroughly modern highway system of specialized roads with a sane scheme of developing small, peaceful communities, carried out thoroughly and comprehensively.

My criticism of the Plan's proposals in regard to open spaces, housing, and circulation, is that they do not go far enough in the direction in which they are aimed. As a means of making living in London County as attractive as that sought in the outlying sections which are syphoning desirable population and industry out of central areas, the Plan's standards do not seem drastic enough. Luckily the Plan is a flexible one. The highway system is such that neighbourhoods and whole communities could be rebuilt again within the broad outline of the skeleton plan of major highways. But what is done in the enthusiasm after the war is likely to remain for a long time. It, therefore, should not be in any way a compromise solution.

Communities

First a word as to the proposal to disengage the old communities and rebuild them as a series of neighbourhoods of limited size. This is a sensible approach. It is no compromise. It is, I believe, the sane way of preserving and developing true democracy, that is, face-to-face democracy. The neighbourhood and the community can offer to all a responsible part in local affairs. Thus they will develop a real pride in the community, its attractiveness, its individuality and its usefulness as a background for good living.

The size of the neighbourhood suggested is based on the number of children required for an effective elementary school. It is interesting to note that this is similar to the method we have found best to meet our somewhat different educational system here. A population of 7,500 to 10,000 forming a neighbourhood and three of these forming a community or town was the basis of the plan for Radburn. It has been followed in the Greenbelt towns and in our larger war-housing developments.* Our studies indicate that it fits the requirements of effective and economic planning for distribution and administration of recreation, health centres, local markets and other community facilities.

Open Spaces for Recreation and Parks

The Plan's distribution of recreational fields as central features of communities and neighbourhoods and their relation to school and community buildings, is ideal. It adds greatly to the openness and attractiveness of the neighbourhoods.

In view of the present highly developed use of the land, the general standard of 4 acres per 1,000 population, set by the County Plan, at first sight seems not only reasonable but radical. The proposal is made with the understanding that an extra 3 acres per 1,000 population are provided outside the County in the Green Belt or in wedges of open area. But as a long-range plan intended to set up conditions within London to compete with those outer areas that are drawing out London's desirable workers, it is open to question.

The standard is lower than that generally accepted in America. This is true both on the basis of 4 acres per 1,000 within the city or 7 acres per 1,000 including surrounding areas. It is even less than actual conditions that now exist in a great many cities here.

One acre per 100 population, advocated by the National Recreation Association, is generally accepted as standard by American park, planning and recreational authorities. This is for the district within the city boundaries. The Cleveland Planning Commission, the Regional Planning Federation of the Philadelphia Tri-State District, as well as many other authorities and public bodies, advocate 10 acres per 1,000 within cities be supplemented by an additional and equal amount of outlying area for great recreation fields and parks.

A good many cities in America already have equalled or surpassed the 1 acre per 250 population within city limits, advocated by the Plan. Philadelphia, Los Angeles, St. Louis and New Orleans had in 1940 about an acre for 250 persons; Houston and Seattle, 128; while Kansas City has an acre for every 109 persons. A great many large American cities already have park acreage in excess of London Plan's proposal of 7 acres per 1,000 (1 acre per 143), of which 3 acres would be in the outlying open belts and wedges. The population per acre of total park area in San Francisco is 137; Indianapolis, 120; Cincinnati, 96; and Minneapolis, 92. Recognized authorities here believe that some of these are inadequately provided with park and recreation area.

Our capital, like the West End of London, gives an impression of delightful green and spacious openness. The park and recreation acreage of the District of Columbia in 1940 totalled nearly one acre for each 100 of the population. In addition, outside but close by the City of Washington, are large public parks. Yet many who live in Washington feel the need of more area for walking, picnics, and rest.

Comparison of the County Plan with that of cities smaller than London is not unfair. The open areas required for neighbourhood recreation and for amenities and gardens should be greater in proportion to the distance that must be travelled to reach open country and large parks and playfields on the outskirts.

Green belts are essential features of garden cities of limited size. Effectiveness depends on the extent to which they serve to limit the growth of a community and as a means of easy escape to open country. To limit the growth of as immense an area as that of London County with a green belt is theoretically desirable. But practically the county is too vast for the green belt or even the green wedges to be of more than occasional and exceptional use for the recreation of those in the central areas.

Housing

One of the basic objectives of the rebuilding of London is to "arrest any further outward movement of population by increasing the amenities and attractiveness of London for those who remain." It is intended above all to retain in London the "vigorous and promising young citizens" who are most likely to have families and children. The Plan recognizes that "there is abundant evidence that for families with children houses are preferred to flats. They provide a private garden and yard at the same level as the main rooms of the dwelling, and fit the English temperament."

The proposals for residential neighbourhoods are refreshing contrasts to the dreary congestion, the haphazard disorder, or even the organized monotony of the past.

The suggested density of 136 persons per acre, exclusive of open space for community uses, is astoundingly high as compared with actual conditions in London, and even more so with those in such overcrowded cities as New York. But it does not seem to permit of an adequate percentage of separate houses to meet the objectives stated by the planners. The redevelopment plan for part of Stepney shows only 33 per cent., and the Bermondsey scheme indicates less than 22 per cent. in two-storey buildings.

In contrast with the past customs of London, the very questionable New York practice of putting many families in tall flats is proposed. The two theoretical studies of neighbourhoods developed at a density of 136 persons per acre shows over 60 per cent. of the population in eight- and ten-storey flats.

Travellers visiting New York are likely to be impressed by the picturesqueness of our skyscrapers. But these buildings are anything but efficient. The skill with which certain technical problems have been met in the design and construction of our tall apartment houses does not in any way compensate for their basic defects. They are more expensive to build per room or apartment. In planning them one must make the choice between sacrificing cross-ventilation and privacy or greatly increasing cost of construction. The higher cost is due not only to the need of lifts and additional stairs but also to more complicated construction, and the requirements of fire-proofing. The price of operation of tall flats is greater than that of individual or row houses. The landlord must take over much of the work of cleaning stairs, or repairs, and care of gardens, which, in smaller buildings, is the responsibility of the tenant.

The growing tendency on the part of Public Housing Authority in New York to build taller and taller apartments is due to the grotesquely high cost of land in New York City. The accommodations in these many-storied buildings are much less spacious and more poorly ventilated; in fact, in every way less attractive than in houses also financed by the State in smaller communities on less expensive land for families of restricted income.

It is true that, as a result of the Plan's wise proposal to allow the same density per family for all types of residential structures, the openness around the London flats will be far greater than anywhere in Manhattan. There is no danger of duplicating the absurd densities of over 400 persons to the acre which is the standard accepted for large developments to be built at the end of the war, both as public housing and by the Metropolitan Life Insurance Company.

One attraction of tall buildings for the well-to-do has been that they give many community services, including central heating. All these can be duplicated in attractive group buildings of lower height. Being close to the ground with the possibility of having individual gardens appeals to most families. For the exceptional, those without children who insist on distant views and who can afford the higher cost, a few tall buildings—but very few—are desirable. They will give variety to the skyline. But I hope London does not accept as anything but exceptional the type of dwelling that has developed in New York mainly as a means of paying rent on inflated land values.

Circulation

The Plan's proposal to superimpose over the existing London network of streets, a system in which each means of circulation will have a specialized form and use, is the first comprehensive scheme of any great city fully to meet the requirements of the machine age.

Freeways, complete separation of pedestrian and automobile traffic, off-street parking, all have been tried, but here for the first time they are developed as a complete and comprehensive system. Our past experience with the use of various elements such as parkways and freeways leads me to

* See last month's special issue.

believe that this is the sound and safe solution. It, however, has its limitations. It is costly, and even the most perfect system can be suffocated by over-use. Traffic grows at an alarming rate in our cities as soon as obstructions to the use of automobiles are removed. When the floodgates are opened, machines that otherwise would stay out of the city come in to swamp the streets.

In spite of the probable growth of movement through air, use of the machine is likely to increase greatly after the war. This will be true particularly in England where the ratio of automobiles to population has been so much less than in America. Freeways have been developed with great success in our parkway systems leading out of New York. They have even been applied successfully though in a limited degree to through traffic roads skirting Manhattan Island, and in Chicago's outer drive. This system of separation and canalization of through traffic, though a great relief to congestion, is by no means a cure-all.

The ideal of constant, unarrested movement is much more difficult to attain in a crowded metropolis than through the countryside. Any steady-flow system is dependent on easy, continuous circulation after leaving speedways, and on adequate space for parking cars not in motion. If movement is arrested after leaving freeways there is likely to be a back-flow. All movement is blocked for miles. This we have experienced even in our best systems such as the West Side Highway of Manhattan.

Adequate use of streets for circulation can only be secured by taking all standing automobiles off the highway. The difficulty in solving this problem of adequate space for parking and delivery in business and industrial areas is the high cost of land. Therefore multi-storied garages and underground parking are suggested by the Plan. Both of these have been tried extensively here in America. In San Francisco a great parking area has been built under one of the principal public squares at an expense that can only be written off over a long period of years. It is practically impossible to build storage space of this kind at a sufficient rate to keep up with the increased number of machines likely to result from a free-flowing system of highways.

All such mechanical means of finding more space for parking automobiles are extremely costly. They greatly increase the expense of the free use of machines. This is equally true of widening of roads which necessitates destruction or moving of buildings on expensive land, double-deck highways, tunnels through areas already crowded with underground utilities and tubes, over and under passes. These are all extravagant means of attaining the same ends that can be secured at much less cost in less populated cities. It is one of the prices that must be paid for the satisfaction of living and working in a great metropolis.

In short, we can improve conditions of circulation for automobile use in our gigantic cities, but we can do so only at an ever-increasing cost. Even then it is difficult if not impossible to keep up with the growth of the problem.

The Plan devotes too little time and attention to the needs of automobile storage in local residential areas. If the use of the machine increases in England as it has in America, it will be necessary that space in connection with individual houses or of groups of houses be put aside so as to allow garaging or parking of at least one machine per house, possibly two. Ample area separated from roads for parking large numbers of machines near markets is another problem requiring study. Los Angeles (where there is an average of one machine per family) has found that for local shopping centres, at least double the space allotted for building is required for off-street automobile parking.

The Plan, through its system of specialized highways, improved traffic intersections, pedestrian over and under-pass, and the by-passing of shopping and community centres, would go far toward freeing pedestrians from the dangers that are causing such a great number of casualties. Although it is true that a complete segregation is not possible, I believe walkers and automobiles could be separated even more thoroughly than is indicated in the detailed plan. Many of the means used for that purpose at Radburn were developed from English precedents. Complete, fool-proof safety is not possible, but I believe our experience at Greenbelt and other housing developments shows that safety can be greatly increased. Therefore, I suggest a fuller use of :

1. Large super blocks with paths around parks or gardens in the centre, towards which houses face.
2. Separation of paths and service roads on different sides of houses.
3. Under and over-paths with easy grades, and with planting and other obstacles to make access to roads difficult.
4. More use of dead-end lanes which give so much charm to English villages. They should be designed with adequate space for convenient turning of automobiles and for off-road parking.
5. Grouping of garages and parking areas at the entrance to peaceful courts surrounded by houses.

The machine has dominated our cities since the last great war. Everywhere we have met the problem with patching and palliatives. Finally, as is apparent in the County Plan, the problem has been faced. A system of circulation for machines that really are individual railroads, and not horseless carriages, has been developed.

But now a new problem is upon us. It is that of bringing our city planning in harmony with the requirements of air transportation. Even if the requirements of post-war aviation are not all clear to us now, no plan for a great city that intends to work and compete with other world centres can be considered comprehensive or even modern unless it includes a plan for complete use of the airplane as well as for the automobile.

Zoning

I have nothing but enthusiastic praise for the Plan's attitude toward Zoning. It proposes to use it as a positive directive rather than as a negative generality. It intends to determine relative location of building use, height and bulk, on the basis of integrated plan of complete neighbourhoods, and not on legalistic generalities.

The authors of the Plan recognize that zoning in the past has at best served to stabilize existing conditions, good or bad. It has been used to preserve property values rather than improve living and working conditions. For the most part, at least in America, it has not been based on any sane, broad-visioned policy of planning in regard to actual needs or sound relation of areas, or size of buildings or location of homes, industries of various kinds and other uses.

Zoning, as proposed, actually will be used as a related instrument of planning on a community basis. It will permit industry, particularly small-scale industry, to remain in residential areas. However, instead of being spotted all over these districts, they will be concentrated in organized groups on the borders of residential communities. By grouping the greater industrial plants and docks it is proposed to disclose the beauties of a large part of the banks of the Thames.

Decentralization

The extent to which areas are zoned for working places depends on the policy followed in regard to dispersing industry and people. The Plan recognizes that it cannot completely arrest the exodus from the central city to the outlying areas. Its aim is to slow down the outward trend of movement. This, it seems to me, is not enough.

The breakdown of London or any mammoth city is not due solely to obsolete planning. It cannot be altogether cured by even as splendid and modern a plan as that of Mr. Forshaw and Professor Abercrombie. London, like New York, no matter how well planned in detail, still will be in grave danger of failing like the dinosaur because it is too big.

War has indicated the greater vulnerability of immense, compact cities ; and the advantage of dispersal of population in small units. Even in peace-time great cities are in more danger from technical breakdown of water, gas, electricity and sewers, or a complete tie-up because of storms, or even strikes. They suffer most from the effect of economic depressions.

The operation of gigantic cities costs much more per head than that of moderate-sized municipalities. Some of these excessive dispersements, due to bad conditions of living and bad planning, would be decreased by carrying out the programme outlined in the County of London Plan. But most of the exorbitant costs are the result of increased complications of large organizations.

The spreading character of the city layout multiplies the length and complication of all services. The resulting cost of highways, water mains, sewers, refuse collections, policing and fire protection is rapidly increased per individual. As the city grows in size, food, water, milk, and all primary materials for industry must be carried an ever-increasing distance. The breakdown and ultimate defeat of the colossal city, like that of a great army on the march, comes in large part from over-extension of its supply line.

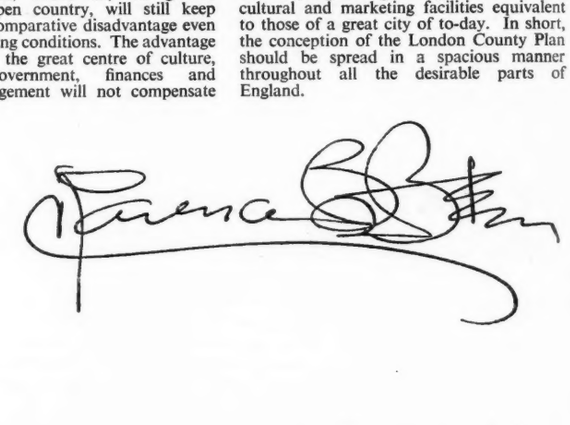
Excessive labour costs which are the result of more expensive living, can only in part be cut down by the proposed Plan. The high degree of mechanization required will tend to increase the expense of government, of living, and of industry far more than any improvement can decrease them. The extravagant cost of these elaborate mechanical improvements if charged to industry and business will lead to increased migration. If they fall back upon the municipality the result will be increased municipal debt, leading ultimately, as in many American cities, to conditions close to municipal bankruptcy. This will tend to prevent continued improvements in transportation, public utilities and living conditions that are essential if municipalities are progressively to compete with smaller cities enjoying lesser economic burdens.

War industrial plants indicate that most post-war industry will require much more space than is practical in the central areas of a great metropolis. The Plan admits that " perfection in planning standards would be difficult in highly built-up areas." Adequate space for movement, for parking and for loading, can only be secured on an economical basis that makes London's competition with smaller centres, having less expensive land, taxes and housing, increasingly difficult.

Higher density, less open space within the community and, above all, the greater distance to open country, will still keep London at a comparative disadvantage even in regard to living conditions. The advantage of London as the great centre of culture, education, government, finances and business management will not compensate for these. In fact, most of the county population gains little from the fact that they are within the same metropolis as the museums, opera, theatres or educational institutions. Modern means of transportation and commutation, the radio and cinema, serve to disperse culture and entertainment. Road theatre companies and travelling exhibits from the great museums can distribute the additional cultural opportunities desired or used by the greater part of the people.

London will always be needed as national and international centre of government, culture, education, finance and business management. Under modern conditions it can serve these needs with far less population. London, I hope, will be rebuilt on the basis of the splendid Plan with even more liberal open spaces and lower density and much less industry.

To supplement the County of London Plan, a broad, national programme of orderly decentralization is needed. Decentralization no longer should spread metropolitan chaos over wider and wider surrounding areas. What is needed is organized and simultaneous resettlement of workers and industry in smaller communities. Satellite garden cities are not enough. There should be Regional cities consisting of federations of moderate sized communities, separated by wide areas of natural green and agricultural lands. They should be bound closely together by " townless highways " or parkways. In the aggregate, such federated cities can have population living close together in time-distance, large enough to support educational, cultural and marketing facilities equivalent to those of a great city of to-day. In short, the conception of the London County Plan should be spread in a spacious manner throughout all the desirable parts of England.



LEGISLATION AND THE LONDON PLAN

By John M. Gaus

John Merriman Gaus was born in 1894. Since 1927 he has held the chair of Political Science in the University of Wisconsin, but recently he was called to Harvard as a visiting professor to lecture on the economics of planning. He is Consultant to the National Resources Planning Board and the Tennessee Valley Authority.

