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THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal."

FROM AN ARCHITECT'S NOTEBOOK.

UPON THE DUKE OF MARLBOROUGH'S HOUSE AT WOODSTOCK.

Atria longa patent; sed nec cœnantibus usquam
Nec somno locus est: quam bene non habitas!
—Mart. Epig

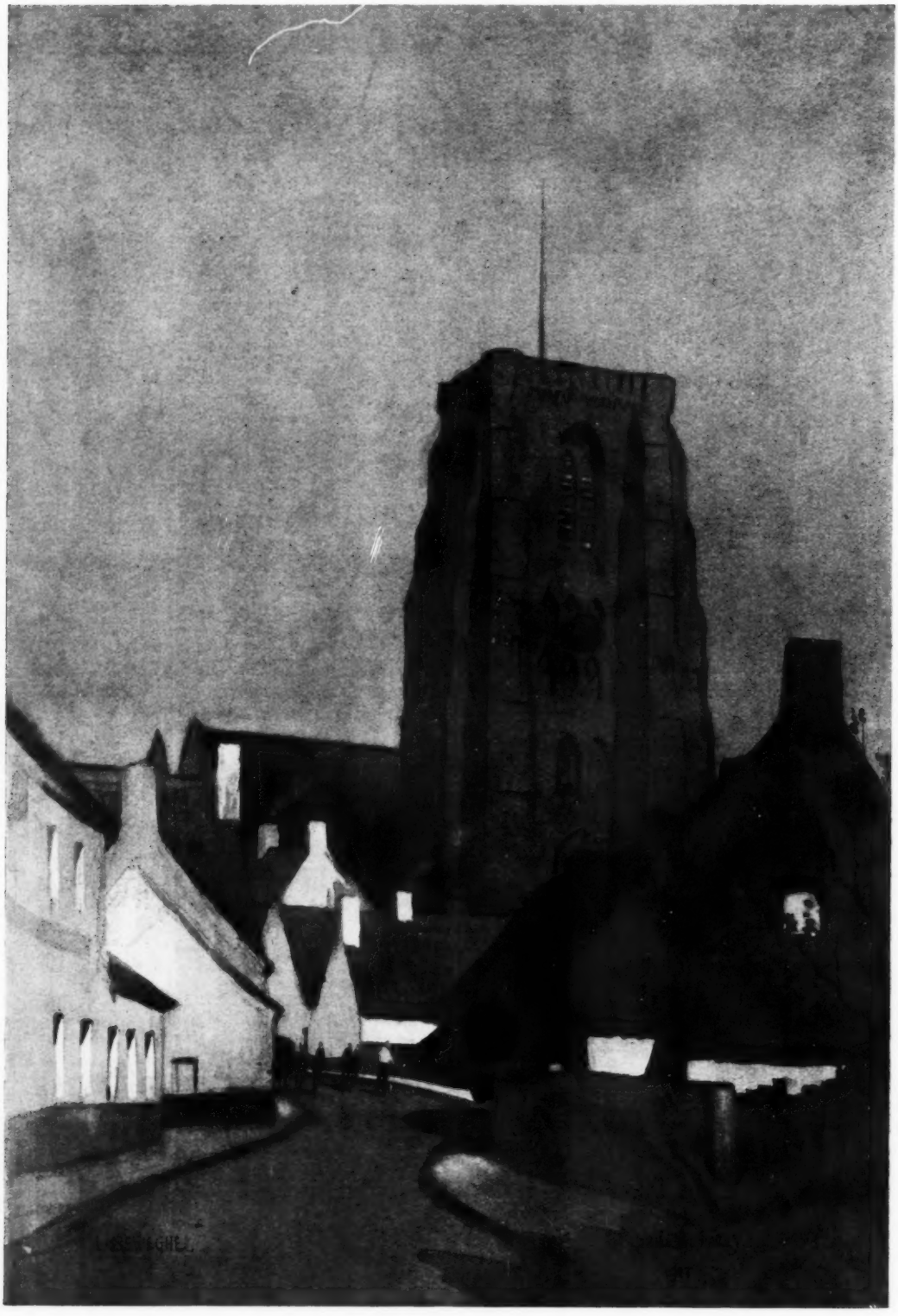
See, sir, here's the grand approach,
This way is for his Grace's coach;
There lies the bridge, and here's the clock,
Observe the lion and the cock,
The spacious court, the colonnade,
And mark how wide the hall is made.
The chimneys are so well design'd,
They never smoke in any wind.
This gallery's contrived for walking,
The windows to retire and talk in;
The council-chamber for debate,
And all the rest are rooms of state.

Thanks, sir, cried I, 'tis very fine,
But where d'ye sleep, or where d'ye dine?
I find by all you have been telling,
That 'tis a house, but not a dwelling.
—POPE.

27-29 Tothill Street, Westminster, S.W.1.

Drawings of Architecture. 1.—Lisseweghe, Belgium

From a Water-colour by Cyril A. Farey



This is the first of a new series of plates illustrating the work of modern architectural draughtsmen. Lisseweghe is situated on the flat land between Blankenberghe and Bruges, about four miles from the sea. The church is a massive brick structure of the thirteenth century, and formerly belonged to an abbey. Although two-thirds only are completed, the tower is a very conspicuous object in the landscape. A huge barn (now a farm) with immense oaken beams, dating from 1280, is the solitary relic of the wealthy abbey.

THE

ARCHITECTS' JOURNAL

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Labour's Housing Proposals

THE Prime Minister, in outlining the Government's housing intentions, stated that it had definitely been decided to continue the subsidy, with the object of producing houses costing on the average £500 each, to be let at an average rental of nine shillings, including the compost of rent and rates. Those who are considering house building have, as a rule, but little confidence that an increased subsidy will make it cheaper to build houses. One has heard the argument seriously put forward, "But even if the Government increases the subsidy we shan't be any better off than we are now since prices all round will rise correspondingly." Rightly or wrongly the country believes that an increased subsidy means an increased cost, and if the Government can prove that this belief is mistaken it will have earned our sincere gratitude. There are two main reasons why an increased subsidy may be expected to raise the cost: first, by a sudden stimulation of building it increases the demand on labour and materials, and thus forces up the price; secondly, it acts as a signal to a horde of vultures who swoop down from every direction and make sure of snatching all that can be picked off such a succulent as a State subsidy.

If the Government cannot find means to compensate for the former reaction and to scare the vultures, it is a sheer waste of money to increase the subsidy. The Government has already tackled the problem of labour supply, and it will have to consider means of overcoming the brick shortage in the south of England. Our south-eastern counties are scarred with dying and derelict brickfields, and State encouragement is necessary to induce them to reopen; this might take the form of the provision of easy money and some guarantee, such as is to be given to the skilled men in the building trade, against future slumps. Frightening away the vultures is likely to be a still more difficult task, and the Government must remember that they are to be found in every class of the community; the State is regarded as "fair game," and the cumbrous process of applying new laws is of little avail against individual cunning and greed.

A possible line of attack might be for the Government to provide a subsidy of £x for every house of, say, 850 ft. to 950 ft. of floor area, the price of which, with the subsidy, did not exceed £500; the house plan and lay-out and the estimate to be approved by the local authority, subject to strict limitations as to amenity and density, with severe penalties for anyone infringing the regulations. This proposed limitation of cost would be an arbitrary one, and would be vulnerable to numerous academic arguments, but it would reserve the subsidy for the right kind of house, and, above all, it would show everyone that it was no use starting the old games of putting up prices or restricting output. Something arbitrary will have to be done.

When these difficulties have been solved, the next point is to avoid any confusion between rent and rates. Whether the houses have been built by local authorities or by private enterprise, these two outgoings must be kept quite separate and distinct. So long as the tenant lumps the two into one in his mind, and regards the total as profits on the building, so long will he fail to see any necessity for economy or efficiency in local administration; every increase in the rates (to which he himself as a voter has contributed) will seem to him an example of cupidity on the part of his landlord in raising the rent, or, if the compost is a fixed maximum, he will be relieved of all such responsibility. The distinction between rent and rates should be universal in all new houses.

The present Government is likely to remedy at least one of the vital defects of its predecessor; in its anxiety to get houses built it will not subsidize shoddy and overcrowded dwellings. The onus of insisting on a standard of density to the acre belongs to the Government, and cannot be evaded by leaving so important an issue to the local authorities. Recent experience in Glasgow confirms this view. The maximum density we should like to see on the Statute book would be twenty houses to the net acre. As to design, it is clearly against the interests of the country that its money should be spent on the erection of the kind of house the speculative builder has left us in thousands as a legacy from pre-war days; and while we can hardly suggest that employment of competent architects should be included as a condition in an Act of Parliament, we hope that the Minister of Health will consider what can be done to cultivate a sense of the ridiculous in local authorities generally. If we cannot make the more backward of them understand what beauty or architecture are, perhaps they might still be brought to a realization of the folly of fouling their own nests.

The Prime Minister referred to the "Addison" houses, remarking that only a small proportion of these are inhabited by the class of people whose needs must be met if we are going to solve the housing problem. In the sense in which it was meant this statement was accurate and proper, but at first sight it might be read to imply that the housing problem really concerned only the "labouring classes." Those who inhabit the Addison houses, although the majority are not, strictly speaking, labouring men, are yet just as badly in need of accommodation. The "lower middle class" must not be left out in the cold; they look upon Labour not as a class Government, but as one determined to help the country as a whole, and it would be tragic if those who can just afford to pay an economic rent were to find themselves compelled to do without houses because all available labour and materials were employed in building subsidized houses for those not able to pay the full rent.

In distributing materials and labour the claims of this class should not be forgotten. The selection of privileged tenants for the subsidized rent, tenants suitable not only on the score of earning capacity, but of character, and the minor problem of the lodger, all suggest the need for local housing management committees, free from the odium of political influence or privilege. Then there is the third problem—if possible, more vital than the others—slum clearance. This alone, if it were to be fully righted, would absorb the money and labour of a generation.

We hope that this whole question of housing will be kept above party issues, and will be taken in the serious spirit that it demands. The Government is sure of sympathy in the House and the country, and it starts with a great initial advantage over Dr. Addison's scheme. When his attempt was inaugurated, to the sound of the trumpet, the public and the Press formed exaggerated ideas of the progress that might be expected. After a few weeks they began to ask: "But where are the houses?" Much of Dr. Addison's haste, and of the consequent cost, was due directly to popular clamour to see results. We hope that the present Minister of Health will not allow himself to be flustered into the same morass, but will take his own time and not commit himself to promises. It would be wiser to aim at producing so many houses a year in some three years' time than to attempt impossible feats during his first year of office. Steady progress is better than a meteoric career that burns itself out just when it is beginning to produce its full effect.

The "Defence League" Circular

We regret to note that the leaders of the so-called R.I.B.A. Defence League have resumed their circularization-of-members campaign on the question of Registration. We regret this for two reasons: first, because the proposals of the Council of the Institute are not yet officially declared; and, secondly, because use is made in this circular of a note that appeared in this JOURNAL for January 9. The Council has issued a letter condemning the revival of this form of agitation, and asking members to refrain from committing themselves to any policy until the proposals of the Council have been fully laid before them. This is a perfectly reasonable request that, in mere justice to the Council, is likely to be generally observed. With regard to the note that appeared in these pages, the signatories to the circular, by taking part of one paragraph from its context, and by placing upon another a wrong interpretation, appear to suggest that this JOURNAL has given publicity to statements of a controversial nature, so far as they relate to the Registration movement. If readers care to refer to the note in question they will find that it is entirely innocuous. It merely calls attention to the third supplemental Royal Charter that had then just been granted to the Institution of Civil Engineers, giving members and associate members of that body the right to call themselves "Chartered Civil Engineers." It ends by suggesting that "the experience of the Institution of Civil Engineers is not without interest for the R.I.B.A., whose own domestic problems may be expected to stimulate renewed controversy in the near future." We cannot see how this sentence can possibly be described as "*a statement that our Council propose to advocate a policy* that 'may be expected,'" etc. (to quote the words of the circular). On the second page of the circular it is further stated that "*according to the extract from* THE ARCHITECTS' JOURNAL . . . *they* (the Council) *might have the effrontery to suggest calling these men* (architects at present outside the Institute) *Chartered Architects.*" It is difficult to see how the words quoted can be given such an interpretation: in any case, the suggestion is one that we did not intend to make. We view with extreme regret this new and precipitate attempt to stir up old animosities. The least that the "Defence League" promoters can do is to withhold their comments until the proposals of the Council are officially tabled.

Roads and the Architect

In a timely article in this issue, Major Barnes puts forward a plea that architects should be allowed to co-operate with engineers in the planning of the new roads which are projected throughout the length and breadth of the country. This is a matter of some urgency, and there is satisfaction in knowing that the Town Planning Committee of the R.I.B.A. has addressed a memorandum to the Ministry of Transport on this subject. These great new roads must not be allowed to do any hurt to the amenities. By foresight and careful contriving it should be possible to preserve intact, wherever they are met, all features of topographical value—landscape and architectural. Beyond these elementary considerations there is the question of æsthetic treatment, which ought not to be ignored. Engineers, from the very nature of their calling, are apt to regard a road purely from the mechanical point of view. So long as it is well constructed and takes the shortest possible route, they are satisfied. As a consequence, we frequently get in cities a shapeless conjunction of streets that, besides being unsightly, actually creates circulation problems of the utmost difficulty. A case in point is Piccadilly Circus, where Shaftesbury Avenue, as a result of municipal muddling, was allowed to cut in at a most inconvenient angle and without any regard to formality in lay-out or traffic circulation. If this sort of thing is to be prevented, the co-operation of architects and town planners is essential in the road schemes that are now going forward. It is infinitely preferable, from every point of view—especially that of finance—that the thing should be done properly at the start. If only our predecessors had had a little foresight we ourselves should not be called upon to bear the charges for street improvements that form so heavy an item of public expenditure. If only out of consideration for posterity, we should see to it that these new roads not only do no violence to the amenities, but are equal to the demands that are likely to be made upon them in the future, so far as these can be anticipated.