The Character of London

As I lay down my copy of this rich and challenging report, behind whose paragraphs and charts there is obviously such a wealth of detailed research, and as I attempt to formulate opinions and inquiries, I recall the impressions which London made on two young arrivals from my own country nearly a century ago. " A certain style dignified its grime, heavy, clumsy, arrogant, purse-proud but not cheap ; insular but large ; barely tolerant of an outside world, and absolutely self-confident . . ."* Adams, still a boy, could not guess how intensely intimate this London grime was to become to him as a man, but he could still less conceive himself returning to it fifty years afterward, noting at each turn how the great city grew smaller as it doubled in size ; cheaper as it quadrupled its wealth ; less imperial as its empire widened ; less dignified as it tried to be civil. To young Henry James, " The immensity was the great fact, and that was a charm ; the miles of housetops and viaducts, the complications of junctions and signals through which the train made its way to the station had already given the scale. . . . I eventually attached myself by a hundred human links to the dreadful, delightful city. . . . The British capital is the particular spot in the world which communicates the greatest sense of life."†

I recall these passages because both observers are recording their judgment of London as an organism ; and the ultimate question posed by the County of London Plan is whether there is still an organism of London, a feeling, thinking and active society, composed of many individuals and a complex of groups yet abstracting from each some portion of time, energy and capacity adequate to the needs of the civic life of that organism. It is essentially a political question—one of policies, laws, organization, personnel ; and a question that is asked, or should be asked, in every city throughout the world. That is why so thoughtful a study as this by Mr. Forshaw and Professor Abercrombie has great value to all of us, wherever we may be, who are concerned for the life of our cities and our civic life generally.

New Legal Powers Needed

For each basic assumption of the Plan, given expression in design and proposals for physical redevelopment, looks back to analyses of economic activity, population factors, standards of living, as its origin,

* Henry Adams, *The Education of Henry Adams*, Boston, 1918, p. 73.

† Henry James, *English Hours*, Boston, 1905, the essay on *London*. See also the essay *London at Midsummer*, especially for its comment on the river.

and forward to the necessity for positive legal, financial and administrative powers and arrangements. This latter aspect is frequently mentioned—for example, in discussion of site planning, the use of the river, the treatment of railroads ; but Chapter XIII on *Realisation of the Plan* is one of the two shortest in the book, and opens with the remark that " We cannot fail to point out that, to carry out bold and comprehensive planning, greatly enlarged powers, both legal and financial, must be made available to the public authorities concerned. Indeed, the realization and implementation of the present plan is dependent upon this." Why is this true ? A foreigner would assume that it is because the present powers of English municipalities for comprehensive redevelopment are chiefly those of taking land for roads and public housing, and of negative restrictions on use of the building code and zoning type ; and that the nature of the metropolitan organism has outgrown the existing legal and political structure of local government in the area. Nor is this all ; the Barlow, Scott and Uthwatt reports would seem—again to a foreigner—to conclude that the basic forces affecting industrial location and hence land use can in part only be dealt with politically by a policy and governmental agency that is national, not merely regional or local, although these levels of government too have a responsibility, perhaps the major one.

One of the merits of the Plan is that it helps us toward a clarification of this situation—one which is certainly present in this country and in some form in every country. The conclusion is reached via the logic of the physical problem, once it is assumed that the problems exist and should be attacked. Starting from the position that the " old structure, where discernible," is to be made " workable under modern conditions " (a view which reflects the basic element of continuity in any self-consciousness of an organic community), proceeding by noting " four major defects " of " traffic congestion, depressed housing, inadequacy and maldistribution of open spaces, and finally the jumble of houses and industry," the authors of the Plan push back their inquiries to origins and relationships. Thus traffic problems are viewed as insoluble without a better allocation of area to use. (A fifth defect, " the continued sprawl of London," will be dealt with in the coming London Regional Report.)

Neighbourhood Units

London as a community is viewed as a relationship of existing historic entities ; and it is proposed to use these as a base, and within them neighbourhoods of 6,000 to 10,000 people, " related to the elementary school and the area it serves." It is interesting to see this further spread in the acceptance of a fundamental social cell of the neighbourhood and its school, and one is reminded of Mr. Cleveland Rodgers' discussion of babies and real estate values in his *New York Plans for the Future*. Undoubtedly the rising interest in population problems is reflected in this widening of effort to make cities more adequate for child and family life.

The implications of liveable neighbourhoods for allocation of land to housing, industry and open spaces and to the physical plan of streets and major traffic arteries constitute the core, the clue, to the report rather than an effort to prophesy concerning the future functions of London as a commercial, industrial and financial centre—an effort which would be highly speculative when a world war is being waged ; in any event, a decentralization of population and industry is assumed as desirable and likely, although the effects of this on the financing of the plan are not explored. Politically this would seem to lead to a struggle between new areas that will require expenditure for utilities and amenities for growing populations, and the older areas such as those for whom this plan is provided, with declining populations (in some parts, not, notably the West End, all) requiring expenditures for increased open spaces and new road and transport facilities. Here, too, is a universal problem of urban redevelopment and regional planning, with the conflicts probably centring in national legislatures and administrative agencies over grants from the national income to localities to supplement municipal revenues ; although it is hoped that economies, and positive increases in production, will come from the comprehensive redevelopment. This is a point on which we should centre the most careful research, since the case for comprehensive and organic planning would find a powerful support from the conception of a total budget for the community, in which the addition and costs to the wealth of the inhabitants derived by such planning could be reported as well as the immediate first costs to each individual.

Legal Obscurity

At many points this question of new collective powers is raised ; in the use of the river front, so long a topic in discussion of the development of London and in the control of design of buildings on important streets and centres suitable to be the theatre for a capital and metropolis, for example. Thus the Plan as presented needs a supplement in which some guidance is given as to the kinds of power the organism needs, and the organization and procedures that are equally necessary for their adequate use. A foreigner may perhaps plead his desire for such guidance when he confronts the reports which have appeared in recent years.

He may feel that the Barlow, Scott and Uthwatt reports complement one another ; but he would profit from a conspectus, amidst the spate of articles appearing in a variety of English journals, in which the present position, with the powers, legal and financial, of boroughs, the city, the county, the Port of London Authority and the other special *ad hoc* bodies, is set forth, and some listing of necessary next steps, drawn perhaps from these reports, is recommended. And beyond this, he would be grateful for some concrete analysis which the County of London Plan would apparently require, of possible working connections in terms of organization and procedure between the governing bodies with some share in the implementing of the Plan in its area. The problem of metropolitan government, with its complex factors of physical plan, financial powers, particularistic political loyalties and lack of organic civic consciousness and common instruments of government, is one of the most difficult that we have in this country ; and some acquaintance with the literature of the subject in England, including recent reports, leads one to think that there, too, goodwill is generally accompanied by a sense of frustration generated by the complexities of a concrete situation that leads writers to very general, and not very helpful, conclusions. Who is to speak for London, and what is London ?

Two passages in the Plan reflect an awareness of the ultimate political and humane base for the general schemes of physical design. " It is a commonplace to say that the war has done much to level incomes. There should be even less discrepancy afterwards, and this should be reflected in the Plan, which provides for a greater mingling of the different groups of London's society. It is for this new world, foreshadowed in the Atlantic Charter, that the Capital of the Commonwealth must provide itself " (p. 20). And again (p. 28) : " The proposal is to emphasize the identity of existing communities. . . . At the same time care would be taken to ensure that segregation of the communities was not taken far enough to endanger the sense of interdependence on the adjoining communities or on London as a whole." For my part I welcome and applaud this emphasis, for I am convinced that life in a neighbourhood, a life shared with all sorts and conditions of men and women, is an indispensable base for a democratic civic life and the completion of individual personality. It is exciting to find such an approach to the designing of redevelopment of a great world metropolis.

The emphasis on the protection and further development of the historic and continuing communities and on the neighbourhoods sufficiently small as to encourage civic participation by a greater proportion of the citizens, and on the " mingling of groups " have important political implications.

Political Implications

Are we to find through them a counter-attack by the individual as citizen who finds his fullest social existence in his neighbourhood as a protector and enhancer of his family life, against the " interest group," the " pressure group " ? All urban life, and now rural, has long conspired against this, and policy has long been declared by the officials of such groups. Can there be generated a civic consciousness and loyalty in the neighbourhood and borough and through them in the larger organic London that will offset vested interests opposed to comprehensive redevelopment ? Will leadership adequate to this come, perhaps, from people caught up in local civilian defence services, who may have discovered a human satisfaction in common service that cuts across interest group lines ? Can various governmental agencies, each dealing with a separate problem of ports, roads, water supply, or schools, invent procedures for common thought, and discover in their civil services individuals with a talent for inter-administration ? Can you give us another Haldane Report, this time on metropolitan government ?

May not, indeed, the physical plans here presented, resting as they do on such careful search of basic data, interestingly presented and ably argued, serve as a stimulus to the needed wider organic consciousness ? The Plan might well serve as a text in the secondary schooling of young London as well as adult classes, and send its students out on the streets with new eyes to observe the city-scape, as Huxley's lectures led his students to read a landscape that had existed unseen. But give them a lead, also, in a subsequent document, to be thinking of the necessary implements of law, finance and administration, for translating proposals into the reality. This might well help to create the political consciousness and power that will be required. Over here we shall, I hope, be watching and learning ; and perhaps another young and sensitive American will at a later time record his imaginary walk across London and, like James, find it is still " the particular spot in the world which communicates the greatest sense of life."

John W. Gaus

PLANNING IS POLITICS—BUT ARE PLANNERS POLITICIANS?

By Catherine Bauer

Catherine Bauer is a leading authority on housing. Her book* Modern Housing, *1935, is the most comprehensive survey of housing activities throughout the world which has so far been undertaken. She has worked for a while in the United States Housing Authority and has travelled widely in Europe, including Russia. She is married to William W. Wurster of Vallejo fame.

Respect and Admiration

FOR a solid fortnight I have been reading English publications on post-war planning and housing. And now, with the two-foot stack topped by the County of London Plan all duly checked off, I find myself regarding the lot with admiration, hope and a vague but persistent worry, about equally mingled.

The volume of output alone is enough to inspire not only admiration but respectful envy on the part of any American interested in the field. We have little to place alongside, and much of that seems narrow, negative, dull or opportunist by comparison. (Lewis Mumford's pamphlet, *The Social Foundations of Postwar Building*, for instance, is published in England but not in the U.S.A.)

Good printing, literate sentences and clear ideas cogently expressed are in the best English tradition of social analysis. And on top of that a great and earnest sincerity comes through, a sense of vital urgency that past planning literature too often lacked. If the blitz did it, the shock of realization that there might *not* have been an England, then that explains the secret guilty regret deep within many American liberals, that we missed the experience.

The degree of unanimity on general purpose —or at least on the nature of the problem— among people and groups whom I had always thought to be either opposed or totally insulated from each other, is very impressive. It probably does not seem so to you. But at this distance the revitalized Garden City movement and its traditional enemy, the sophisticated left-wing architects ; the ponderously technical Royal Commission Reports and the bright popular pamphlets ; the portentous warnings of the agriculturists ; the brave efforts toward regional planning, and the concrete proposals for London, Birmingham, Coventry, etc.; the social workers' studies of head-lice among evacuees and the *Economist's* hard-boiled analysis of the housing industry ; the routine reports of the Housing Centre and the National Housing and Town Planning Council and, yes, even the grandly impervious schemes of the Royal Academy, and of those newer academicians who envision a sort of vacuum-packed revolution, untouched by human hands . . . all seem to be asking the same questions. And even arriving at many of the same answers, however varied the language.

The general tone is positive, for one thing. Necks vie with each other to stick out the farthest. Such a ringing statement as that of the R.I.B.A.'s London Regional Reconstruction Committee, that " there can be no place in the Councils of Peace for the timid, the disinterested or the obstructionist," would be unthinkable from our American Institute of Architects, as would the examples of fresh modern design used to illustrate the R.I.B.A.'s *Rebuilding Britain* publications.

The fact that it *can* happen, that those professionally concerned can at least get together on the axiom that proper land-use is of universal importance transcending any private interest, should give hope and stimulus to us in America. And we need it, not only because we also face crises in land-use, but because this nation unhappily may undergo a period of deep reaction, during which American progressives will look to you for strength and inspiration.

You seem to have resolved and forgotten at last the crude conflict that has for a generation made schizophrenia the occupational disease of planners on both sides of the Atlantic : is the purpose of city planning to improve the general welfare and amenity, or to preserve property owners from the degrading and devaluing influence of the hoipolloi ? The development of class-zoning in the U.S.A. has made one wonder sometimes, if the ideal democracy as envisioned by many professional planners might not consist solely of " protected suburbs " where, by careful gradations, each economic group from junior executives upward would be separately embalmed behind standard set-backs, driving back and forth to work on parkways designed to screen their Nordic sensibilities from the sights and smells of the intervening slum areas. Even the public housers have not been untouched by this idolum.

The newer version of this conflict, currently confusing the American public, is the " Urban Redevelopment Movement." In the sacred name of " master plans," " bold reconstruction," " saving cities," and whatnot, it is proposed to bail out with Federal subsidy the owners of slum and blighted property—*not* in order to rehouse their present tenants properly, but to stimulate another wave of speculative over-building for the well-to-do and thus, it is naïvely hoped, to turn the tide of decentralization and preserve down-town property values geared to high densities and even higher hopes.

In this whole stack of English publications, there is not one evidence of any such confusion. The justly famous Royal Commission Reports seem entirely concerned with the functional requirements of agriculture, healthy living, modern industry and convenience of communication. They face squarely the decentralizing influence inherent in the development of automobiles and electric power, and their frank and open purpose is to prevent speculative profit in land, and to devalue slums. Indeed, the Uthwatt Report appears to boil down to an effort to find just and democratic steps toward eventual nationalization of all land.

At the urban level the equally famed Plan for the County of London by Mr. Forshaw and Professor Abercrombie rests also on honest functional arguments indicated by the excellent divisions—Community, Metropolis, Machine—with no blurring qualifications based on relative land prices or status quo problems in county finances. Proposed residential densities, right or wrong, are solely geared to questions of need in relation to work and recreation opportunity, and are supported by detailed analysis of resulting living standards. To an American eye, the realistic assumption, never questioned, that reconstruction means rehousing the *same* people—somewhere—is extremely refreshing. And the objective attitude toward decentral-

ization and loss of population (even though I do not believe it goes far enough) is also well ahead of anything yet demonstrated by American cities.

The fact that restoration and protection of the historic neighbourhood communities of London is a primary objective, the core of all elements of the plan, seems to me sound. If it is conservative, it is so in the sense of conservation of resources rather than any political connotation. Superficially, though I know London, if anyone had asked me to name its outstanding quality, I would have said the distinction between one district and another—in name, in popular tradition, in group affiliation, in physical aspect. Most big cities simply have "good" and "bad" sections. And the all too clearly marked social and national neighbourhoods in American cities, always shifting, represent no real physical attachment or responsibility for a *place* but are rather imposed from without or result from the self-defence of minorities against discrimination.

The one social danger in such a course, that of crystallizing class distinctions more than ever, has been directly faced, and the concrete proposals for "a greater mingling of the different groups of London society" are among the best things embodied in the Plan. The fact that varied types, heights and densities of building are proposed for each district, to meet a carefully studied variety of needs (again, whether they are correct in detail or not), also represents a great step ahead of the habit of blanket zoning. The principle that families with children, whatever their income, need more open space than adult couples or single workers, even of very high income, is another example of applied common sense too seldom found in past planning.

Vague Worries

It seems clear to us that you are undergoing a bona fide Intellectual Renaissance. But the epithet "intellectual" brings me to that vague and perhaps unfounded worry which somehow qualifies my enthusiasm for this impressive pile of literature.

It reads like a revolution . . . but is it real?

Aside from the new Ministries, no legislative action has apparently yet been taken by the Government to implement any of these bold proposals . . . and, indeed, according to the most recent events, the Uthwatt Report has now little chance of being adopted. But how can even the most progressive local governments proceed beyond paper plans, or even adopt such plans, until basic national policy on land-use controls, on industrial location and agriculture, on regional government and housing, have been at least roughly established?

Representatives of the American planning trade, when put on the defensive by some lucid and progressive English document, sometimes remark: "Oh, well, they always *talk* very fine planning, but what have they actually done?" This can be discounted to a very large extent, of course, particularly considering that we certainly haven't done any *more*. But still, the Town and Country Planning Act might reasonably have been expected to help prevent ribbon development, at least, and it is strange that the layout of Garden Cities and council housing has had so little salutary influence on the pattern of speculative building. And, impressive though the volume of your public housing is to us, who are so far behind on this score, shouldn't it by now have made more of a dent in overcrowding? And although both interior and exterior space standards on your outlying housing estates tend to be better than ours, what about the four- and five-storey walk-up tenements in London and Liverpool? How can they be explained in the light of your famous law (which we always quote as an example of extreme enlightenment) that permits acquisition of slum property at its "use-value" without compensation for substandard buildings? Such questions as these puzzle us, not because we have done better ourselves, but because your legislation and professional policy look so much stronger than ours that it's depressing to find they haven't accomplished more. Perhaps Sir Gwilym Gibbon made a good point when he said: "It is always necessary to bear in mind . . . that the measure in which powers are enlarged is no criterion of the measure of their exercise."