Unrealized Conceptions

In passing along the streets of any big city, the observant wayfarer, looking at the close-packed façades—especially those of commercial buildings—must often muse upon the truth of the poet's assertion that "Hope springs eternal in the human breast." It must have sprung in the breast of many an architect, or we should not find so many indications of unrealized conceptions. There can be few streets in London that do not bear some evidence of frustrated architectural hopes. Inigo Jones's Banqueting House, the classic example of incompleteness, is yet the least obviously incomplete. Jones must have had a fairly shrewd idea of the possibility of realizing his great scheme or he would not have designed it on what may be called the unit principle. As it is, the fragmentary Banqueting House stands very well alone. That Scott, too, had ambitions beyond the confines of his existing Home Office is shown by the unfinished brickwork and tentative arch springings on the Downing Street side. Something of the same sort is to be found on the Regent Street front of the Piccadilly Hotel, indicating that Mr. Shaw did not doubt that his design would be continued around the full sweep of the Quadrant. Mr. Belcher has left on his Electra House, Moorgate, plain indications of an intention to extend the building. At one point a small pediment finds itself cut off down the centre line! Look wherever you will, you are almost bound to find the visible evidence of the big idea but partly realized. Façades with the principal entrance at the side—obviously requiring a balancing wing to complete the composition; sections of cornice left stark and unfinished; arch springings that have never taken a thrust—these things tell their own tale. If only architects, when called in to build or rebuild upon the adjoining site, could see their way to complete a brother's design. . . . But there are difficulties—fees, and architectural copyright, for instance. No, it is asking for the millennium.

Roads and Amenities

By MAJOR HARRY BARNES, VP.R.I.B.A., F.S.I.

I THINK when the Czar of Russia, laying his ruler on the map, drew a straight line from Petrograd to Moscow, and said, "that is the line the railway must take," in their secret hearts his railway engineers rejoiced. The business of a railway engineer is to provide the means for moving people and goods from point to point, and, as Euclid has never ceased to remind us, a straight line is the shortest distance between two points. The railway engineer wants the shortest distance, for it means the shortest haul, the least maintenance of way and rolling-stock, the smallest amount of traffic expenses, and a general reduction in all the expenditure that counts against revenue.

The coming of the motor-bus and the motor-lorry has infected the road engineer with something of the spirit of his brother of the railway; and that is not wonderful, because he is now thinking of the railway as a traffic instrument his road may rival. His mind, too, is concentrated on moving people and goods; and to him, as to the other, time and space are cardinal. It is no longer a question of ambling along to market with an eye on the fields and an occasional lifting glance to the hills; it is what Jack Hulbert calls, "Sixty miles an hour through the finest scenery of England."

Don't let us blame him too hastily. Roads cost money, and behind them are those who are working out unit charges and cutting rates, who are preparing tables showing the advantages of road over railway traffic. I know a road where you drop down, down, down, to the river while in front of you rises miles of moorland mounting up to far-off hills, where the road is up hill and down dale with curious winds and twists and unexpected views—where you clatter down into the millers' dip and crawl up the hill beyond. Such roads break the hearts of the road engineer; they are obsolete. Roads are not places on which to pass the time. Birmingham is calling to London; Manchester to Birmingham; Liverpool beyond them all, and the call must be answered, and in the least possible time. There must be no halting, no staying, no delaying—but an ever-moving stream of traffic. For this the road must be provided, and for this it must be direct and level.

The road the engineer makes will be pounded by lorries, scoured by buses, and every change of direction, every inequality is something which lends help to the monsters who pass over his road to its destruction. The insistence and dominance of that traffic brings up from my subconscious mind recollections of the last act in the Insect play. Only Wells could do justice to it in description. It is the apotheosis of the road. The mind dwells on it for a moment, and then with that curious survey that relates the glow-worm to the star sweeps over all the ways which human feet have trod. We have them all in this land of ours—there is the sheep track across the heathery northern moors, which begins nowhere and seems to end there—the deep-sunk, high-hedged Sussex lane that will take you in twenty minutes out of the dust of motors to the untouched, unspoilt seclusion of a Saxon hamlet; and here now are these great roads meant to be the last instrument of exchange; where utility, efficiency, and economy rule, and no place seems left for beauty.

Yet that is not altogether true. I think, if I were a road engineer, I could make out a case for my road even on the score of beauty. There is a beauty in the sheer-lines of a great road, and I must confess that I can never look at a map and see the straight lines of a Roman road without feeling some thrill. Ruthless and relentless, beauty does not seem altogether absent even from the starkest expression of strength and force. The bare outline of an 18-in. gun—the sweep of a battleship—the dire directness of the Cologne bridges, over which Germany passed into France, there is an appeal in all these things, and I can understand something of the exultation in the mind of my road engineer as he pushes his roads from place to place, direct, level, contemptuous of obstruction, regardless of their setting, with purpose stamped upon every square inch of their surface. Yet and yet, we architects say to ourselves: "Man does not live by traffic alone, and there are certain needs of the spirit which should not be wholly subservient to running costs."

What we are pleading for is, I think, a balanced judgment. We would say to the road engineer: "You are not driving your road through a desert, but through an ancient land and a not unfrequented countryside. Every foot of your road is a frontage, and in your passing, give not your whole thought to what you are making, but let your mind rest sometimes upon what you may be destroying. Think not only of what you are giving to us, but of what you are taking from us. When you have surveyed the line of your road for direction and gradient, take a second look and see what you are paying for it. A straight line from point to point is, no doubt, the ideal, and let it be achieved wherever the cost is not too great, but let that cost be measured not only in the pounds that are to be paid, but in those other things which cannot be priced. It may be a slight deviation would save a fine clump of trees or an old building. It is worth while pausing to count the æsthetic values even if the time allotted be not great. It may be that one line will give a great prospect from the road which another will miss. That may be worth taking into account even in these utilitarian days. After all, let us have the advantages of our difficulties; if the pace is faster and the load is heavier, yet the wheel and the brake are more effective than they were."

In many parts of the world the engineer has to forego the directness of his line because the gradient will not permit it; what he has to do there willy nilly, he might here do willingly for these considerations to which values not to be discounted do attach.

Then there is the question of gradient. It is idle to say what one thinks in one's heart; that a road should lie on the earth like a ribbon and not like an iron bar, but at least one wonders sometimes if the disregard for the relation between the road's surface and the adjoining land is justifiable even from the point of view of economy. Where the road is constructed so that the adjoining land is either higher or lower than its surface, its development is made more difficult and more costly. If one had to choose between cuttings and embankments I suppose æsthetic preference would be given to the cuttings, but where we can dispense with both, let us do so.

Then its surface. By all means let us have roads that are wide, but if we are going for width let us have width to some purpose. Grass margins, so wide that they do not seem applied to the road so much as the road seems a passage through them. And tree planting—not continuous, rigid, formal avenues, though they may have their place, but places for shade and shelter where the surroundings justify a halt, all of which means that roads are too intimate a part of our surroundings to be thrown across the country regardless of its amenities, and too intimately connected with building works, both in respect of those which are needed in its own construction and those which line its way, to be altogether divorced from that art of building which we call architecture.