Now you are contemplating, very convincingly, much vaster improvements requiring basic changes in the social-economic structure. And yet, throughout, these documents are almost entirely devoid of political ideas or even a political frame of reference. There are outstanding exceptions, of course, but mostly among lay writers without real authority in the planning or architectural fields. And in some cases this gap may result from delicacy rather than naïveté, while in others it is probably due to the unavoidable curbs of official status. Moreover, several of the pamphlets are quite brilliant instruments for general public education and stimulation. But on the other hand are numerous implications and statements like the following from Dr. Gutkind's monumental treatise: "There is a fair chance that planning can be kept out of the party machinery, although the danger is not yet over. The heat of political emotions and slogans might well debase planning." Which is ominous nonsense.

Planning and the Parties

Planning *is* politics, if it is anything more than mental gymnastics. And taking monetary profit out of land is revolutionary politics, whether advocated by a Hyde Park agitator or by a Royal Commission. It cannot *and should not* be decided by the experts and intellectuals alone, no matter how rational, eloquent, scientifically objective, high-minded, progressive or correct they may be. Nor can it just be tacked on to the present social system as an isolated reform. If it comes at all, it is bound to be part of a great wave that will change a lot of other things even more. I have some sympathy with the caustic sneers of Sir Gwilym for the "Utopian planners." He does understand at least that it is not only useless but irresponsible to make radical proposals without recognizing their revolutionary political implications.

Architects and planners in England and America, perhaps professional people in general, almost never use the word "politics" except in an invidious or deprecatory sense, although it is clearly the life-blood of democracy. Indeed, while reiterating constant regard for the latter institution, they tend to ignore the only basis for democracy acknowledged in our respective countries —the party system. (Nor do they propose anything else to replace it.) And yet, as Herman Finer, of the London School of Economics, said in an excellent article, "The paramount, the indispensable authority in the planning process, has to come from the political parties. Planning [otherwise] cannot but be puny and rather academic. . . . The cardinal responsibility rests with the parties, for that is where the power rests."

I may well be wrong. Perhaps these publications simply reflect the ultimate purpose and refined expression of a great popular movement already recognized and implemented by the parties. Perhaps the calm objective understatement is just "the English way," too subtle and orderly to be understood by Americans who are used to screams and tirades on every public issue.

But what *are* the party platforms with respect to physical reconstruction, land-use planning and housing? My information is scattered, and I herewith apologize in advance and with pleasure if my deductions err on the side of pessimism. But it seems clear that the Conservatives have no positive programme at all, although their distinguished organ, *The Times*, has taken an enlightened stand on many issues. A seven-point Liberal programme that I came on apparently includes nothing on land-use controls and only a vague reference to housing . . . although again one of their leading members, Sir Ernest Simon, advocates out-and-out land nationalization and a forthright housing policy. The Labour Party does have a statement on *Housing and Planning After the War*, which is quite strong on land nationalization and housing standards at least. But there seems to be little evidence that the unions or the co-operatives are really mobilizing their constituents to get action on any of these issues.

Indeed, the Church appears to have taken its political responsibilities more seriously, and directed its forces more effectively toward progressive social goals, than almost any other British institution.

Mr. Finer says that among the different categories of post-war reform currently proposed, physical reconstruction is "not one that chiefly moves the man in the street." But this is strange, since it touches him more directly and tangibly than any of the others except possibly social security. Can it really mean that workers are satisfied with their environment as it is?

In the past, the progressive forces in England did an exemplary job of popular education and political organization for public housing and slum clearance . . . with the result that this one element in reconstruction seems certain to go forward, with or without proper planning to make it effective. An even better job may have been done recently for social security and the Beveridge Plan. Is no one undertaking the same sort of responsible *political* work on behalf of land planning?

Lack of Dynamics

But I have over-simplified the problem. Deeper than organization politics are the underlying social trends that reflect popular choice and desire—and the political and administrative framework which can best guide these forces toward the desired goals. And in this respect, the County of London Plan seems to me still primarily a static architectural or physical scheme, comprehensive and deeply social-minded though it is. The *dynamics* are lacking, somehow.

Take the matter of decentralization. Outstanding among metropolitan plans in its objectivity toward probable loss of population from central districts, does it nevertheless really face the overwhelming strength of the drive away from congestion toward houses and gardens and a natural environment? Does it fully allow for the potential influence of automobiles, electric energy, higher purchasing power of workers, and the enormous centrifugal stimulus of evacuation, "shadow plants," and central destruction? From American trends I suspect that the estimate of half a million people and proportionate industry to be removed from central districts is far lower than the number that will move out anyway, with or without a plan to guide them. As for the other end of decentralization, the London Plan is not nearly as bold or concrete as the Birmingham proposal to establish a self-sufficient satellite industrial town twenty or thirty miles out.

London County has serious limitations, of course, in planning for its future at the present moment. It cannot officially make a plan to include the entire London region, and it can take few positive steps of any kind until there is an established national policy on many vital questions. Nevertheless, the County Plan would have been far more effective than it is, had it included a clear analysis of its own limitations, of the *division of responsibility*—national, regional, local *and* individual—necessary for the future welfare of London.

If definition of the responsibilities at the regional and national level has been neglected, it has been totally ignored for the smaller unit—the district, neighbourhood or citizen's group. Perhaps every Londoner knows without being told just what his own job would be, or that of a district council, in the reconstruction process. But perhaps, on the other hand, an opportunity to stimulate democratic initiative and effective political action may have been lost.

Citizen participation in the planning process seems to me to be the great political challenge of our time. On its solution may well depend the survival of the entire democratic experiment. J. M. Richards observed very acutely in THE ARCHITECTURAL REVIEW* that "... to distribute the responsibilities of a highly organized community life equitably is just as much the function of social planning as to distribute its benefits." And I suspect that the progressive planners have been taking too much responsibility on their own shoulders rather than otherwise. Instead of trying to decide every point of policy or technique themselves on a "scientific" basis (which usually comes down to guessing what people want—for there *is* no pure intellectual solution to such problems as decentralization), they might better develop some machinery which would permit decisions to be made by people themselves.

The role of the "expert" in the structure of a rapidly shifting democratic society is one of the most delicate and difficult problems of our day. And it is nowhere more confused or further from solution than in our own field—which is technically complex but at the same time very literally "close to home" for the individual citizen.

As the *New Statesman* put it, what we need primarily is not paper plans, however logical, but some scheme, devised in our own terms, which would "bring into play the new motives and the new driving force . . . which enabled the Russians to perform the economic miracles of the past two decades." And Herbert Read, in his Foreword to *Creative Demobilization*, went a step further in defining the terms likely to produce a dynamic movement, particularly in countries such as ours: "Co-operation is the only 'technique' of intellectual and moral progress, and it is a technique which implies collaboration and not direction, the freedom of initiative and not the impress of authority."

If we assume that individual initiative and responsibility were attributes solely of the uncontrolled private-profit system, and therefore obsolescent, we are lost from the start. Most of our citizens will prefer to hang on to that system till the bitter end at such a price. And power-minded intellectuals, impressed by managerial theories, should not fool themselves. If democratic leadership fails and people grow so weary and cynical that they finally give up the desire for individual choice, they will turn to a Huey Long or a Mosley, not to some coldly rational planner with ideas about perfect cities or the "social service state."

Questionnaires and polls are no solution, although you have uncovered some interesting facts about popular housing desires by this means. What is needed is not just statistical information on average tastes and prejudices, but a mechanism for sharing the knowledge and responsibility and thus, eventually, improving the average capacity for decision.

One asks (with parallel questions in mind for America): is the great co-operative movement in Britain so dead that it offers no handle for democratic planning? Are the citizens of the East End so degraded that they cannot find leaders of their own to help decide whether a quarter or a half of them should move away, where they should go, and if the rest will thrive better in cottages or in ten-storey apartments? What happened to that lively tenants' organization of pre-war days? Why can't the unions, and the new shop-steward movement, play an important part in formulating and carrying out a policy for the relocation of industry? What neighbourhood organizations exist that could gaivanize the boroughs and districts to positive action within the larger scheme of things?

Paternalism and progressive reform have always been curiously close in Britain: is there no move even now to distinguish between them? We borrowed the general outline of our own public housing legislation from you and, basically sound though it is, it needs amendment to encourage co-operatives and other forms of direct participation by those who need housing.

Many issues are too novel or complex, of course, for simple immediate majority decision. Where new forms and techniques and major dislocations are involved, difficult to decide all at once in the abstract, frank experiment and persuasion by demonstration must play an important part. Where complete new towns are to be built or farm settlements inaugurated (I have been thinking about this in connection with our own Columbia Basin), perhaps the *first* step should not be land purchase or detailed plans, but finding some few individuals of adventurous spirit who really want to take part in such an enterprise. If a group of people themselves come to the government demanding such an opportunity, so much the better.

Once purely designers, the professional planners have gradually accepted the notion that they must also be managers. Now it is time for them to become organizers as well . . . and politicians. As a matter of fact town planners, in the days when they thrived on the patronage of rich and powerful autocrats, were well acquainted with the art of politics. Perhaps their present relative ineffectiveness simply indicates that they have never relearned the political arts in a form suitable for democracy.

In some respects the people are already ahead of the planners. A half-articulate new faith in an "economy of abundance" is spreading in both England and America—vastly stimulated by the otherwise inexplicable phenomenon of general prosperity in the midst of a desperate and costly war. But let no man confuse this revolutionary vision with any popular desire to be fitted into a scientifically perfect or even ideally beautiful environment as determined solely by the experts. The very word "abundance" implies maximum personal choice, even including whim and waste.

Dean Hudnut, of the Harvard School of Design, suggests, with his usual shocking common sense, that city planners ought to be elected by the people they serve—"to attain that lack of continuity which, however costly in practical terms, is the certain evidence of vitality in the democratic process."

Universally even development with every step exactly timed and every cog slipping into every other cog is a mechanistic nineteenth century concept of social planning. The machine will only be conquered when we have learned to achieve variety as well as order, the flexibility of true organic growth rather than the diagrammatic purity of a production chart, and freedom for self-determination in addition to elementary efficiency and security.

Catherine Bauer

* Volume 91, 1942.

2 THE ARCHITECTURAL REVIEW SUMS UP

"PLANNING," writes Catherine Bauer in her contribution to the symposium which appears on pages 81 and 82, "is politics, if it is anything more than mental gymnastics. And taking monetary profit out of land is revolutionary politics, whether advocated by a Hyde Park agitator or by a Royal Commission. It cannot and should not be decided by the experts and intellectuals alone, no matter how rational, eloquent, scientifically objective, high-minded, progressive or correct they may be. *Nor can it just be tacked on to the present system as an isolated reform.* If it comes at all it is bound to be part of a great wave which will change a lot of other things even more."

The sentence in italics probably explains why some of the proposals in the L.C.C. plan are not as clear as they might be. The plan has been prepared by the Architects' Department of the L.C.C. which, as such, has for some time past exercised important but limited powers under various housing acts. In order to carry out the present plan they ask for extensive new town planning powers which taken together amount to a revolution. In presenting the plan to the public they seem all the time to have had in mind the desirability of framing the project in such a way that even if all the powers asked for are not granted, something may still be achieved under those which already exist. This results at times in apparent inconsistency.

Later, Catherine Bauer asks if anyone is undertaking the same sort of responsible political work on behalf of land planning as has already been done on behalf of social security. Well, in a sense the present plan *is* a political document—a necessary preliminary in such a campaign—a fact which its official source should not be allowed to obscure. Its greatest merit is that it makes clear (at any rate to a careful reader) the extent of the powers that will be needed to achieve the kind of results which we all want to see realised, which are here for the first time clearly explained in the terms of a problem in which most Englishmen are more or less interested—the replanning of the capital.

Mr. Clark also recognizes the political character of the plan, when he says: "A prime consideration in evaluating the County of London plan must be not only the soundness of its specific proposals but also its ability to inspire Londoners with a vision." He compares it to the New York Regional Plan, prepared by an unofficial citizen agency, and quotes from the letter of presentation which accompanied the latter. "It will bear emphasizing that it is to the public that the plan is presented. Those who have been engaged upon its preparation have no power to impose their ideas on the community, and all they can do is to bring forward well-reasoned proposals and hope that they may arouse interest and commend themselves to public opinion and the judgment of experts." The comparison is, he suggests, an encouraging one because the New York Regional Plan has in the main been implemented.

But there is this important difference between the two problems. Land covered by the New York Regional Plan was largely undeveloped, whereas land covered by the L.C.C. plan is almost entirely built over. There is not the slightest hope that the Forshaw-Abercrombie plan will be carried out unless very extensive powers are conferred. Douglas Jay (*The Socialist Can*) describes what is needed as "power to vary the general structure of rents and the amount of land available for the main categories of tenants in such a way that the supply is adjusted to the demand at the existing level of rents in each category. This . . . would enable the demand for land to be rationed by ordinary pricing methods among tenants in the same category. . . . Meanwhile the provision of working-class houses and gardens and open spaces and the provision of food would be automatically subsidized."

What he describes is nationalization. May be there is another way. But on any assumption much short of this most of the really exciting proposals are likely to remain a dead letter—for instance the preparation of detailed redevelopment plans including "outline or silhouette groups indicating the scale of setbacks and other main characteristics of the street picture"; positive as opposed to a permissive zoning; reclamation of existing built-up areas as open space; and so on. Powers needed certainly include power to place a life on existing buildings and compel the termination of existing users, and also probably power to enable the L.C.C. or some specially constituted body to undertake the actual work of redevelopment—to plan and equip trading estates as part of the policy for relocation of industry—and to enlarge the scope of its housing activities and build houses which could not by any stretch of the imagination be called working-class for the report estimates that 80 per cent. of the houses in the county can for one reason or another be considered obsolete and private enterprise has not yet shown itself able to tackle the problem of redeveloping large areas of obsolete property.

Other problems are raised by the status of statutory undertakings—the railways and the public utility companies. "We suggest that these should be carefully reviewed in the light of the new plan to ascertain whether economies can be effected and land released for other purposes by rationalization and by the elimination of redundant features." At present they are not subject even to the ordinary measures of town planning control. At the National level there is not yet any reliable means of co-ordinating the policies of various ministries concerned, e.g. Health, Transport, Agriculture, or of controlling the location of industry. And so we come back again to Catherine Bauer, "It reads like a revolution . . . but is it real?"

What the county plan achieves will depend not only on how the public like it, but on how far they can be made to understand it—understand how the various parts of it hang together and how the whole problem of physical planning relates to other questions such as control over land values, industrial planning, social security and a policy of full employment; and above all how vitally important it is to insist that steps are taken to ascertain the relevant facts—at the national, regional and local level, to provide a basis for co-ordinating the policies of all the many separate interests and authorities concerned—starting now.

major use zones

L C C "In all the proposals put forward . . . an aim has been to respect and develop its (London's) structure and major uses and to remedy its manifest defects." The social and functional analysis contained in Chapter I of the report distinguishes four main areas: the central area, the industrial area (including the Port, Thames and Leeside industries), an inner housing area, and the suburbs. The plan proposes to accept these main divisions and to emphasize them by using ring roads, where possible, to mark their boundaries, and also by creating three main density zones corresponding to the three existing height zones, so that the suburbs, the inner housing area and the central area would each be distinguished by a difference in architectural character as well as being marked off from each other by obvious and suitable boundaries. The densities suggested are 100, 130 and 200 persons per acre respectively. Within the central area, whose boundary coincides approximately with the proposed A. ring road—"the main circulatory ring road for central London traffic," the report draws attention to the existence of smaller and more specialized use zones, e.g. the West End shopping centre, the Government centre in Whitehall, the University centre in Bloomsbury, the Museum centre in South Kensington, and the professional quarter in the Portland and de Walden estates, and it proposes to establish these more securely by tightening-up zoning regulations, weeding out non-conforming users, and checking certain opposite trends by creating room for expansion, where expansion has been going on, in the appropriate place. Suggestions put forward along these lines include the removal of Covent Garden Market to a more suitable site and development in its place of a new and attractive business centre to accommodate the overflow from the West End which, before the war, was gradually invading the residential area bordering Hyde Park. The reservation of Marsham Street, parts of Victoria Street and Victoria Embankment to allow for expansion in Whitehall; and the linking-up of the Portland and de Walden estates with the university by redevelopment of Charlotte Street. On this basis the report promises the development of a "characterful and co-ordinated London Centre" capable of dominating the vast area of Greater London with its numerous subsidiary business and commercial centres and outlying suburbs. This overall pattern of development with height and density graded upwards towards the centre, is to be relieved by parkways and perhaps by green wedges connecting Central London with open country beyond the green belt.

A R Leaving aside for the moment the question of industrial location, which has not substantially influenced the general layout, and the vexed question of density, which is best discussed separately, is the general layout a good one? In principle it is difficult to disagree with it. It *is* London. There is nothing more to be said. Whether the results are good or bad will depend on the force with which the detailed proposals are implemented. And that is largely a question of whether the necessary powers to plan within their limits are conferred on the London County Council, and on whether the necessary measure of co-operation between the City Corporation, the London County Council and the Greater London Regional Planning authority can be secured. One would like to see greater emphasis given to the importance of an analytical survey of the needs which will have to be met. No reliable estimate of future requirements can be based merely on a projection of pre-war trends. Enough has been said, however, to show what powers are necessary. The most important is power to stabilize the population of Greater London at somewhere about its present size. Rationalization of existing use zones cannot otherwise be undertaken with much hope of success. The whole process implies room to manœuvre and time to think.