All I have written is a plea that architects may co-operate with engineers in the construction of that great network of roads which is now being planned all through the countryside. The Town Planning Committee of the R.I.B.A. have addressed a memorandum on this special subject to the Ministry of Transport. It is a timely and a needed memorandum, and the new Ministry will be judged by the attention it receives.

Architectural Travel

Edited by F. R. Yerbury, Secretary of the Architectural Association

5.—(1) Northern Italy*

By H. CHALTON BRADSHAW, A.R.I.B.A.

BEFORE setting out on your travels, unless your time is unlimited, it is as well to have some rough plan—it need be only in your head, as to what you will do with your time. In the case of Italy this is especially necessary. There is so much to see that unless you have some idea of what chiefly interests you, you can hardly fail to be bewildered by the profusion of monuments of all ages from the earliest times to the present day.

Secondly, take a good guide-book and read it first. Baedeker, although often spoken of with scorn, is thoroughly useful, and nearly always accurate, except, of course, now in the matter of prices.

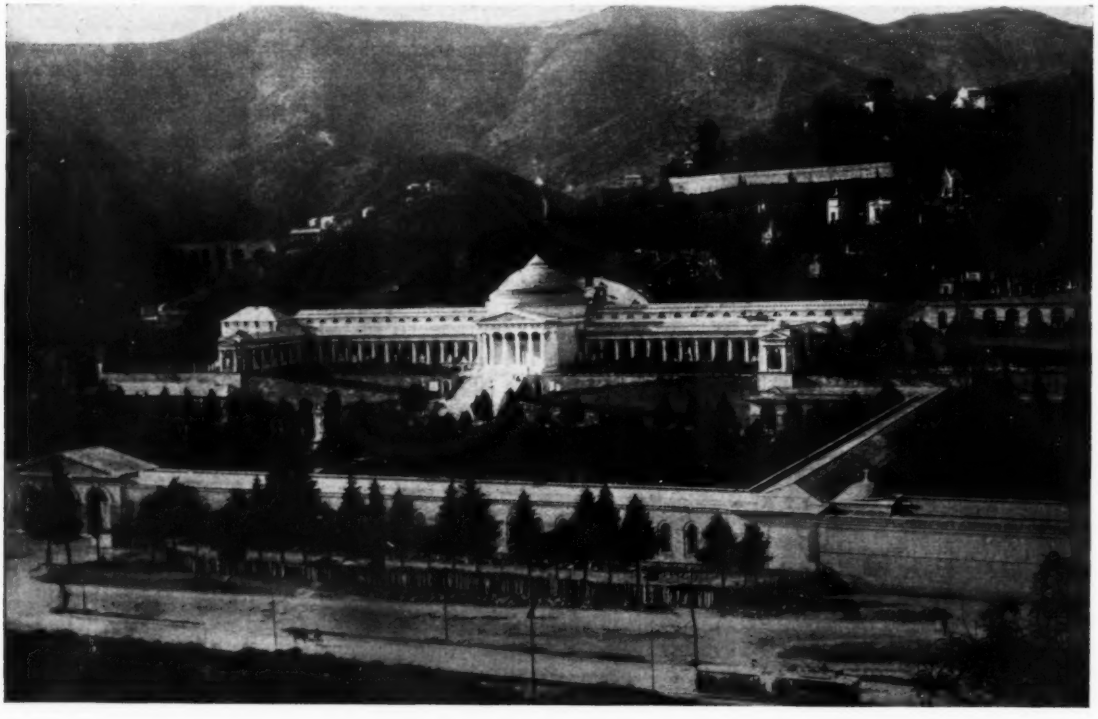
Thirdly, it is as well to travel as light as possible. For a short stay take only luggage that you can carry, if need be, and that will go with you in the carriage—this may be one or two good-sized suitcases. In Italy if you do this you will not be peculiar. Italians, to our eyes, take an enormous amount of luggage in the carriage with them, and an Italian has even asserted his belief that the carriages are built first for the bags and only as an afterthought for the passengers themselves! But in your efforts to travel light do not forget that it is not always warm in Italy, and that even in summer there are often cool evenings when some sort of wrap will be needed. Third-class is quite possible, but not for long distances, as there are no third-class coaches on the fast trains, and when making a long journey on a main line it is as well to arrive at the station at least half-an-hour before the time of departure. A few Italian phrases are useful if not essential, though in the large towns French and even English will often do.

With regard to the best time of the year in which to visit Italy, for Northern and Central Italy the late spring and early summer is the most delightful but also the most expensive and most crowded, especially in Rome at Easter time. The autumn is also pleasant, and there are then fewer tourists. For Southern Italy and Sicily spring and autumn are the best seasons. The summer is to be avoided except by those who do not mind the heat, and in any case it is inadvisable to travel in Southern Italy and Sicily at this time owing to the prevalence of malaria. December and January are often very cold, and the galleries and museums are like tombs, even when out of doors it may be bright and sunny.

The actual time necessary to see the towns mentioned in these articles depends on the person and the place. In any case, make up your mind what you want to see most and do not attempt too much. It is no use sight-seeing until your head swims. You won't enjoy it, and you won't get much good out of it.

In the following articles we have divided Italy into four sections: the North, with Venice; Northern Central Italy, with Florence; Southern Central Italy, with Rome; Southern Italy and Sicily. For a short visit it is probably best to choose one of these four and devote oneself entirely to it. Too many people imagine that in three or four weeks they can see not only the towns of Northern Italy, Florence, and Rome, but also "do" Naples and Pompeii. Such a tour

* These articles should be regarded as an outline sketch of some of the possibilities that travel in Italy affords.



THE CAMPO SANTO GENOA

Como Cathedral, from the East

Como Cathedral is a structure of various dates and styles of architecture, the earliest portion being by Lorenzo de Spazi, of the end of the fourteenth century, while the cupola is the work of Guvara, an architect of the first half of the eighteenth century.

ST. ANASTASIA, VERONA, FROM THE EAST.

can be of very little value to the architectural student. He could get a better idea from a well-illustrated book.

Most people will arrive in Italy by the Mt. Cenis route, and having got a first glimpse of the low pitched pantile roofs, white villas and cypresses of Italy, may wish to make their first stay at Turin. The regular gridiron plan of Turin distinguishes it from other Italian towns, and is a relic of its ancient form as the Roman Augusta Taurinorum. It is now one of the great industrial centres of Italy, and its squares, public gardens, and arcaded streets are characteristic of modern Italian architecture.