Given the necessary powers a more exciting scheme for the replanning of Central London could well be imagined. Doesn't London for instance need a real theatre centre? For the time being, however, discussion of such detailed questions would merely stir up controversy and side-track the main issue.

community structure

L C C "Recognition of the existing community structure of London must be implicit in any main reconstruction proposals. To ignore London as it exists and treat it as one vast field for experiment would lead to incalculable and unnecessary disturbance of people's lives; moreover it would be the least economical method of procedure." It is in the best English tradition for revolution to be represented as a conservative measure. What does the existing community structure of London amount to? §71 of the report notes that there are "numerous subsidiary civic and commercial centres," a vague description corresponding to an amorphous reality. What type of community structure is proposed? §404 reads: "Each community is conceived as containing a number of smaller areas of convenient size to form self-contained compact neighbourhood units, each equipped with its own schools, local shops, community buildings and smaller amenity open spaces. A convenient size for a neighbourhood unit has been found to contain from 6,000 to 10,000 people: this figure is based primarily on a population total which includes the appropriate number of children for an elementary school. Such features as main roads, railways, canals and industrial estates are regarded as forming barriers and defining boundaries between communities and to a lesser extent between neighbourhood units. In this way it is possible to avoid main traffic routes crossing the units, but where this is impracticable footpaths with ramped subways are suggested as a means of linking the separate parts and giving safe access to schools and parks." Neighbourhood centres are described as possessing in addition to a school and shops, community buildings offering facilities for physical training, dancing, handicrafts, discussion groups and dramatics to which nothing at present corresponds. The desirability of making the neighbourhood the smallest unit for redevelopment purposes, and of discontinuing the practice of putting up houses singly or in small groups is strongly emphasized. Community centres are described as containing not only shopping centre, municipal offices, police courts and fire stations but Assembly Halls, Health Centres, cinemas, theatres and even labour exchanges, and wherever possible an industrial estate is to be located in each community, carefully sited to preserve amenity. It is further suggested that, besides being distinguished by suitable boundaries and equipped with a full range of services, neighbourhoods and communities should be given architectural unity by central emphasis. Zoning, it is suggested, should be positive and

not merely permissive, redevelopment plans should be prepared in detail and panels of architects working in collaboration with the council's architect should have power to design " outline or silhouette groups indicating the scale of setbacks and other main characteristics of the street picture " in connection with specially important points.

A R Firstly, how do we react to this proposed new community structure? The need for neighbourhood units and also for some larger unit midway between the neighbourhood and the metropolis is generally agreed, partly in order to break down the vast area of London into physical units of manageable size and partly for social and administrative reasons. But it is difficult, without further information, either to agree or to disagree with the particular proposals put forward. The neighbourhood unit of the report is based on the Ministry of Education estimate of numbers needed to fill an elementary school, which might be altered by a changed educational policy. Education is only one of many services which should influence community structure, and the needs of industry and of retail distribution are quite as important in this connection as the social services. A balance between all the factors to be taken into consideration can only be struck after a comprehensive survey has been made of existing conditions, and checked by an analysis of probable future needs. Obviously the framers of the London County Plan have not been in a position to initiate such a survey, but they are to be blamed for failing to emphasize the need for it sufficiently (it is mentioned only in connection with retail distribution) and for assuming that industry can be somehow fitted on to a community structure decided upon without reference to it.

Secondly, what will these proposals involve besides rearrangement of roads and railways, and other features forming natural boundaries? Without going into the subject in detail it would seem that recognition of the existing community structure would involve

I. A reorganization of our administrative machinery which can only be compared with the local government reforms of the eighteen thirties. The Borough of Lambeth, for instance, reappears as five or six different communities, some inside and some lying across the present borough boundaries.
II. Some reorganization of existing social services to bring them into conformity with the dominant pattern.
III. Extension of the social services by, for instance, the creation of community and neighbourhood centres. Though this is not essential to physical replanning, the community structure suggested in the plan would be lifeless without it.
IV. Detailed control of land use equal to that enjoyed to-day only by an owner over his own property. Positive zoning of the type suggested can scarcely be secured by other means.

the three density zones

L C C §297 describes the density proposals put forward in the report as being based on

I. the number of people to be rehoused. (Existing densities in the 15 reconstruction boroughs are given as varying between 108 and 198 people per acre);
II. type and size of dwelling required. (" There is abundant evidence that for families with children houses are preferred to flats ");
III. the amount of open space needed (see below);
IV. the degree of decentralization that is possible. (§120: " While we would like to see the lowest density of 100 adopted, which would allow two-thirds houses to one-third flats, we feel that the actual numbers to be decentralized would be difficult to equate with the amount of industry that would be decentralized ");
V. existing land values. (§297: " To build altogether in flats would reduce decentralization and would accord to some extent with the high cost of land at the centre.")

A R In themselves the densities proposed seem reasonable, but the explanation of how they have been arrived at, does not. It is not clear, for instance, how the amount of industry which could be decentralized has been estimated or what powers have been assumed in this connection. Land values, which have certainly influenced the decision arrived at, are only mentioned in a most casual way. And finally a rather different account of the method followed is given in §115. The planning authority must adopt certain standards of general living conditions—living space and play space; to these must be added auxiliary space for community life. Having decided on the particular standard of density for the particular urban instance, this has only to be applied to existing conditions to give the numbers to be decanted.

In fact the density proposals seem to have been based mainly on the existing position, which has been modified slightly in order to secure improved living conditions in the East End and to cut down passenger transport. They have been expressed as maximums in order to allow for extreme cases; also to facilitate the creation of additional open spaces and allow variety in treatment. In other words the London of the County plan is held together by the need for people to live near their work and by the difficulty of enforcing any great measure of decentralization—partly at any rate because of land values.

Travelling in London is difficult. It is also expensive. The plan assumes that it should be cut down. To this end industry where possible is to be decentralized and high density housing areas (200 persons per acre) are to be developed north and west of Hyde Park, in Pimlico and south of the river, where existing or proposed new open spaces make possible considerable increases on present density without infringing the proposed standard of four acres of open space per 1,000 population. Accommodation provided in this way is to be designed to suit people in the lower income groups working in the central area, including probably some of those living at present in less healthy and more congested districts of the East End. The East End itself together with other residential areas lying for the most part between the A. and B. ring roads is zoned for a density of 130 persons per acre. This represents a considerable reduction in density in the most congested areas of the East End, but taking the outer housing area as a whole, the net result of building up to this figure would be an increase in total population. For the suburbs, beyond the B. ring road the density proposed is 100 persons to the acre. That means that here also the plan provides for a higher population total. The present average density in suburban housing areas is somewhere in the neighbourhood of seventy persons to the acre.

Public discussion of the plan so far has centred for the most part round these proposed densities, which Americans and Englishmen alike have condemned as too high. Americans equate blight with high density development. Under a system of uncontrolled land values it is admittedly more difficult to redevelop heavily built-up areas, but is there any necessary connection between high density and blight? Over here we seem to be in a greater danger of blight from low density, each new wave of outward expansion blighting large areas of suburban property which though far from the centre until then enjoyed the advantage of access to the open countryside. Must intensive development be a cause of blight when it is planned to preserve amenity, and land values are subject to control as the County Plan presupposes that they will be?

In fact most of the discussion of these density proposals has been wide off the mark in that it has ignored the fact that the figures suggested are *maximum* figures and refer to actual housing sites only. It is not the intention of the plan to increase the population of the county. On the contrary, the report suggests that approximately half a million people should be removed from the reconstruction areas of the East End to homes outside the County boundary. On this assumption building to the maximum density, if allowed in all cases, would merely result in a very great increase in open space. The figures in the County plan represent a substantial reduction in density as compared with pre-war practice. Areas dealt with by the L.C.C. under the 1930 Act totalled by December 1, 1936, 501.4 acres and provided accommodation for 104,026 people, an average density of 207 people to the acre, with no additional allowance for open space community or public buildings. The fact remains, however, that the adoption of these proposed density figures might be dangerous if power to control land use and the location of industry were not also forthcoming.

housing policy

L C C §115 of the report says: The planning authority must adopt certain standards of general housing conditions, living space and play space. To this must be added auxiliary space for community life. No attempt has been made to apply the method outlined in the first sentence, though proposals for auxiliary space are fairly precise. A possible reason for the omission is that the subject is one requiring very careful consideration and a committee appointed by the Ministry of Health—the Dudley Committee—is already considering it.

The procedure actually followed seems to have been first to fix maximum density figures (see §3), then to select a variety of housing types giving a fairly wide range of choice, finally to work out sample layouts incorporating as many of these types as possible. The proportion of houses and flats at each of the given densities seems then to have been calculated on the basis of figures showing the average distribution of family sizes for Great Britain as a whole derived from the 1921 census. Results arrived at in this way show that between 30 and 80 dwellings out of every hundred would normally be flats, while in areas developed at 200 persons to the acre all would be flats. The types of dwelling proposed include two- and three-storey houses, three-, four- and five-storey flats without lifts, eight- and ten-storey flats with lifts. The area of land attached to flats is based on the need to maintain a minimum angle of light of 30°. Houses are spaced about 18 to the acre. The Report recommends that the neighbourhood unit should in future be the minimum unit for redevelopment purposes. The wording of the section on housing gives the impression that, as redevelopment takes place, the proportion of flats to houses shown to be necessary, on this basis, for densities of 100, 130 and 200 respectively, would become general throughout the entire area of the county.

A R The first criticism of the housing policy outlined in the report lies against the types of dwelling selected. Was the district valuer responsible? Catherine Bauer rightly wants to know why so many " four- and five-storey walk-up flats " are included? Other people want to know why the accommodation provided in flats is so inferior to that provided in houses? For instance the floor space in houses ranges between 850 and 1,023 square feet, while that in flats is calculated at an average of 625 square feet. Twenty two-storey houses are to have 41,000 square feet of land, while the same number of flats in a ten-storey block get a mere 6,200 square feet; two-storey houses are spaced at a distance apart equal to approximately four times their height, while ten-storey blocks are grouped together (which is quite unnecessary) and spaced at a distance equal to barely twice their height, which gives a poor outlook and poor lighting conditions on the lower floors. Admittedly the object of flats is to save space, but should not some of the advantages which result from the economies they make possible accrue to the flat dwellers themselves? In the form, perhaps, of additional floor space and certainly of lifts? The Scottish Housing Advisory Committee recommends that all buildings more than three storeys high containing flats should have lifts installed. Neither of these points, of course, affects the plan as a whole, as they could easily be met without drastic alterations one way or another.

A more serious criticism is that by basing their calculations on figures taken from the 1921 census, which are the average for England and Wales as a whole, and in any case, inaccurate, the difficulty of providing houses for families with children has certainly been exaggerated. In the first place all families containing more than two people are tacitly assumed to be families with children which is very far from being the truth. And in the second place the national average is assumed to hold good for every part of London, although Poplar with its Jewish and Irish population presents a very different problem from say Kensington. It is a most fortunate fact, from one point of view at any rate, that in districts which are at present overcrowded, families are either unusually large, which makes it easier to provide a high proportion of houses, or composed predominantly of adults which makes it less necessary to do so, e.g., even at a density of 130 people to the acre the entire population could still live in houses, if families in that area contained on the average six children each.

To sum up, the report gives an unnecessarily unattractive picture of flat life and one way and another greatly exaggerates the number of families that would have to live in flats.

Looking at the matter from another point of view, however, the housing policy outlined in the report is a great advance on pre-war practice. Houses with gardens were never provided in the East End,

flat blocks were closer together and lifts were unknown. A monotonous layout of five-storey blocks was the general rule in central areas, and new estates were seldom planned in conjunction with community buildings and public open spaces. The policy advocated is sufficiently in line with established precedent to stand a chance of adoption even if other measures advocated in the report should be rejected.

auxiliary space for community life

L C C The plan suggests densities of 200, 130 and 100 persons per acre for the central housing area, the inner housing area and the suburbs respectively. In themselves these figures mean nothing. Apart from the fact that they are maximum figures (see above), they relate only to land actually used for housing. They have to be read in conjunction with recommendations concerning space to be reserved for other purposes. Land needed for community buildings (shops, schools, etc.) is excluded from the reckoning and it is suggested that an area equal to 20 per cent. of the housing area should be set aside for this purpose. Land needed for public open spaces is also excluded from the reckoning and is to be provided, where it does not already exist, at the rate of four acres per 1,000 population (see below). A further 10 per cent. of the total arrived at in this way (housing and community buildings and open space) is earmarked for public buildings and the whole calculation is subject to the proviso that the actual density on housing estates is likely to fall below the theoretical maximum by as much as 20 per cent. wherever a proportion of existing streets or buildings has to be retained.

A R If we work out what these proposals involve for the worst possible case, an estate housing 1,000 people at the maximum density of 200 persons to the acre, we get the following results :—

Area of housing estate	5 acres.
Community buildings—20 per cent. of housing area	1 acre.
Open space of four acres per 1,000	4 acres.
	10
Public buildings 10 per cent. of above total	1 acre.
Grand total ..	11 acres.

On this basis surely even residents in the central areas would not be overcrowded, particularly when one remembers that the theoretical maximum is not often likely to be reached. A similar calculation for the suburbs gives 1,000 people to approximately 18 acres.

The report does not explain how the total area of land available for housing and auxiliary uses has been calculated, but these figures suggest that the L.C.C. have in fact allowed themselves a comfortable margin. The present average density *in housing estates* in the suburbs is thought to be somewhere about 70 people to the acre. *Provided the population of the county can be stabilized at the existing figure*, it should be possible to allow the average density on housing estates to fall far below the figures proposed where large areas fall due for redevelopment, or alternatively to increase the proportion of auxiliary space—presumably in the form of additional public open space laid out as parkways or green wedges.

public open space

L C C The report proposes to provide public open spaces at the rate of four acres per 1,000 population (minimum), existing open spaces to be counted as serving only those residential areas which are within half a mile walking distance of them, and the rest to be written off as surplus. Existing open spaces total 8,261 acres and on this basis another 5,428 acres are needed. It is suggested that the total of 13,316 acres should be allocated as follows : playing fields, sports centres, etc.—two acres per 1,000 ; large parks, parkways, riverside pleasure grounds and allotments—one and two-third acres per 1,000 ; small amenity gardens and squares, one-third of an acre per 1,000. The open space diagram illustrated in the report is based on a standard of four acres per 1,000. Other passages in the report, however, seem to indicate a more ambitious policy ; e.g., " The region is the only satisfactory basis for co-ordination : the green belt and surrounding country-side need bringing more into the centre through green wedges formed by the existing undeveloped and public land, and the parkways along the ring roads giving access from one wedge to the other. At the other end of the scale the space around and between buildings needs planning in relation to the larger open spaces in the area, so that there is an interpenetration of greenery from the parks into the residential area, and it becomes possible for the town dweller to get from doorstep to open country through an easy flow of open space, from garden to park, from park to parkway, from parkway to green wedge, from green wedge to green belt. The motorist too would be able to enjoy the advantage of passing through a fairly continuous parkway which would be landscaped with increasing informality, as t proceeded from the centre to the country-side ! "

A R This verbal description goes a long way further than Colour Plate 3, which reflects, even less, the policy outlined elsewhere, of using open spaces to mark the boundaries between one community and another. The explanation of this apparent contradiction seems to be that the possibility of securing a coherent open space plan depends upon extensive redevelopment. Only in this way can large-scale economies in the use of the land be secured, without which land is unlikely to be freed for open space over and above the bare minimum necessary for health. Large-scale redevelopment is also important, because though open spaces round and between blocks of flats are not counted as public open space, nevertheless they play an important part in linking public open spaces together and breaking up the monotony of built-up areas (see the report's development plans for reconstruction areas). In the plans of reconstruction areas illustrated, public open space at the rate of four acres per 1,000, eked out by space between buildings, seems ample for most purposes, though one would welcome a freer use of open space to mark community boundaries, and to form green wedges. But the reconstruction areas contain the worst examples of overcrowding in the county. A similar clean sweep in less crowded districts would give better results.

By contrast the plan showing proposed open spaces for the London area as a whole makes it clear that four acres of open space per 1,000 population in areas planned as most of London is to-day is not enough. If, on the other hand, the standard of seven acres per 1,000 advocated by the National Playing Fields Association were adopted there would be a danger of redeveloped areas losing their urban character altogether. Whatever America may feel about Broad Acre City, Londoners on the whole dislike the idea of it. More open space is needed but of the kind which the report describes as " surplus."

The recommendation that existing undeveloped land within the county, which might form the basis for future green wedges, should be preserved lacks conviction. Other suggestions in other parts of the report make it clear that remaining areas of undeveloped land are viewed as possible site for housing as well as for new industrial estates. They are in fact bound to be used. The question is : Will corresponding or larger areas be reclaimed ?