Genoa

If, however, you should come by sea or from the Riviera, Genoa will be your first important town. Genoa is a seaport with a fine harbour, marked by a magnificent lighthouse. Its narrow streets are made interesting by a series of splendid Baroque palaces of the seventeenth and eighteenth centuries. Mention must be made of the Durazzo, dell' Università, Reale, Doria Rosso, and Bianco. Internal courtyards, staircases, vestibules, and loggias all contribute to give these palaces a special character. They are built mostly on sloping sites, and their planning is in consequence of great interest. The Cathedral of San Lorenzo was founded in the tenth century, but was rebuilt in the fourteenth century in the Gothic style, and later added to by the famous architect, Alessi, who was responsible for many buildings in Genoa. The old church of the S.S. Annunziata is the work of della Porta. Perhaps, however, the most striking church of all is S. Maria di Carignano, begun by Alessi, which, in its composition, is very like Bramante's design for St. Peter's at Rome. It is built high above the sea, and commands a splendid view of the city, harbour, fortifications, and the Mediterranean coast. The Campo Santo just outside the town is interesting for its situation, flights of steps, broad walks, and general composition of buildings.

It is possible to make a tour of the northern Italian towns in several different ways. The route we have chosen is perhaps the most obvious.

Milan is the richest of all Italian manufacturing cities. It is probably more interesting for its collections of paintings (in the Palazzo di Brera) than for its architecture. Associated with Milan at the height of its glory are the names of Leonardo da Vinci and Bramante.

Milan

The enormous cathedral built entirely of marble is one of the great monuments of Italian Gothic. The eye is distracted by the multiplicity of its ornaments, statues, and turrets. S. Maria della Grazia is a fifteenth-century brick church with a choir and dome by Bramante. When one thinks of Bramante's buildings in Rome one is amazed at his versatility in producing here a work so different from them in character and so completely in harmony with the traditions of Lombardy. In the refectory of the monastery which was formerly attached to this church is Leonardo da Vinci's "Last Supper." Bramante also restored the small church of S. Satiro to which belongs the famous octagonal baptistery. Two other churches must be seen in Milan—S. Ambrogio—an important Romanesque church dating in its present form from about the twelfth century, and S. Lorenzo, the oldest church in Milan, a building of the fifth to sixth century in the style of S. Vitale at Ravenna. The Galleria Vittorio Emanuele is regarded by Italians as one of their finest pieces of modern building. At the north-west end of the city is the modern Campo Santo. This, like that at Genoa, is well worth seeing for its monumental walls and entrances. From Milan in half a day you can visit the richly decorated Certosa di Pavia, famous as an example of the early Renaissance style in northern Italy.

Milan is the most convenient starting point for a tour of the Italian lakes, but these hardly come within our scope as they are famous chiefly for their natural beauty. There are, however, fine churches at Como. On the direct route from Milan to Verona and Venice lies Brescia. Here the student should see the richly decorated façade of the Early Renaissance church of the Madonna dei Miracoli, and also the well-proportioned Palazzo Municipio built by Formentone of Vicenza, and decorated later by Sansovino and Palladio.

ST. ANTONIO, PADUA, FROM THE EAST.

Verona

Verona may be called the town of Sanmichele. His finely designed, yet massive city walls and gates are the most beautiful of all Renaissance fortifications. Perhaps the most impressive of his other buildings at Verona is the Gran Guardia Vecchia, but the student should make a point of seeing all his work. Verona possesses two other monuments of great architectural importance, the Roman amphitheatre—built under Diocletian about A.D. 290 and still used for public entertainments including bull fights, and the church of S. Zenone Maggiore, probably the most beautiful Romanesque church in the world. Another fine church is that of S. Anastasia, built of brick in the Gothic style. The Piazza Erbe and the Piazza dei Signori, where is the fruit and vegetable market, are not particularly interesting for their architecture, but are picturesque and full of life and colour.

Mantua

South of Verona lies Mantua, a fortress-like town, enriched by the work of the great architect Giulio Romano, the pupil of Raphael and Leon Battista Alberti the Florentine. Giulio Romano is represented by that imaginative building the Palazzo del Te which contains four paintings by Primaticcio, Alberti by the church of S. Andrea with its Roman façade.

Vicenza

Of Andrea Palladio it has been said that he made Vicenza "grand without great dimensions and rich without much expense," and Vicenza is, indeed, a triumph of genius over the simplest and cheapest materials. Palladio, the last great architect of the Italian Renaissance, was a citizen of Vicenza, and his work is the glory of the town. His earliest and most difficult task was to recloak the old law courts, now the Basilica Palladiana. In addition to his palaces he made permanent scenery in the Teatro Olimpico, and built the charming Villa Rotunda just outside the town.

Padua

Before speaking of Venice a word must be said about Padua. The largest building is the church of S. Antonio, a late Renaissance structure of no particular beauty which, however, contains sculptures by Donatello and Sansovino. The small chapel of the Madonna dell' Arena has decorative paintings by Giotto. The town, while of minor importance architecturally, is charming and full of interest.

Venice

Those who see Venice will admit that it is worthy of all that has been written in its praise. It is, as has so often been said, quite unlike any other town in the world. The fact that it is built on more than a hundred small islands gives it its peculiar character. Here we have finished with the ordinary noises of the streets—the clatter of wheeled traffic is left behind; one moves about the town either by gondola along the canals or on foot through streets which are scarcely more than passages and over countless stone bridges.

The architecture of Venice falls conveniently into three main periods: Mediæval, Early Renaissance, and Late Renaissance.

In and about the Piazza of St. Mark one can see examples of all three periods. The Mediæval is represented by St. Mark's itself with the adjoining palace of the Doge (Palazzo Ducale), the Early Renaissance by the Palace courtyard, and the Late Renaissance by the work of Sansovino—the library of St. Mark and the old mint (Zecca). St. Mark's Cathedral was first built in the ninth century A.D., but was entirely reconstructed in the Byzantine style in the eleventh century. In the fifteenth century Gothic additions were made to the façade, which has become a curious medley of mosaics, sculptures and columns of all sizes and every kind of marble. The interior remains in the main Byzantine and is rich in beautiful decoration of all kinds. The Palazzo Ducale, like St. Mark's, has been rebuilt and added to at various dates, but retains its fine Gothic exterior. In the courtyard is the famous Scala dei Giganti at the top of which the Doge was crowned. The steps lead to the magnificent State apartments decorated in the superb manner of the Late Renaissance and Venetian Baroque.

Most expressive of the spirit of Venice are its many palaces, and in particular those on the Grand Canal. Typical of the Gothic style are the Pisani and Cà d'oro; of the Early Renaissance, the Corner Spinelli and the Vendramini; and of the Later Renaissance the Corner della Cà Grande by Sansovino, the Grimani by Sanmichele, and the Pesaro by Longhena.

Of the more important churches S. Maria dei Miracoli, by Pietro Lombardi, belongs to the Early Renaissance. Lombardi also restored the adjoining Santa di San Marco. The Later Renaissance is represented by S. Giorgio Maggiore and Il Redentore, both from designs by Palladio, and S. Maria della Salute, by Longhena.