The problem of creating adequate open spaces is not one that can be dealt with in isolation. It hangs together with redevelopment.

industry

L C C Though the Social and Functional Analysis contained in Chapter I of the plan distinguishes four major use zones, one of which is described as the industrial area, London's industries do not fall neatly into any zone. Apart from the main industrial concentration round the docks which extends northwards up the Lea Valley and in an arc north westwards round the city, there are lesser concentrations along the Thames, Ravensbourne and Wandle and in the north-west of the County round Acton. In addition to these more obvious concentrations there is an even peppering over the entire area of industries which are mostly small in scale. The arrangement of industry in old London was based on what the report rightly describes as a logical sequence of

I. docks (mostly down river to the East) ;
II. industry (in the East End) ;
III. commerce and the wholesale trade (concentrated in the City immediately west of the industrial area) ; and
IV. the centre of retail distribution (in the West End).

As London grew, swallowing neighbouring towns, this pattern became less distinct. It has been further confused by the tendency of industry to migrate outwards from the centre, by gradual stages along the shortest route, mainly to the north, north-west and west, as mass production increases the scale of industrial organization and congestion in the central area grows.

The plan proposes to establish three distinct types of industrial zones :—

I. dock or warehouse areas.
II. special industrial zones for industries requiring special transport facilities ; and
III. local industrial zones for domestic or semi-domestic industries.

These zones should, it is suggested, be located for the most part in positions where industry already exists, hough the establishment of new industrial zones in boroughs possessing a large labour pool is also advocated. By weeding out pockets of housing from industrial areas and using space made available in this way to accommodate non-conforming users on outlying sites, the plan aims at rationalizing the existing situation. At one point, however, the plan reverses a well-established trend : it defines the belt of general business and industry east and north of the city by a line which greatly reduces its present size and leaves the greater part of Finsbury, at present the most highly industrialized area in London, to be reclaimed for residential purposes. The object of this proposal is to gain more space for housing near the central area so as to cut down passenger transport, and more industry for outlying communities with the same object in view. Five degrees of dispersal are suggested, ranging from dispersal throughout the inner housing area to removal from the metropolitan sphere of influence. No estimate is given of the proportion of industry that will necessarily be affected by this drastic reduction in size of the central business area, which is at present very wastefully planned. But the proposal to decant half a million people from the East End is said to be based, among other things, on the degree of industrial decentralization thought practicable. The establishment of new industries on sites vacated in this way would be prohibited. Other proposals aim at securing a more economical use of land needed for industrial purposes. These include the establishment of flatted factories in local industrial zones, and the replanning of canal and riverside sites reserved for industry with side ponds at right angles to the waterfront, to allow more intensive use.

A R The first thing that strikes one about these proposals is that they are not based on an adequate survey. True, a complete list of London's industries has been compiled, borough by borough, from the factory inspector's records. But the information is factual rather than analytical. It explains nothing. The brief description of London's major industries, also included in the report, makes it clear that in most cases outward movement has been accompanied by corresponding expansion in the central areas. There is nothing to show that dispersal is in itself desirable from the industrial point of view, though it is the only way open at present of escaping the consequences of intolerably congested conditions in central areas. A further criticism is that the survey, such as it is, is limited to industry, which gives employment to a mere 743,473 out of a total of 2,618,392 people employed in the county. The obvious explanation of this is that other figures are not available. But the fact remains that by appearing to base a policy of decentralization on industry alone the whole problem of checking London's growth is over-simplified and distorted in a way that is unrealistic and dangerous.

Decentralization or, at least, stabilization, of the existing population is fundamental to the success of the whole plan, which relies on increased intensity of use to secure much needed open space and " make the industrial boroughs of London so attractive that people whose work is there will not be forced out to distant suburbs for pleasant houses, gardens, open spaces, schools with playing fields and safe shopping centres."

The area of the county, 72,000 odd acres, is amply large enough to accommodate the present population and provide space for all the activities which at present take place within its boundaries, provided the area is rationally planned. But the present position will only be made worse if compact planning encourages further growth. Planned location of industry as advocated in the Barlow Report is essential to the success of the County Plan. But three questions which need to be asked are : Will dispersal of industry within the London area, as distinct from decentralization, really simplify the problem of passenger transport ? Is it desirable from the industrial point of view ? And can the growth of London, which is not primarily an industrial centre at all, be satisfactorily checked by the planned location of industry ?

communications

L C C The system of main roads proposed by the L.C.C. Plan is based on the Bressey Report of 1937 which has provided an agreed working basis for the whole of the London traffic area. It consists of 21 radial roads (11 arterial and 12 sub-arterial) following for the most part existing routes ; three ring roads (one arterial and two sub-arterial) ; and two new arterial roads giving a N.S. and E.W. connection across the central area of London, and providing direct access to the centre. The County Plan differs, however, from the Bressey Report in three important respects. In the first place it is conceived as a whole, and if adopted will provide a clear and easily understood system of communication by road. Secondly, it shows respect for the community structure of London and endeavours, though not always successfully, to by-pass local centres. And thirdly, it assumes complete reorganization of the existing network of minor roads which is to be transformed by gradual stages into a series of precincts protected from disturbance and noise by carriageways designed to baffle through-traffic on lines advocated by H. Alker Tripp. Plans for reconstruction areas show this idea roughly applied but

by no means fully worked out—a fact on which the American experts comment. What is less clear from the report is the intention to apply the same system to business areas, in some cases, e.g. Bloomsbury, by a slight adaptation of the existing system, in others which include the whole of the West End, by drastic reconstruction.

Proposals for the railways are less precise. It is suggested that a special body should be set up to investigate certain possibilities. In general terms these are: electrification of all lines leading into London; separation of suburban from main line traffic and, where new terminals are designed, the use of different levels, suburban lines being taken underground to link up with the existing underground system; the elimination of overhead approach lines to main stations within the A. ring road; the construction of new underground loops and a North-South tunnel to give improved interchange facilities between existing surface railways and main-line stations; and the construction of a new inner and outer goods circuit to reduce the volume of heavy traffic on the roads particularly in connection with markets. Air transport is not considered.

AR The main criticism of the transport proposals is that transport by road and rail is considered separately. An attempt, it is true, is made to link them together but they are not conceived as a whole. The conclusion of the Bressey Report, whose terms of reference have often been criticized, are accepted as a basis for the road plan and it is suggested that another commission should be set up to consider the problem of rail transport independently. What is wanted is, first, a survey of local and through traffic in the London area, covering all forms of transport; and secondly, a body capable of formulating a policy for the Greater London area based on the use, in all cases, of whatever form of transport is most suitable for a given purpose. This body should have power to consider at the same time the two closely related questions—the location of industry and the location of housing estates. It is no use planning transport as a whole if the transport problem is considered apart from its context.

Dr. Liepmann's book *The Journey to Work* raises many queries in connection with the L.C.C.'s policy of trying to reduce the problem of passenger transport by siting industry near to housing estates. The author shows that a very large number of people are always likely to travel to work in search of employment exactly suited to their abilities and tastes and this is seldom found on the doorstep. This contention is borne out by published statistics of the numbers of people entering and leaving each borough to work, as compared with the numbers living and working in the same borough. In this connection it is worth remembering that while communications to and from the centre of London are overcrowded, inter-suburban transport is almost non-existent.

The replanning of London's communications raises the problem of land values in its most awkward form; it also raises the question of control over statutory undertakings. Railways which between them own about 3,350 acres of land within the County boundary are not at present subject even to the ordinary measure of town planning control.

3 THE LATEST DEVELOPMENTS

SINCE the L.C.C. report was published, the Town and Country Planning Bill has passed its second reading in the House of Commons, and the Government's White Paper on land use has been published. They supersede the proposals of the Uthwatt Report. To translate the County of London plan into reality powers of land acquisition, it has been pointed out, are required at least as far-reaching as those visualized by Mr. Justice Uthwatt. Does the new Bill make them available?

The Bill will allow local authorities to purchase land needed for reconstruction or redevelopment as a whole, and for any purpose for which land is likely to be required in connection with such redevelopment. Orders for compulsory purchase have to be made out by the Minister, whose approval of each scheme is necessary. A new and rapid procedure of compulsory purchase is set out in the Act for use in connection with war damaged areas. As there is enough work here to keep the country busy for several years, there seems no reason to quarrel with a slightly slower procedure, also new, in connection with areas where the motive for reconstruction is obsolescence. Equally wide powers are also conferred on local authorities to purchase land by voluntary agreement, when this can be reached. Land ownership naturally carries with it full power to regulate development and control the use of land, though neither the Bill nor the White Paper add to the existing powers of the council over land remaining in private ownership. So far, so good. But what about finance?

Areas to be dealt with first are, in London at any rate, unprofitable East End slums. Against these might be offset the blitzed areas of the City, which are capable of realizing big profits (provided the opportunity to create open spaces in the neighbourhood of St. Paul's and elsewhere is ignored), were it not for the fact that the City is a separate planning authority, with a separate profit and loss account.

It is said of the East End that the present owners, in many cases, could not restore their property even to its pre-war substandard slum conditions without heavy loss, because the cost of building and the nominal value of the land is so high in relation to the income it is possible to derive from rents. If it is not possible for landowners to restore the *status quo* without loss, what is it going to cost the L.C.C. to reconstruct these areas, at a considerably lower density, with a very much higher standard of housing, and with a completely new road layout? As a result of wartime experience, road construction, one imagines, is not such an expensive job as it used to be, but it is still a considerable item, particularly where it is also necessary to relay drains and other services. The restoration of built-up land for use as gardens and open space is also a cost on which no profit whatever can be expected. Reduction of density necessarily involves a corresponding reduction in rents—not to mention rates; and land purchased in other districts to accommodate "overspill" has also to be paid for.

To meet these expenses the Bill proposes that local authorities should have the benefit of grants equal to the interest for two years, on the capital sums involved, together with a housing subsidy at the same rate as before the war. These proposals are blatantly inadequate. There is, it is true, a proviso in the Bill which allows the period of two years to be extended to as much as thirteen, in cases where the work of redevelopment either cannot be completed within the prescribed period, or fails when complete to pay its way. And Mr. W. S. Morrison, the Minister, introducing the second reading in the House of Commons, made it clear that even after these successive periods had elapsed the situation would be "subject to review."

But the Government's intention that reconstruction should on the whole be self-supporting is made clear by Clause 7, which lays down that grants shall be conditional on the approval of schemes not only by the Minister but by the Treasury "as being likely to result in an annual return and an annual equivalent (of the cost) which are satisfactory in relation to each other, having regard to the circumstances of the area of extensive war damage, and the requirements of a proper layout and redevelopment." What does this clause really amount to? It all depends on how it is interpreted by the Treasury, but knowing the Treasury, it is not unreasonable to suppose that more importance will be attached to the balancing of the budget, and less to the requirements of a proper layout and redevelopment than is consistent with happy family life in the East End.

The price fixed by the Bill for the compulsory purchase of land is the current market value or the 1939 value, whichever is the lower. The 1939 value is, in thousands of London cases, obviously too high, and the genuine market value is difficult to ascertain, where land is subject to planning restrictions and the local authority the only buyer in the market. It seems on the face of it, since we cannot afford the luxury of derelict areas, that machinery is needed for forcibly writing-down the value of urban land to a figure which will make redevelopment according to modern standards of hygiene and amenity an economic proposition. If for political reasons this cannot be done, then the issue should be squarely faced and we should frankly acknowledge that reconstruction is going to cost money, instead of keeping up the pretence that it should pay its way.

The White Paper, as opposed to the Town and Country Planning Bill, is concerned with compensation and betterment. Since the underlying assumption is that compensation resulting from prohibition to develop, and betterment resulting from permission to develop previously undeveloped land, should balance out, revenues derived from this source will presumably not be available to help pay the costs of reconstruction. There remains the possibility of using revenues derived from betterment in urban areas (i.e. increases in the value of land due to redevelopment) being used to offset the cost of reconstructing blitzed and blighted property. But the White Paper assumes that urban land, broadly speaking, cannot be expected to increase in value as a result of redevelopment. Either there is a grave inconsistency here in the treatment of urban landowners for the purpose of compensation, against which appeal can and will be made, or local authorities cannot expect much revenue from this source.

In fact, any proposal to balance compensation against betterment is a ridiculous idea. Take an extreme case. Assume that plans are made to reconstruct all the towns in England without extending the present built-up area, which obviously could be done, then the maximum amount of compensation would be payable, while on the basis of the White Paper there would be no betterment to collect, as no shift of values would have occurred at all. Go to the opposite extreme, assume that plans are made to abandon all existing urban sites in favour of new ones, then there would be such immense revenues to collect in the form of betterment as would reduce the total of claims to compensation to insignificance, though the procedure would be otherwise absurd. There is in fact no reason to suppose that compensation and betterment will balance, unless planning is governed by a desire to make them do so, or the basis of compensation is fixed in such a way that they must. There is, on the other hand, every reason to suppose that the value of urban land will continue slowly to increase, and though the connection is not so obvious as it is in the case of a tract of agricultural land newly converted to housing, there is a connection between this rise in value and redevelopment. Refrain long enough from the one and sooner or later you stop the other and set the process going in reverse!

Logically, the money collected as the result of a betterment buy on previously undeveloped land, should be earmarked to offset the loss of value of land in central areas which is bound to result, one way and another, from less intensive use, which it is public policy to encourage. Even if all the proceeds of betterment were devoted to this purpose, a balance would still have to be found from public funds to defray heavy expenses which are inseparably connected with the re-equipment of town lands. In time, with increasing national prosperity and a general rise in the value of land the debt could be repaid. But only by borrowing on the future can we make up for the shameless exploitation of urban land in the past, and begin the work of reconstruction now on a proper basis.

To sum up. The Bill by conferring extensive powers of compulsory purchase at a price not exceeding the 1939 value, and giving a grudging promise of Treasury backing, guarantees that areas of extensive war damage, and perhaps some of our worst slums, will be rebuilt within the next few years as meanly and as cheaply as public opinion will allow, while blitzed city centres will be rebuilt with an eye to the greatest possible profit—this time, however, for the benefit of the public purse.

On the other hand, the Bill and the White Paper together, by making the compensation of landowners a first charge on the nation's share of profits in land (an argument which is no more and no less sensible than it would have been to compensate farmers for the repeal of the corn laws, on the basis of the 1841 price level, with the proceeds of a tax on bread) and by maintaining the fiction that the redevelopment of urban land as a whole should pay for itself, not merely in the long but also in the short run, will, if they both become law, postpone reconstruction in the wider sense of the term for many years to come.

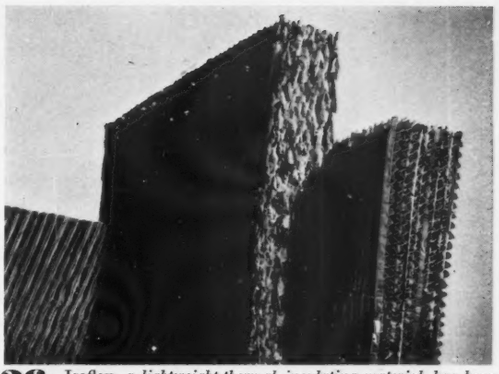
Everything in the L.C.C. Plan, therefore, which cannot be proved necessary for an agreed minimum standard of health, or made to show an immediate profit, goes straight into the waste-paper basket. Green wedges, open spaces to mark the boundaries of communities, parkways, densities lower than the maximum, extensive redevelopment of obsolete areas above the level of slums, reclamation of the river bank, reconstruction of the West End, and perhaps even the scheme for the reconstruction of the south bank in so far as it involves interference with existing railway lines, all will have to be shelved, postponed until revenues from lands now about to be purchased make it possible to go ahead without consulting the Treasury.

It is eminently characteristic that the opposition to the Bill was most strongly voiced in the House by Mr. Silkin, chairman of the L.C.C. Housing Committee, and that the comment of Lord Latham, leader of the L.C.C. (*The Times*, June 24) was that under the new Bill comprehensive planning and reconstruction had been "sold down the river."

DESIGN REVIEW

for a discussion of new designs, new materials and new processes, and as a reminder of the specific visual qualities of our age which war necessities are bringing out in their purest form, and which a more carefree and fanciful post-war world should not forget.

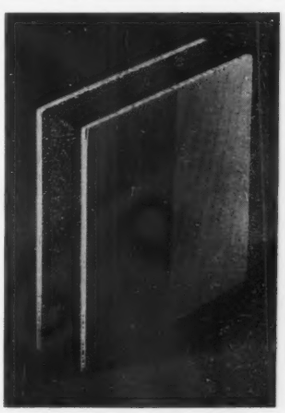
Stress on new materials, the development of scientific data, and the need for their application in contemporary design, is one of the commonplaces of criticism, and in itself an interesting sidelight on one of the worst aspects of present-day industrial design. The whole question of linking up scientific knowledge with art is treated as if it were a brand-new thing. However, historically there is good evidence to prove that the use of scientific knowledge by the designer has always been the normal and customary manner in which objects of æsthetic merit have been evolved. " The chemistry of potmaking, the physics of spinning, the mechanics of the loom, and the botany of flax or cotton " can, according to its most recent historian, not even in the neolithic age be isolated from the actual development of pots and weaving. (*What Happened in History*, by Gordon Childe. Pelican Books. pp. 53 and 69.) And it is not too much to say that the Bronze Age metal worker, with his knowledge of malleability, fusability, the reduction of metal from ores, and the development of alloys, was a specialist on no less a level in his society than the aircraft designer of to-day. Such mutual interaction of scientific development and art can be traced throughout history, as—to mention only a few names—the monk Theophilus, Villard de Honnecourt, Leonardo da Vinci and Sir Christopher Wren, all prove for their respective centuries. If in ours many artists no longer regard new materials, new processes and new scientific discoveries as their natural means of self-expression and of serving society, they place themselves outside the main stream of creative development and gravely endanger the future of art. But does this Victorian attitude of contempt for the sordid world of manufacturing really still apply to-day—at least in the case of the industrial designer as against the artist with a capital A ? Is it not rather the public that still thinks of design in terms of something detached from everyday life ? Hence the public and its mouthpiece, the newspaper, broadcast the new materials and their claims on the artist-designers' attention as something revolutionary and unheard-of, while in fact a growing body of design workers both inside and outside industry, and both recognized or unrecognized as designers, is fully aware of the necessity of combined ops between art and science and acts accordingly.



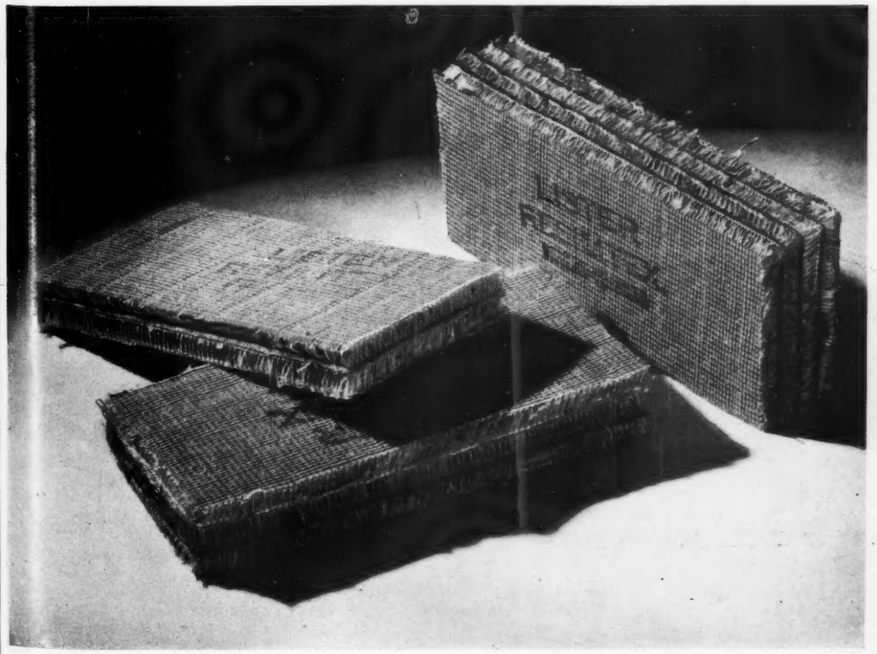
26 Isoflex, *a lightweight thermal insulating material, has been applied and proved under a variety of conditions in the past three years. It has been used in vans, trucks, cold storage, transport vehicles, ships, air conditioning plants, etc. It is a multilayer material made from corrugated sheets of cellulose acetate film, and its outstanding features are a thermal conductivity comparable to slab cork, an extremely low volume weight of 0.75 lb. per cube foot and non-porous, non-absorbent and non-inflammable qualities.*

27 Isoflex *is readily cut and is supplied in standard slabs 24 in. square of varying thicknesses, and flexible slabs 23 in. by 20 in.*

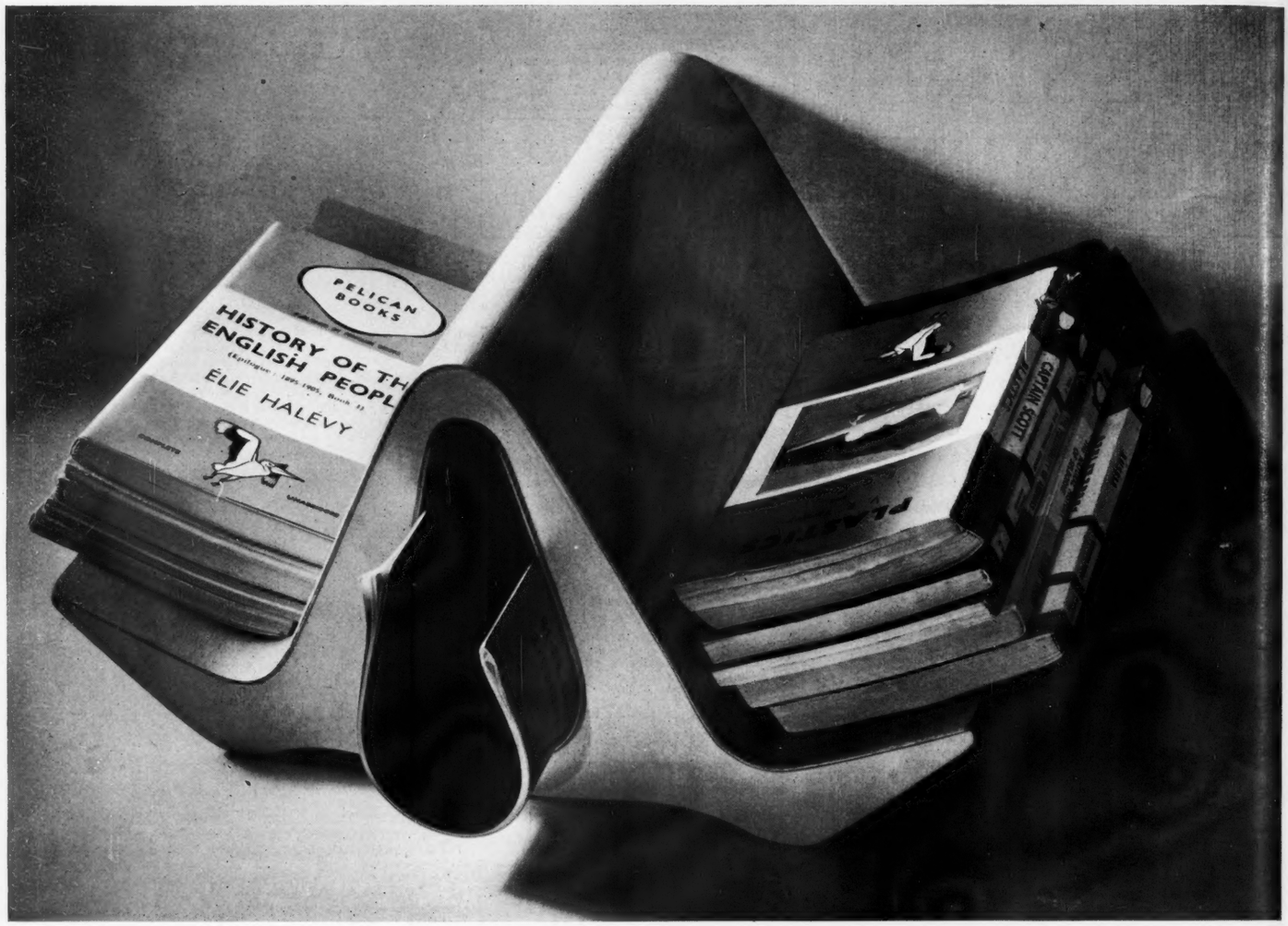
28 Onazote, Thermozote *and* Plastazote *are expanded rubber or rubber substitute, and expanded thermosetting and thermoplastic materials of a closed cellular structure, and used as low density stabilizing cores between veneers of plywood, wallboard, aluminium or light weight alloy sheets. Apart from insulating qualities such materials revolutionize constructional methods from the point of view of tensile compression, impact and flexural strength.*



25 *One of the most interesting wartime products is* Resiltex, *a resilient of a new character with a compression recovery ratio almost identical to that of sponge rubber, and now used extensively for insulation of vibration or shock. Typical examples are complex built-up resilient seating and shock pads for aëroplane manufacture, army conveyances, etc., linings to crash helmets and protective packaging. The standard* Resiltex *product consists of single sheets twenty yards long by 48 in. to 50 in. wide and .03 in. thick. The resiliency is provided by a pile-like arrangement of mohair, a material produced from the wool of the Angora goat which has long been recognized for its specially hardwearing qualities. The single sheets of* Resiltex *can be bonded together with fireproof cement to any desired thickness, and it can then be cut, curved, bent or moulded to almost any shape, or special thickness of sheets can be woven. An interlay of felt can be used where extra bulk is required. Apart from its application and development for the war effort, experiments are being carried out to develop the material as a sound and heat insulator in addition to those on its application in furniture.*



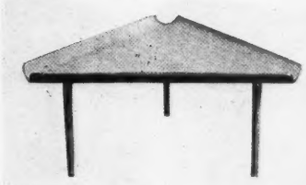
29 *Flexible glass fibres are accidentally produced in many branches of glass-making, and their unique qualities are to be seen in those extravaganzas of glass-makers' art, the nineteenth century all-glass nautical scene or the decorative tail feathers of Christmas Tree birds.* **29** *shows the glass marbles from which the fine threads of glass are produced and some typical yarn and tapes all lying on a fibreglass battery plate. Various types of fibreglass quilts are now well known. Newer developments include a rigid slab which is already in use in America and is also under experiment in this country. Textiles made from fibreglass in the post-war period will offer a wide range of weaves and fadeless colours in a material which is non-absorbent, non-inflammable and not affected by damp.*



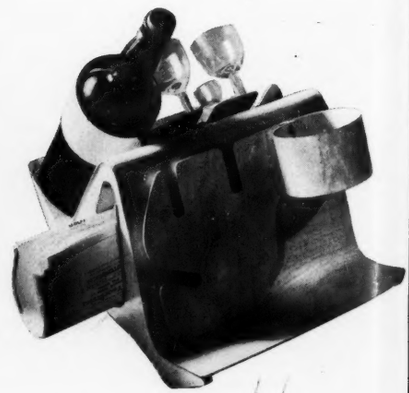
30 *Developments in plastics have been so considerable that very few can be mentioned here. One of the most important in its effects is the wide use of plastic cements for the manufacture of plywoods. The war-time use for such jobs as airplane fuselages —the one illustrated from* The Architectural Forum *weighs only 75 lb.—offers many suggestions for new applications both in building and industrial design.*

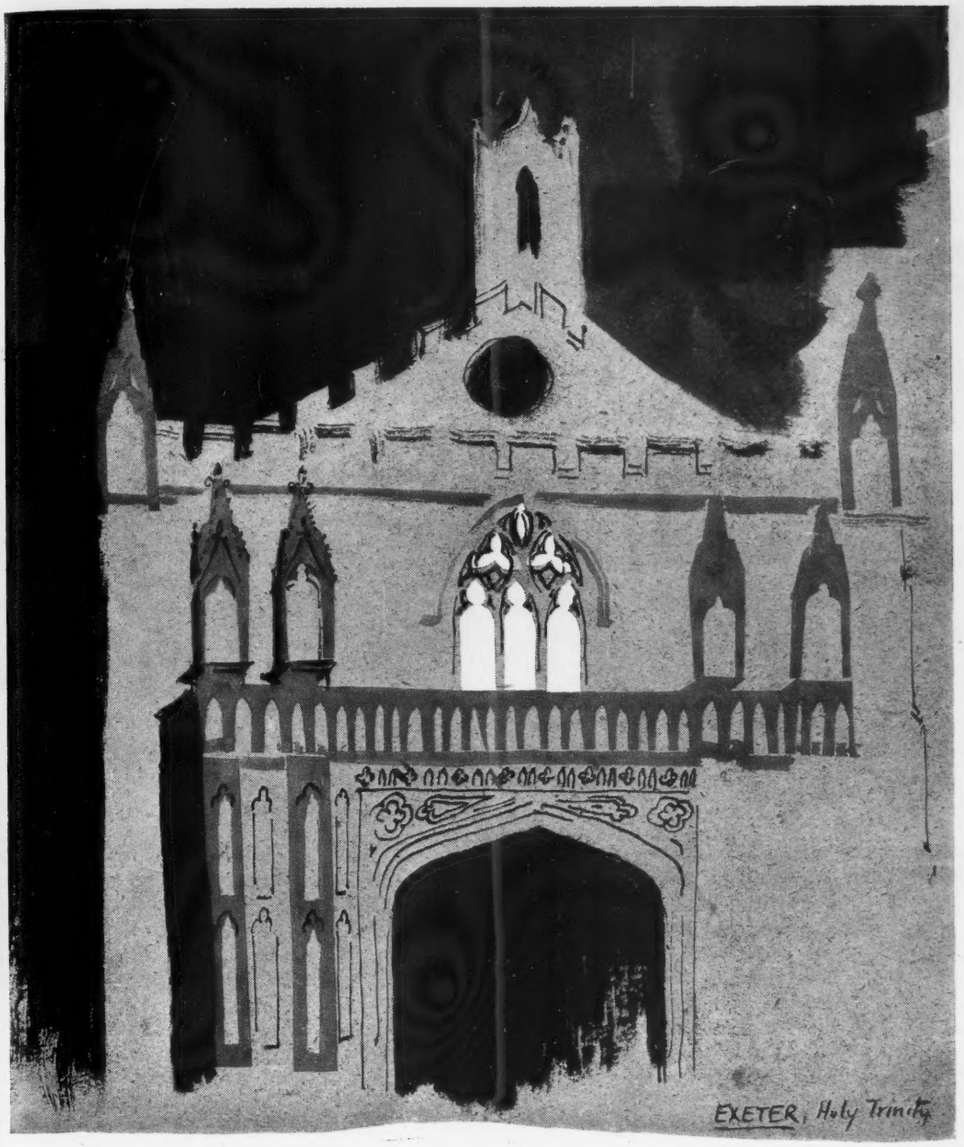
32, 33 *The chairs by Saarinen and Eames have, in the case of* **32**, *a thin laminated shell of wood veneers shaped to take the thrust of the springs and braced with wood strips, where the springs are attached; in the case of* **31**, *strips of veneer laminated in a cast iron formwork.* **31** *is then covered with a thin rubber pad to give continuous cushioning at all points, and is finally given a fabric finish.* **32** *has a new form of spring attached to a thin laminated shell. The spring is covered with foam rubber producing a highly resilient cushioning with a minimum of labour, materials and weight.* **31** *is surprisingly light. It weighs only* 20 *lb. as compared with the* 45 *lb. weight of a normal easy chair.*

31 *In October,* 1940, *the Museum of Modern Art in New York opened a competition for the design of furniture, fabrics and lamps. A book* (Organic Design in Home Furnishings) *on the results of the competition was published in* 1941. *Amongst the most interesting of the winning designs were the chairs and tables by Saarinen and Eames.*



34, 35 *In England the most interesting adventures in the use of plywood for furniture were the products of Isokon. The famous chairs of Marcel Breuer were followed just before the war by the Penguin Donkey designed by Egon Riss, Harry Marshall and Jack Pritchard. The Penguin Gull,* **34**, *is a miniature version of the Donkey, with the additional advantage that it can be hung from a bracket. The technique is that now used in aeroplane manufacturing. If the Gull stands on the floor, the oval slot in the centre into which the wall-bracket would fit, is used for keeping newspapers and periodicals. The Penguin books are meant to lie, not to stand, because such volumes in paper covers are liable to sagging if they are not jammed in tight.* **35** *is the Gull supplied with two additional pieces of ply that look as if they were designed by Henry Moore. They complement each other and are attached to the body like wings. Each can thus hold one bottle and three glasses. The centre of gravity is so well placed that the Pocket Battleship—this will be its name after the war—can hang from a bracket, with one or two bottles or none.*





White-painted Pennsylvania Park (below) is on rising ground to the north-east of the city of Exeter, and shows the town parallel, in colour effect, to the white cob-walled cottage in a picturesque Devonshire village. In the village, the white walls set a standard for the eye, and by contrast the neighbouring colours seem darkened and enriched. So it is here. Exeter's natural *house-colours (which to-day have to be sought for, and are by no means seen at a glance) are mostly warm and rich, and are made warmer and richer by contrast with a few pale buildings, such as those on this page, including the* 1820 *church of Holy Trinity in South Street (left) which is in two shades of very pale umber, and the Baptist Chapel in St. Bartholomew Street (photo, p.* 91*), which has characteristic West Country Venetian red details on pale stucco facades.*

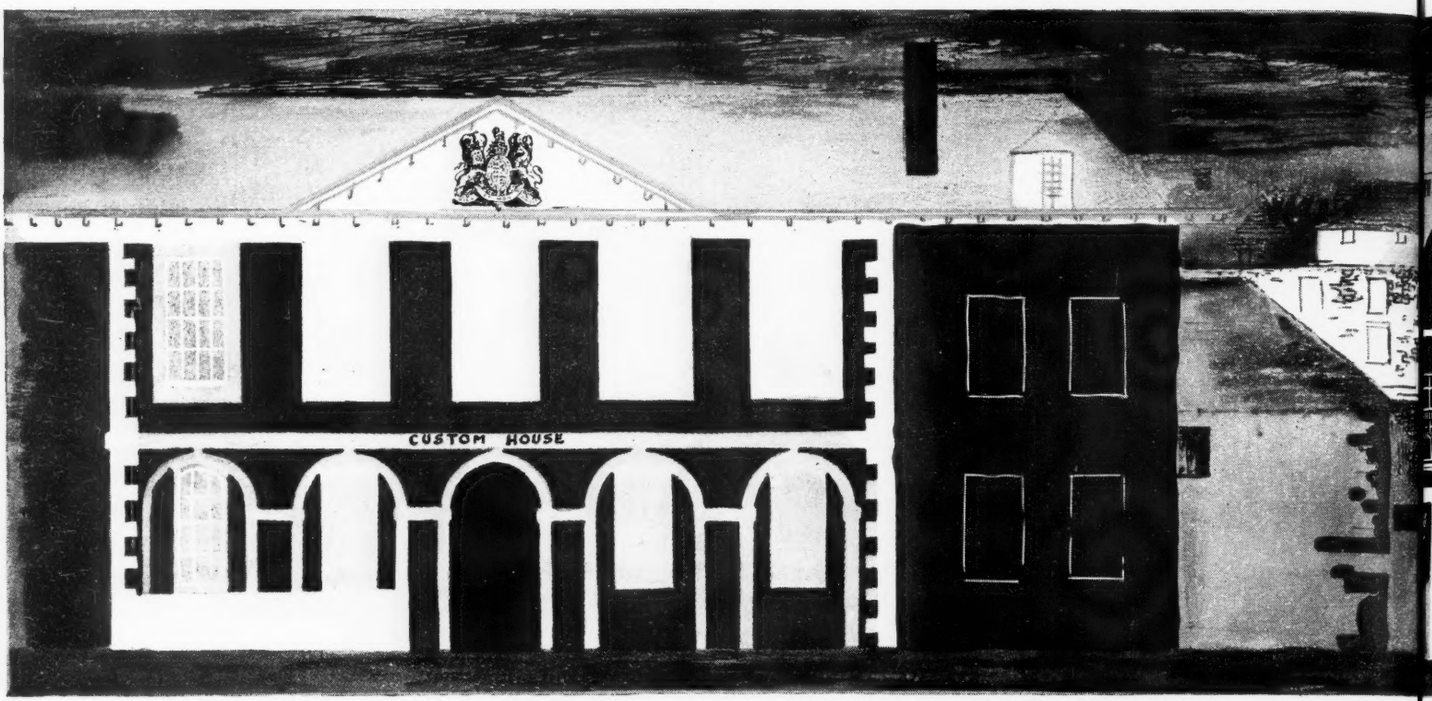
Warmth in the West

By John Piper

House painting in the West Country (that is, in Devonshire and western Dorset and Somerset, for Cornwall is a case by itself) is warm and friendly by nature, and is best epitomised in Devon's county town. For in spite of all, much of Exeter's colour remains, under the new-grown skin.