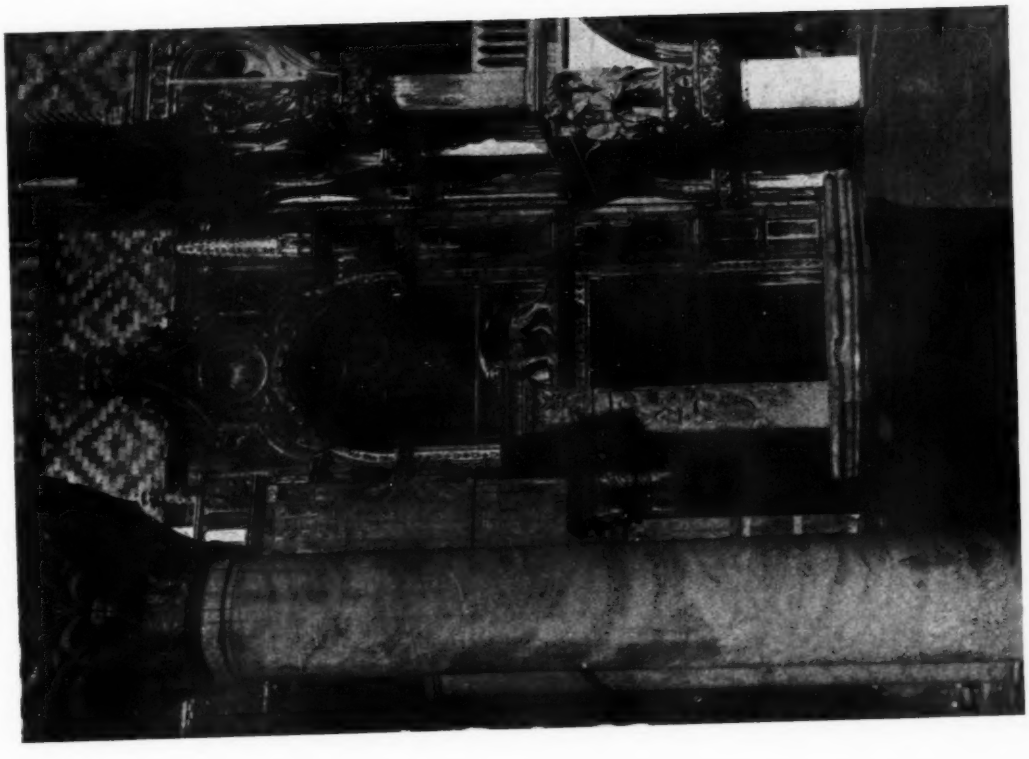
There are many other churches and palaces of all dates well worth a visit. We have merely spoken of the most important in order that the student may not be lost in a maze of detail. He will find it hard enough in any case to drag himself away from a town so full of fascination and beauty.

(List of useful books: Baedeker, "Northern Italy"; Anderson, "Renaissance"; Simpson, "History of Architectural Development," Vol. III.; Gromort, "Italian Renaissance"; Geoffry Scott, "Architecture of Humanism.")

(To be continued.)

[The previous articles of this series appeared in our issues for March 21, June 13, July 11, August 8, and October 17, 1923, and January 16, 1924.]

S.M. DELLA SALUTE, VENICE.



THE PALACE OF THE DOGE, VENICE.

The Imperial Bank of India, Karachi

J. R. ANDERSON, A. R. MELDRUM, and D. M. ASARPOTA, Architects

THIS building has been carried out in a classic manner, and has the advantage of an open site, where it can be seen to advantage.

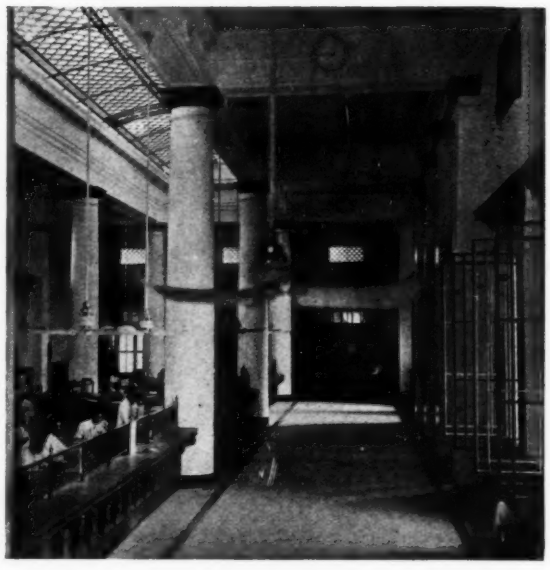
Externally the main front of the building owes much of its effect to the manner in which the architects have planned the vestibule, the clearing house and agent's room. A notable feature of this front is the spacious portico, through which the vestibule is entered. At each end of the banking hall is a verandah.

The banking hall is entered through the vestibule, and runs the full length of the building, measuring 150 ft. by 50 ft., with a height from floor to ceiling of 28 ft. The Doric columns and pilasters are carried out in gypsum plaster, and the caps in Kupronized bronze. The enriched fibrous plaster ceiling and the Kupronized bronze caps were made by Messrs. H. H. Martyn & Co., Ltd., of Cheltenham.

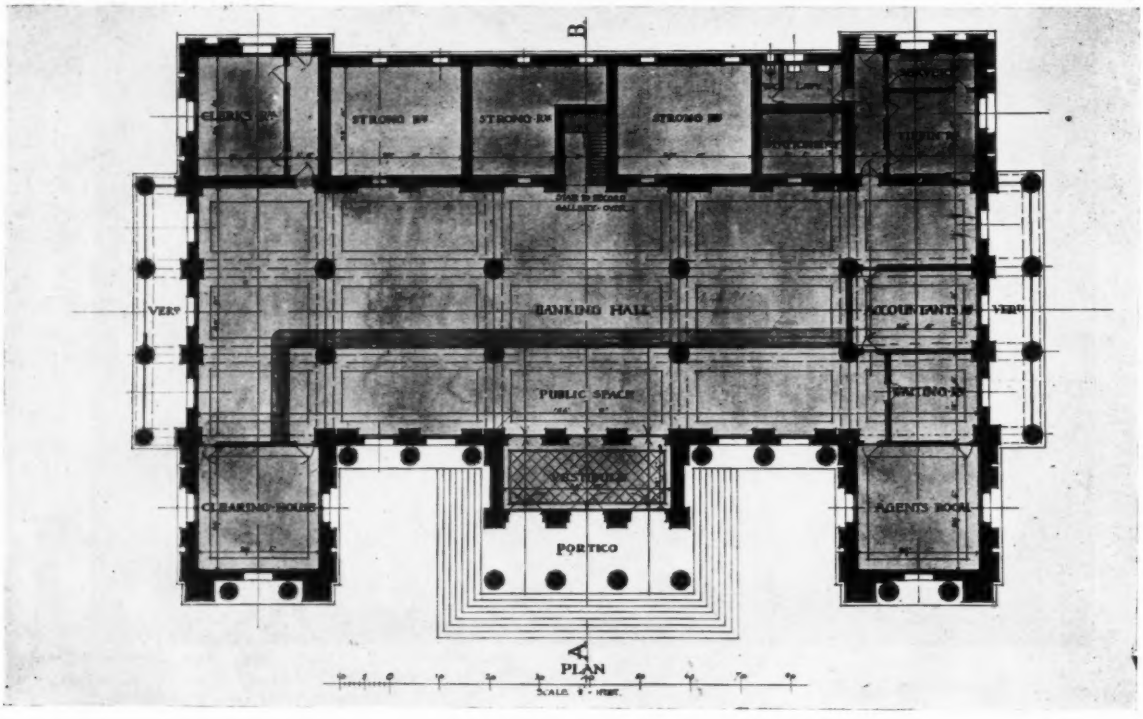
Architectural emphasis is given to the banking hall, the double row of columns forming an effective feature, one row serving to divide the public from the administrative space. The clearing house and the agent's room are planned left and right of the main front respectively. The whole length of the banking hall at the rear is occupied by the clerks' room, three strong-rooms, lavatory and w.c., stationery room, servery, and tiffin room. On the right-hand side of the hall are the accountants' room and a waiting-room.