It is the colour that makes Exeter look Devonian. Apart from the brick building which is plentiful, there is the red sandstone of which the Guildhall and many of the churches are built—sandstone the colour of the cliffs at Teignmouth and Sidmouth—cob walling, slate-hanging, local blue-grey stone and Dartmoor granite. The Devon slates used for slate-hanging on houses, largely in the seaport part of the City, weather to a most attractive greenish grey, almost the colour of the granite. The cob, mostly to be found on the outskirts and in the neighbouring villages, is made of clay and gravel mixed together with straw, and put up in a mass : when not white-washed, pink-washed or yellow-washed, which it often is, it has a rich ochrish brown colour and a roughish, dry texture.[1]

The painting of houses in and about Exeter is influenced by the landscape. The reds and umbers frequently used[2] find a parentage in Devon cob walls, and in the materials of them that colour the landscape itself. The colour of Exeter buildings is certainly more influenced than that in most towns by the colour of the soil and its building stones. The warm ochres and umbers, pinks, Venetian reds and siennas seem natural to its shape and character. Sandstone glimpsed beyond ilex trees, pale green-grey slate-hanging contrasting with neighbouring tarred warehouses, red-brick walls with stucco dressings seen against Dartmoor granite or the bluish-grey stone of which the church of Allhallows-on-the-Walls is so handsomely built—



EXETER: THE QUAY. The Custom House is in dark red (local) brick with plaster dressings. The buildings shown in part from two sides of the square (Custom House on N; [illegible] E) on the tall building behind the Harbour Master's Office one of Devonshire slates. Custom House windows sashed on two on left. Royal Arms & Arms of the City of Exeter in relief, [illegible] and stone guttering.

Churches with tall pink sandstone towers are a well-known town and country feature in Devon. Over-tasteful people often express disapproval of their colour, and refer to tinned-salmon. The church of St. Mary Steps, Exeter, is seen (below) in all its pinkness in relation to some eminently sketchable houses. Our own self-consciousness—this is not a term of disparagement; if we are *self-conscious we should cultivate the graceful aspect of being so—gives a view such as this an effect that was never intended by the builders. It*

EXETER. St Mary Steps church, and surrounding

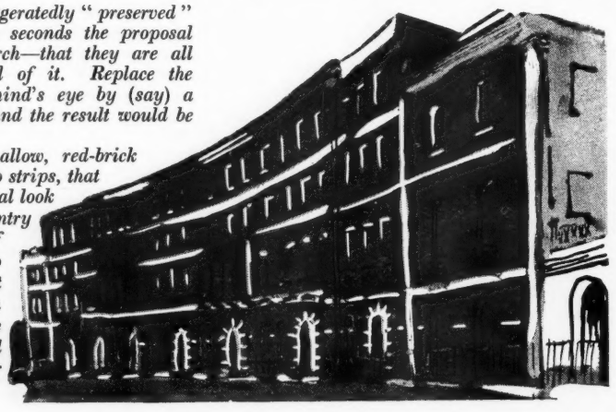
is none the worse for that. The exaggeratedly "preserved" look of the two picturesque gables, seconds the proposal made by the impossible pink church—that they are all survivals, *not revivals, and proud of it. Replace the buildings on either side, in the mind's eye by (say) a Georgian bank and a Woolworth's and the result would be miserably ordinary and vulgar.*

Colleton Crescent presents a shallow, red-brick curve, made lucid by horizontal stucco strips, that would grace any city, but has a special look here, as it catches the West Country evening light. Only fragments of Exeter's Georgian brick and stucco have survived widening, development and the German bomb, but enough remains to afford a sympathetic contrast to the cream, white and warm-painted houses that neighbour them.

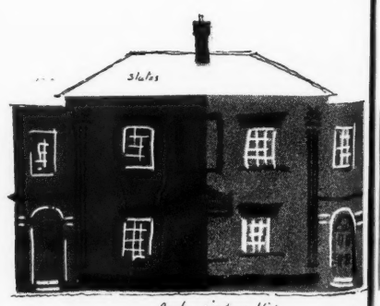
these are some memorable Exeter pictures. Some people find the colour of the red sandstone objectionable in itself, but they should look again at the weathered west front of the Cathedral in relation to the pleasantly jumbled colours of the houses in the Close, and at the church of St. Mary Steps from the south, with its decently self-conscious antique neighbours, and also at the respectable if over-celebrated Guildhall in the High Street. Red sandstone only looks ill when seen through spindly pines, and in Exeter there are none.

Now that Bedford Circus and half Southernhay have vanished, Colleton Crescent and Barnefield Crescent are the best remaining examples of the ilex-neighboured brick-and-stucco buildings that used to make Exeter a place to explore over and over again in memory. The stucco is painted in light stone, cream and white, the brick being of a dark, pinkish red. These gentle, veranda-ed curves still catch the west country light, and look imposing in their setting of grass, ilex and sky. And there are still main buildings above new shop fronts in High Street, South Street, Fore Street, Queen Street and elsewhere that would tell one, if one were dropped by parachute in any of the streets, that one was in Devon, not in Newcastle or Aberystwyth.

The best examples of slate-hanging, elaborately patterned and of the seventeenth century, are on Exe Island, and there is later work of the kind near the Quay, though the City is not so good a place as others (such as Topsham and Totnes) to see at its best the charming silvery effect of this wall-surfacing when it is combined with other west country materials. The warmth of most of the buildings gives point to such exceptions, as it does to the white of stately Pennsylvania Park, to the sparing blue-greys of villas here and there (such as those of some double villas in Friar's Walk),

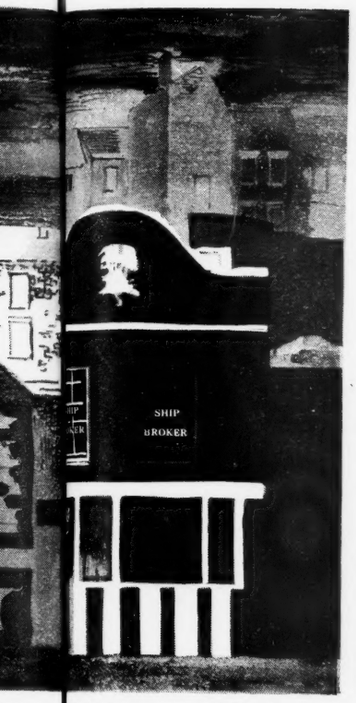


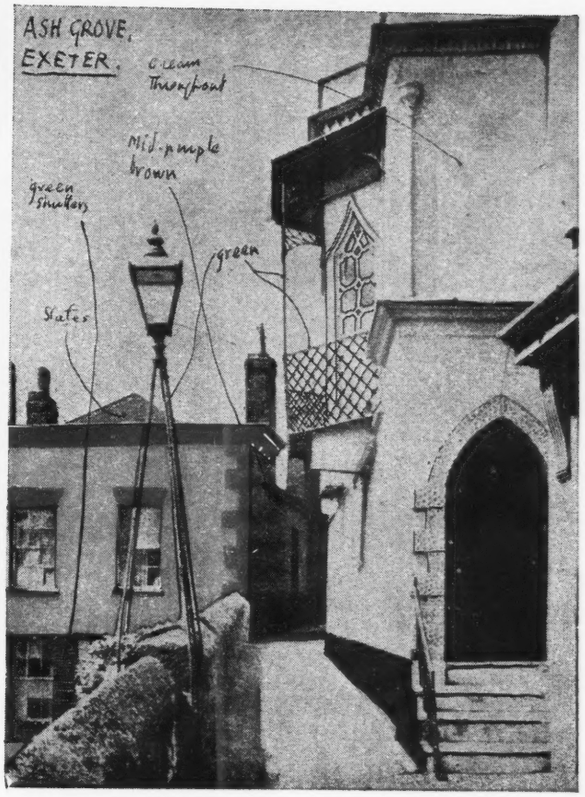
Exeter. Colleton Crescent



Centre windows blind

EXETER. Pairs of villas, Friar's Walk





and to the more prevalent, but on the whole restrained, polychrome brickwork near St. Michael and All Angels.

The Custom House on the Quay, and the Harbour Master's office, form a knot of interest, simple play being made again here with brick and stucco. West country character is to be seen in the geometrical patterning of the stucco, and in the relation of the buildings to the rising ground behind them, and to nearby buildings.

In back streets and alleys, notably Ash Grove and some turnings out of South Street, earlier colour habits remain nearly intact.

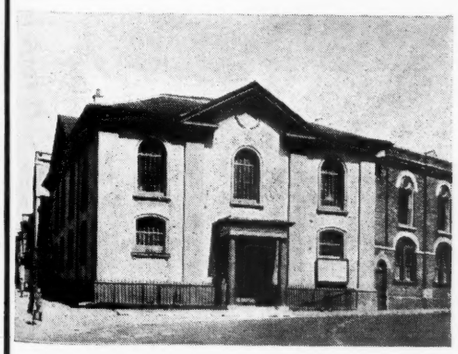
[1] Cob makes very warm cottages, and is satisfactory if kept dry, though it soon goes to pieces if the wet is allowed to get in, especially from above. People who live in old cob cottages get very attached to them, and it is natural enough that they should want to perpetuate the colour of them when they move into a cement or rough-cast villa in Exeter. They are usually foiled, but it would be a benefit if they were encouraged.

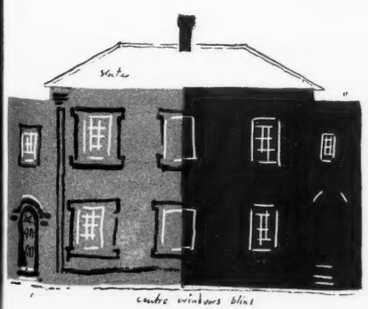
[2] Not only in Exeter ; they are found right across Devon, from Honiton to Devonport, but especially in the south.

" Vulgarity and provincialism " in an Exeter by-way. Would that more of it remained to us. A flat facade painted in two shades of Venetian red acts as the perfect neighbour for a cream-painted Gothic house across a passage. None of the Gothic details are " good," but since they are not accented by different colours (only the delicate iron balcony being painted green, the door and shallow dado black), the whole has a charming effect. Pleasant colour details not directly observable in the sketch are the green shutters on the left (to windows on ground floor, facing a garden below the level of the path) which provide a friendly echo of the green verandah railings on the Gothic house ; and the purple-brown wall against the passage, suitably dark and " ordinary."

To be self-conscious (as is the present writer) about such natural taste in colour is parallel to the self-conscious framing and exhibiting of " automatic writing " and wall-scratchings ; also, of course, to the self-conscious study of naif *paintings. But whereas the painters of pictures have willingly learned a great deal from the* naifs *of recent years, the painters of houses have been precluded from doing so by catching sight (out of the corners of their eyes) of the warning, beige-coloured forefinger of half-hearted " good taste." To point to striking examples of " vulgarity and provincialism " from which the unprejudiced might derive hope and profit is, in fact, one of the aims of these notes.*

The pairs of villas in Friar's Walk (bottom of pages 90, 91, centre) show quite another aspect of the same matter. The disapproval of residents of their neighbours' taste in colour has resulted in a delightful polychrome effect, of which only a small suggestive section is illustrated.





EXETER, Colleton Villa

BOOKS

Children's Corner

ARCHITECTURE FOR CHILDREN. By Jane and Maxwell Fry. Allen and Unwin, 1944. 7s. 6d.

To test whether a book for children is successful, you must ask children. This book has therefore been read and reviewed by four children, two girls and two boys. And as the authors of the book do not specify for what ages they wrote it, the reviewers' ages range from eleven to seventeen. The two boys come from a family interested in art and architecture, the two girls from families with no special leanings towards either.

I AM nearly 12 years old. I have been asked to read this book and to say what I think of it. It is the first book I have read on architecture, and was not quite what I expected it to be. I had really expected just a history of architecture with perhaps a chapter at the end about the tools, materials, and the different uses of them. Instead of this I found first a very simple explanation of the need and meaning of architecture. The several stories that follow are interesting and extremely explanatory, although perhaps rather vague as to their date.

Something I should have liked to know a lot more about is how an architect actually plans a house. Although the book tells in an easy way the things an architect has to think about, I would have been interested in the sizes that one needs in a normal house.

The chapter on the different kinds of dwellings in different parts of the world is very good. The drawings and photographs are clear, and in most cases clearly illustrate the text. This chapter contains also an explanation of the uses of materials and the making of some of them. The building characters who are described are very amusing: the bricklayer, the builder, his assistant, the carpenter, the joiner and a few others. These really tell the story of how a house is built.

After this comes the history of architecture, starting from the Egyptians with some good pictures of Egyptian temples. It goes on to the Greeks and Romans, strongly emphasizing the Roman arch, and showing some more good pictures, including a beautiful drawing of the bridge at Nîmes. Next follows an interesting bit about Norman architecture with some useful diagrams. The Early English part gives diagrams explaining how the pointed arch and flying buttress helps a building not to collapse. Then the book goes on through the Renaissance and to the downfall of architecture in the Industrial Revolution. A well written chapter on modern architecture finishes the book.

At the end there is a lovely chart comparing fashions, industry and architecture. I liked all these pictures except for the Lysander which has no tail-plane, and the early railway engine which is, I think, not one of the types that have existed in England, though it looks as if it very well might. The book is written in an easily readable style. It may not be right for the lowest form boys, but I have got a lot out of it.

BOY, 11 years 8 months old.

When I was reading this book I was inclined to skip the more elaborate plans which show the technical part of building. The frontispiece does not really show its spirit. A photograph of some building would have been more suitable; for, although architecture and hygiene are connected, the book is on the former and not on children cleaning their teeth.

More could have been added on the beautiful buildings of our country, how their growth progressed till they became what they are to-day, landmarks of the history of England. The black and white drawings help one to see a little of the lives of the people and the interior of their homes. The photographs show more clearly the lines and beauty of the buildings. I agree with the book on the beauty of our country, and how many places are spoilt by rows and rows of little villas with a plot of garden.

The structure of buildings and how modern conveniences are fitted into them, are described fully. I like the way the difficulties of the architect are shown and how they are overcome. It makes one appreciate the great work done by those men who build cities and homes.

The materials for building and the way they are prepared and used are illustrated on the whole well. The invention of plywood, plastics, etc., and their uses in building are also discussed.

Some more prints or photographs of the inside of houses would have added to the interest of the book. I would have liked to see more of this, and I think my friends too. Some coloured plates would also have been attractive, especially to show the richness of the woods used:

The charts at the end are confusing; Greek and Egyptian men and women have nothing to do with architecture.

GIRL, 13 years 2 months old.

This is a book that combines the past, present and future of architecture in a way which immediately arouses the interest of the young reader. The style is simple and concise, and there are no long, technical expressions. The sketches convey exactly what the authors mean, besides, in many cases, being extremely amusing. The photographs also are of the best, ranging from a depressing picture of the Birmingham slums to many lovely ones such as an aerial view of Cambridge and a picture of some yachts which shows the beauty of line which we hope to attain in our post-war buildings.