A feature of the building is the concave dome light, which runs practically the whole length of the banking hall, and is carried out in bronze with opaque glass, the work of Mr. William Smith, of Balcombe Street, London. The stone used in the building is Jodhpore pink sandstone, and the floors throughout are in Jodhpore marble, with skirting in Belgian black marble. The bronze counter grille and ironmongery were supplied by Messrs. James Gibbons, Ltd., of Wolverhampton, and the metal windows by Messrs. Crittall Manufacturing Company, of Braintree. The general contractor was Seth Kalla Galla, Karachi.

The Karachi area is deficient in endurable building stone. Jodhpore stone, that selected for the building, is similar in colour and hardness to Aberdeen Corrennie granite.



THE PUBLIC SPACE.



THE PLAN.

Current Architecture. 224.—The Imperial Bank of India, Karachi

J. R. Anderson, A. R. Meldrum, and D. M. Asarpota, Architects

A recent example of Anglo-Indian architecture. Jodhpore pink sandstone is used for the exterior. The banking hall, which is entered through the portico and vestibule, runs the full length of the building, and measures 150 ft. by 50 ft. with a height from floor to ceiling of 28 ft.

THE IMPERIAL BANK OF INDIA, KARACHI: THE BANKING HALL.
J. R. ANDERSON, A. R. MELDRUM, AND D. M. ASARPOTA, ARCHITECTS.

The Hanging Crucifix in the Church of St. Peter at Gowts, Lincoln

LESLIE T. MOORE, F.R.I.B.A., Architect

THIS work is executed in English oak and decorated in gold and colour. The emblems of the evangelists carved in relief form terminals to the arms of the cross. On the eastern side the sacred monograms occur at these points, and a chalice carved and burnished forms the centre. The figure with the head raised portrays the living Christ reigning from the cross.

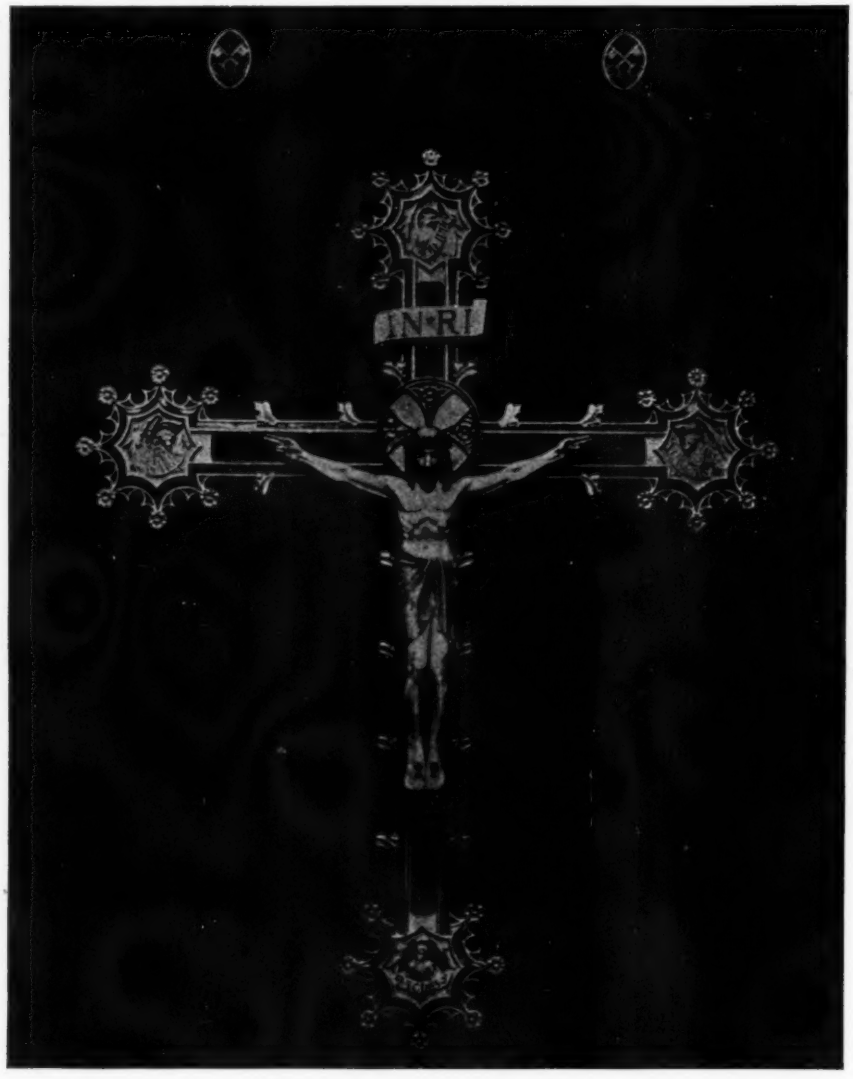
The details throughout are emblematical—such as the serpent beneath Our Lord's feet and the gilded keys of St. Peter (the Patron Saint), which form a decorative feature to the supporting chains.

The whole of the work was executed by Messrs. J. Thompson and Sons, of Peterborough.

The reredos in this church was designed by the late Mr. C. Hodgson Fowler.

In the fine photograph which we reproduce on the facing page, the crucifix is shown in position within the church. Half silhouetted against, half merging into, the deep shadow of the roof, it conveys a sense of mystery that is very impressive. The beauty and dignity of the crucifix are more keenly felt, it seems, when, as here, it is suspended from the roof, than when it is fixed at the base upon a rood screen.