The past of architecture is shown to us from the very beginning when man needed something to keep out the cold and rain, and to keep in the warmth. The story is continued through the age when the pyramids were made and the Sphinx was not a mystery; through the age when Greece was the centre of civilization and Greek architecture became famous for its subtle beauty; through the age when the Romans invented the arch, which enabled them to house their vast multitude; through each distinctive age up to the present day.

Then the authors speak of the present, of the beautiful buildings that have been left to us, of the slums that are a disgrace to our country, and of the ugly, comparatively modern houses which are unsuccessful imitations of those of an earlier date. The authors of this book want the old, beautiful places to remain, and it is only the ugly, badly built houses of the last century that they wish to have destroyed.

Of all the pictures painted in the book the best is that of the future, of beautiful, well-planned towns with spaces for living, work, and recreation, of a country where people can live happily together in a clean, healthy atmosphere. Moreover, we are shown that this is no vain dream but a thing that can, and must, be done, although it will need a great deal of hard work to carry it out.

GIRL, 14 years 9 months old.

The professional educationalist who sets out to write a book introducing children to architecture may easily come to grief because he doesn't know enough about architecture. But is the professional architect when he tries to write a book on the same subject in a much better position? He must know a lot about children, their interests, and the tremendous changes in their interests between say ten and sixteen, and on top of that he must have the strength of mind to forget completely about his usual public, a public that he can address on equal terms in his own idiom, and a public with which his reputation as an architect might bear weight. To be a success with children his approach must be completely different. He must hold himself in all the time, simplify, clarify and carefully avoid the temptation to make remarks at adult readers over the heads of the children, merely because they are good remarks. If he doesn't handle his subject in this way, an unusual way for him, the finished article may be instructive for the children in parts, and interesting for adults in others, but it will certainly not be satisfactory as a whole.

Architecture for Children is a vague title, and Mrs. and Mr. Fry do not enlarge on it; they give no direct indication in a preface or in the book itself what aged children they are addressing, while the book itself though it could in places be understood by a ten-year-old, in others needs an adult mind with some knowledge of the subject fully to comprehend it. There is, however, the picture on the dust cover: it portrays two adults and two children aged about 10 and 12, looking at a modern home. We must take it then that these two children are representative of those for whose instruction the book was written, and that the two adults were put in to suggest that they also would find much to interest them in the book. The authors' approach to architecture is indeed very wide. They aim at arousing a general interest in architecture, or perhaps rather in building, explaining the changes in material and style through the centuries, the technique of building, appropriate to the various materials, some of the faults of the recent past, and the principles that ought to govern building—all, on the whole, in a simple, commonsense way.

So much for the authors' aims; but how far have they been achieved? The book starts indeed well; however, very soon remarks over the children's heads appear, such statements as: "Economics dictated the need for individual conscience, and an individual conscience meant freedom of individual action," or "a building is a unified conception." What instruction can the ten-year-olds get out of that? The same contradiction exists between ground plans of a house so detailed that they show even light plugs, etc., and a sketch over the page of the same house showing "Daddy feeling hungry," "Peter late again," and "The butcher's boy making for the kitchen." All the way through there is this inconsistency, with the result that the book on the whole will be most suitable for the man in the street without specialized knowledge of architecture and that the smaller children will find it rather a hard task to get through it properly.

BOY, 17 years 6 months old.

SHORTER NOTICES

PRE-STRESSED REINFORCED CONCRETE. By K. Billig, Ing.A.M.Inst.C.E. Knapp, Drewett & Sons Ltd. 21s.

REINFORCED CONCRETE SIMPLY EXPLAINED and SIMPLE EXAMPLES OF REINFORCED CONCRETE DESIGN. By Oscar Faber. Oxford University Press. 6s.

Mr. Billig in his book has undertaken a triple task: (1) to explain the principles of pre-stressed reinforced concrete; (2) to explain the design and calculation of such beams; and (3) to evolve standard beams, the capacity of which can be tabulated. One of the chief merits of the book is that these three parts are completely separated from each other, so that architects can, if they want to, concentrate on the first and third parts. The first gives also an admirable historical review of the subject. The main fact emphasised is that there are losses involved in pre-stressing a beam which make it uneconomical to work with ordinary mild steel, whereas the same losses are of little importance with high tensile steel, or even hard stretched wire. The standard beams recommended in the third part are of I section, which is, doubtless, the most useful form.

The third edition of Dr. Faber's books, well known to architects, takes into account the London by-laws which appeared in 1938. All the numerical examples have been worked out to conform to these by-laws. Dr. Faber, however, does not like the method of determining the bending moments in eccentrically loaded columns, as recommended by the L.C.C., and he gives his own method, as before. It is probably a more correct, but it certainly is a more complicated method. Architects who want to brush up their knowledge of reinforced concrete without spending too much time on it will find this book, as well as Mr. Billig's, extremely useful for their purpose.

PAOLO UCCELLO'S ROUT OF SAN ROMANO. By John Pope-Hennessy. Lund Humphries. 4s. 6d.

This is No. 4 of a new series of art pamphlets called The Gallery Books. They are very well produced, each with three or four thousand words of text and about sixteen mostly large illustrations. Yet the price seems unaccountably high. Mr. Pope-Hennessy's text is informative, if a little dry. He is better at fact than at the analysis and interpretation of visual values. The detail photographs are most illuminating. How wrong it is to remember Uccello only as the scholar of perspective and natural history. As sheer pattern of lights and darks his paintings have the force of Chiricos without his mannerisms.

ANTHOLOGY

Chinese Garden Party

And, kindling in this new warmth, the guests, after greeting their host and hostess, passed on, beyond the pavilions, in the direction of the orchards.

Perhaps they could scarcely be termed orchards, because the trees, being grown for their blossom rather than their fruit, were irregularly disposed, and were fewer to the given area than is our custom. Bent, contorted with age as the old men who were now on their way to inspect them, they must have been planted some two centuries before. Each of them might have been shaped by the green fingers of a Chinese God of Growth, each was as exquisitely placed upon the green turf as any figure upon a scroll by the hand of a great artist. Perfect in their balance and grotesque posture, some inclined, at the precise angle best calculated to display their unexpected and singular grace, while one tree, even, lay on its side and blossomed on the ground.

Slowly, painfully, the old men hobbled along the crooked paved paths that zigzagged to these trees. When they reached them, they were conducted up small flights of stone steps, so fashioned that, saving where the steps showed, they seemed natural rocks that had cropped up through the turf or had fallen from the sky. These flights, their tops level with the tops of the trees, are thus placed near apple and pear and peach and quince and cherry, so that the connoisseur can obtain a perfect view of the blossom. Even to a newcomer, inexpert in the flowery lore of the Chinese, from each different plane, the particular view of the tree from which the step had been constructed offered a revelation of a new world ; of the same kind as when first you fly in an aircraft above the clouds, and look down upon their fleecy humps, white and golden—except that clouds disperse, are opaque, and do not favour an ordered development.

To the Chinese amateurs of the garden, however, these steps offer even more than to someone, like myself, who was fresh to them. In consequence, the old gentlemen persevered—for it was difficult for them to ascend such crags. Many of them took a long while over the process, and only gained the summits by the help, as it were of guides. Next year, one felt, they would require ropes as well.

Once there, they would remain for a full hour, matching in their minds the complexion and fragrance of the blossom of previous years with that before them. Then, after the general examination of the crop, came the more intimate tallying of one branch, one flower, one bud, with another, and finally it was necessary again to consider the entire grouping and design. But the bees, inordinately busy and managing, behaving as though they were old women in a market, got in the way, and even the less industrious butterflies obscured the view with their gaudily decorated sails or dragged down a petal too heavily when they perched upon it. . . . Critical appreciation of this high order could not be hurried. After all, it was better fully to use now the powers of judgment with which the years had enriched them, and to apply their trained abilities in this direction, for, in the order of things, they could scarcely hope to see many more of these flowery harvests.

So they stayed on . . .

SIR OSBERT SITWELL (*Sing high ! sing low !* Macmillan & Co., 1944.)

MARGINALIA

R.I.B.A. Council

Here are the members of the new R.I.B.A. Council elected last month : *President :* Percy E. Thomas. *Past Presidents :* W. H. Ansell, H. S. Goodhart-Rendel. *Members of Council :* J. Hubert Worthington, C. Cowles-Voysey, Sir Charles H. Reilly, Herbert J. Rowse, F. R. S. Yorke, John Murray Easton, A. W. Kenyon. *Associate Members :* D. E. E. Gibson, Professor W. G. Holford, Ralph S. Tubbs, Joseph S. Allen, Colin Penn. *Licentiate Member :* Bernard H. Cox.

Patched-up City

After the short glory of the Reith era with the Uthwatt and Scott reports deep gloom is now descending on the planning world. The new Town and Country Planning Bill (see page 86) was a bitter disappointment ; the City of London Plan is no plan at all. It is the work of a Corporation Planning Committee and the City Engineer, Mr. E. J. Forty. There is no such nonsense in it as vision, or adventure. The attitude obviously was how business can be brought back into the nearest equivalent of its old quarters without loss of ground rent to anybody. The proposed Embankment towards London Bridge, a ring-road and some large roundabouts are more or less the only indications of town planning in any modern sense, and the ring-road runs an inconceivable course from Holborn Circus to Aldgate, carefully leaving out the railway stations and avoiding any joining-up with a bridge. The roundabouts are nicely turfed, the only new open spaces, except for one by St. Paul's, and as they are surrounded by traffic they will be virtually useless to seekers after relaxation. The stations, needless to say, and the Ludgate Hill railway bridge are kept. There is a lot of street widening to drive out what was still left of a precinctual character before the war. The plan, if adopted, will have the Maginot effect of all such unimaginative defence-work : the enemy will appear behind the line, and the City will find the very trades for whose premises they are trying so hard to maintain the highest possible rateable value, emigrating to the westend, for no other reason than the deadening lack of amenities in the City.

Cathedral and Power Station

A lively correspondence has been going on in *The Times* ever since early in July about the proposal of the North Eastern Electric Supply Company to erect a generating plant with two chimneys, 350 ft. high, and three cooling towers, 260 ft. high, at Kepier, on the outskirts of Durham. The proposal was opposed by Bishop, Dean and Chapter, by the Warden of the University Colleges, and the Durham Preservation Society. Many arguments were thrown into the combat, some sound, some fallacious. There are, for instance, those who feel that an intrusion of the twentieth century anywhere near the cathedral must be bad, whatever the relative siting and the potential architectural character of the new buildings. One feels unhappy in reading about "monstrous barbarism" and "gross vandalism," especially if a letter comes from Mr. Russell Flint. One feels also, to say the least, somewhat uneasy, if the half-minute view from the railway is used as the chief weapon—not only because from the famous viaduct the power station would not appear, together with castles and cathedrals, but also because, to sum up Alderman Foster's retort, the pleasure of the train passenger should not weigh all that heavily against the improved well-being of the working population in one of Britain's most distressed areas.

The case has been called a test case of planning policy and practice—and it certainly is. Mr. W. S. Morrison has promised a local enquiry before deciding on the proposal. What he will have to consider is whether a large power plant close to Durham is desirable, and then what is the most suitable site, functionally and æsthetically. As for the site proposed, Thomas Sharp, town planner and expert on Durham, says it is not suitable—at least æsthetically. He maintains that the power station would spoil not only the view from the railway but several other views as well. Once the site has been fixed the Minister will have to make sure that the architectural form adopted will be pure and noble. Mr. Lancaster's aside (in *The Observer*) : "It is notable that as yet no electrical combine has produced a rival to Chartres" is in this connection not really fair. The point is that monuments of the past would be condemned to museum case isolation, if we resigned ourselves to admitting that we can never compete with our forebears. Surely, our job is to build as well as we can and use our visual discrimination in devising juxtapositions of old and new as stimulating as say at Bolsover or Kenilworth, or in Spanish or Austrian churches with their blend of the mediæval and the Baroque. To emphasize this attitude is not saying beforehand that in the special case of Durham (or the similar one of Lincoln, also discussed in the papers) such a blend may be successful.

What one wants to warn against is on the one hand the branding of a power-station as "commercialism" (Lord Macmillan for the Pilgrim Trust) and on the other hand the branding of all arguments for preservation as sentimentalism. The Minister and his advisers will have to balance social against æsthetic demands, utility against amenity; and may the voice of the Master of Trinity, Mr. G. M. Trevelyan, not be forgotten : "Unless utilitarians are ready sometimes to make sacrifices, amenity will go by the board."

Mass-Producing Houses

Under the Housing (Temporary Accommodation) Bill the Government will set aside £150,000,000 for temporary houses to be manufactured for the Ministry of Works and Buildings. The sum is supposed

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ISERNIA suffered relatively little; the Fontana Fraterna can be restored. Bomb damage to the church of Sta. Maria delle Benedettine revealed the structure of a handsome mediæval church under the veneer of baroque finishing.

ARPINO, TROIA and S. MICHELE ON MONTE S. ANGELO are virtually intact.

MANFREDONIA Castle has suffered, but is still in fair repair.

At CAMPOBASO, AGNONE, MATRICE (S. Maria della Strada) and PETRELLA TRIFERNINA (S. Giorgio) nothing serious has happened at all.

LARINO: The Cathedral of 1319 has suffered no damage.

FOSSACESIA: The Cistercian convent built in the 8th century escaped the complete destruction which overtook many buildings in the town, but its church has suffered from shell-hits on roof and walls, the timber roof of the cloisters has gone, and there is some blackening of the early frescoes; it is, however, not irreparably harmed and good care is being taken of it.

TERMOLI: Cathedral and Castle are unharmed, but the apse of the Cathedral has bad cracks and is in danger of collapse.

VASTO and LANCIANO have had little damage.

ORTONA: Half the Cathedral, including the campanile, most of the important sculptured portal, and the portico, have been demolished.

ATESSA: S. Leucio has little damage.

Considering the destructive power of modern warfare this record is much more comforting than we could have hoped. But what are we going to hear of the parts of Italy further north? Perugia, Assisi and Siena have apparently been left unharmed. On S. Gimignano a note appears below.

A Bad Example

This country has kept out of war hysteria to a degree which people from overseas never cease to admire. It was distressing therefore to read in *The Times* (July 22) a letter from Sir Charles Grant Robertson, distinguished historian and former Vice-Chancellor of Birmingham University, in which "the losses wantonly inflicted by the Teutonic Huns" on the art treasures of San Gimignano are regretted and "a selection from the Italian collections in Dresden, Munich and particularly Berlin" suggested to make up for them. He seems to allude to the frescoes, while most visitors to San Gimignano will remember more vividly the unique assembly of feudal towers. Next day a Mr. Karl Walter, made bold by Sir Charles, supplemented the proposal by suggesting "a commemorative building" for the purpose. The letters must have been based on reports in the press, and one by a B.B.C. reporter who described the German shelling of the town, and mentioned a hole in Gozzoli's Crucifixion.

Now would a scholar in trying to arrive at a picture and a fair judgment of events in 1844 rely on press reporters, or would he not try to find something better, perhaps some official document, before writing down his views? Why then should Sir Charles Grant Robertson, in writing about 1944, be satisfied with such flimsy evidence. It goes against all the rules of scholarly technique. He will be sorry by now; for under July 25 *The Times* correspondent wrote as follows:—

> The report of the allied experts who have visited San Gimignano shows that the damage done . . . is less than first appeared likely . . .
>
> Many buildings, indeed, have been sadly knocked about, but with a few exceptions most of the valuable art treasures were unscathed. The 13 towers which gave the city its characteristic outline are all standing, though some were hit by shells. The famous frescoes of Gozzoli and Ghirlandaio, the sculpture of Benedetto da Maiano and Jacopo della Quercia, and pictures and other movable objects, such as the paintings of Pollaiuolo in the civic museum, are all safe and undamaged. The library and archives of the palace of Pratellesi are also safe. The two old town gates, Porta San Giovanni and Porto San Matteo, are undamaged.
>
> The most serious damage is that suffered by the frescoes of Barna da Siena in the Collegiata church. There the crucifixion has a hole about 2 ft. long caused by a piece of shell in the central part. Several other frescoes suffered damage. Among the damaged buildings San Agostino church perhaps comes first . . . but first-aid repairs are being carried out. The frescoes within the church are fortunately unharmed.

A Ruskin Memorial

Ruskin's faithful partisan, Mr. J. H. Whitehouse, has presented to Oxford University Brantwood, Ruskin's lakeland house. It overlooks the Old Man of Coniston, and more than 170 acres of land belong to it. Ruskin bought it in 1871, and found unending pleasure in altering and enlarging it. It is from here that in the early days of his ownership he issued *Fors Clavigera*, his monthly letters to the British workman. The University of Oxford is going to use the house as a Whipsnade for dons.

Lacock Abbey for the Nation

Miss M. Talbot has presented the abbey and village of Lacock in Wiltshire to the National Trust. In the former abbey, now a manor house, the Gothic of the thirteenth, fifteenth and eighteenth centuries can be compared. There is excellent Tudor work too, and some of the most interesting early Renaissance furnishings. W. H. Fox Talbot carried out the researches at Lacock Abbey which led to his invention of photography in 1839.