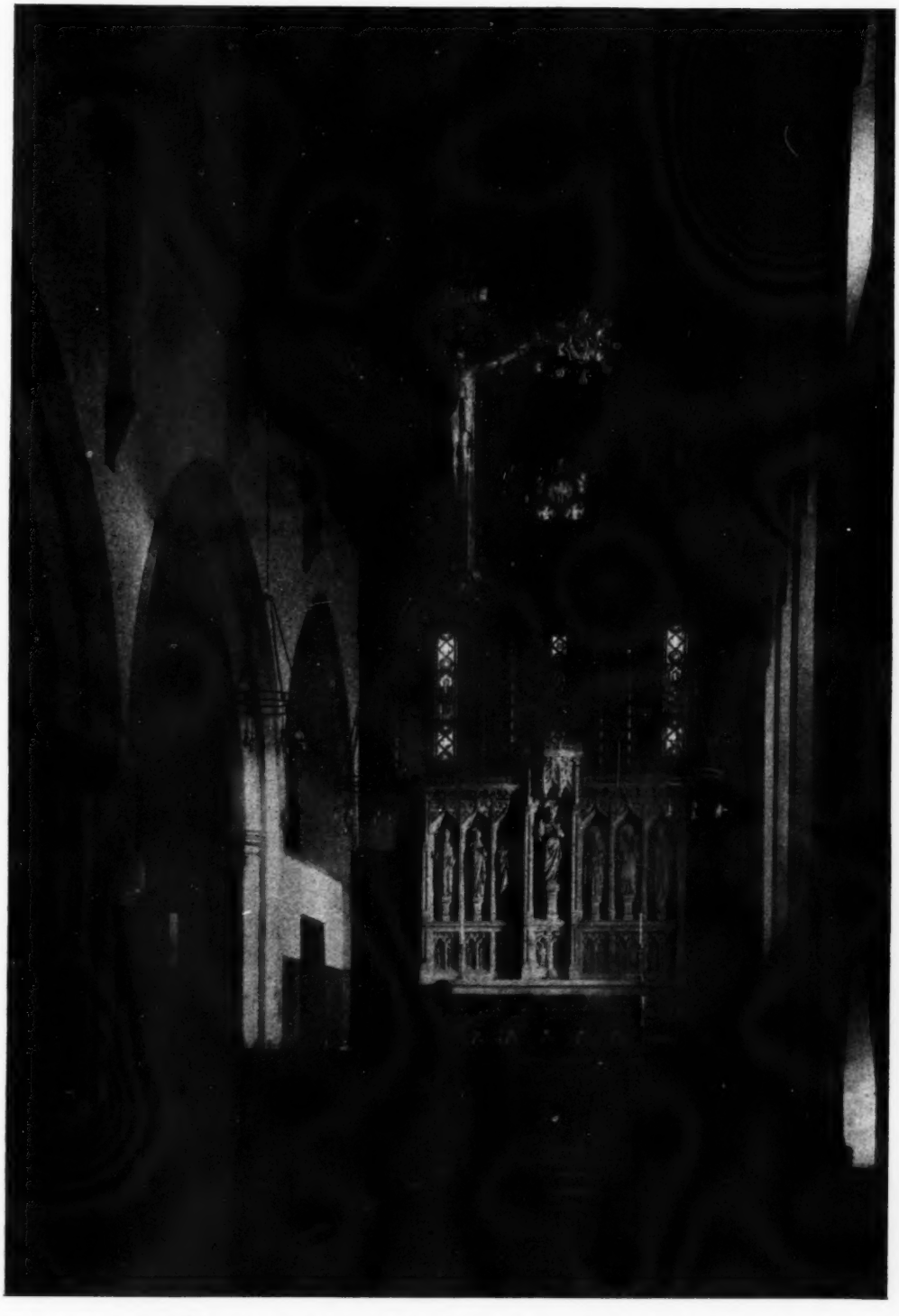
It is curious to note in the plate illustration how the arms of the Cross reinforce the effect of the cinquefoil window in the rear wall.



A DETAIL VIEW OF THE CRUCIFIX

Modern Ecclesiastical Architecture. 26.—St. Peter at Gowts, Lincoln : The Hanging Crucifix

Designed by Leslie T. Moore, F.R.I.B.A.



This crucifix is in English oak, and is decorated in gold and colour. The reredos is the work of the late C. Hodgson Fowler.

Correspondence

The correspondence of readers is welcomed. It is naturally preferred that a letter should bear the name of the writer, but the use of a pseudonym is permissible. The Editor does not necessarily associate himself with the views expressed. Anonymous letters cannot be published.

Registration

To the Editor of THE ARCHITECTS' JOURNAL.

SIR,—Judging from a circular recently issued to all corporate members of the R.I.B.A., it appears as if the old quarrel between "ins" and "outs" is to be revived, upon crabbed points and petty issues. I am now becoming an old man, and rarely intervene, but trust you will allow me to point a way by which, perhaps, what all desire (registration, with such unification as would necessarily be involved) may be brought about with good feeling and general consent. There are strong opponents of either "Registration" or "Unification" taking precedence. The way of generous statesmanship appears to be that of concurrency.

The Society's Bill, as it stands, would certainly register all members of the Society, but it would deprive them of their status as members and wreck the Society. On the other hand, it would not need much altering to itself confer upon these gentlemen, as well as upon all others who, not being members of the R.I.B.A., could claim registration, the title of "Registered Architect" (or any other that might be agreed upon), and to bring all under Institute control. A little generosity here, in admitting at the time of passing of the measure a considerable number as Fellows, Associates or Licentiates (not under Charter, but under the Bill) would work wonders, and do only temporary harm.

Such a Bill, under the present Government—remembering that the Society's Bill as it stands was "settled" by a K.C. who now holds high office, and that its general principles are those with which trade unionists are bound to agree—would stand quite a good chance of passing. To say, as has been said, that there is no public case for it is sheer nonsense. The whole of the slum problem of the present time denotes the case! With properly trained architects, under whom alone habitable buildings would be allowed to be constructed, no such problem could have arisen. But the necessary powers could only be given to architects who were welded under registration into a body whose competence was recognized, and who could be dealt with if necessary—just as the issue of death certificates could scarcely have been permitted to medical practitioners before they secured registration. All our building by-laws, etc., are mere makeshifts for lack of such registration.

Statesmanship, generosity, and boldness, combined, perhaps, with a little mutual goodwill, promptitude and clear leadership from the right quarter, are necessary to secure that which we all desire, and for which I have personally been striving ever since my letter to "The Building News" of February, 1884, just forty years ago.

Croakings may be disregarded, for the whole outlook of Parliament has changed.

G. A. T. MIDDLETON.

Yes! we have no Unification

To the Editor of THE ARCHITECTS' JOURNAL.

SIR,—With reference to the letter received by me, and I presume other Associates, from the R.I.B.A. Defence League, signed by Mr. A. W. S. Cross and Mr. Sydney Perks, may I ask whether we should not, as architects, be in a much better position to-day to press our views upon the Government in the new housing situation if the recommendations of the Unification Committee had by this time been carried out? Quite apart from registration the situation seems, in the form of question and answer, to be as follows:—

Question: Does the Royal Institute in this important matter represent at the moment the whole of the architectural profession?

Answer: No; but on the other hand, we *have* now decided to wear pink costumes on academic occasions.

HOPE BAGENAL.

The R.I.B.A. Prizes and Studentships

To the Editor of THE ARCHITECTS' JOURNAL.

SIR,—Professor Reilly's calm proposal to expropriate the major part of the R.I.B.A. prize-money for the schools fairly takes one's breath away. The schools are either: (1) already endowed; or (2) will receive many further endowments.

I am not one of those who cry impossible, but I do say highly improbable and impolitic, for if such a proposal could get past the Charity Commissioners it would be an end to any further monies being bestowed on the Institute for such purposes.

These monies are essentially to aid the student who cannot afford the time or the money, or both, to attend a five-year course at the schools, and the Institute should continue their mission of reaching to these men rather than start proceedings to transfer endowments—very costly proceedings, paid for, no doubt, out of those endowments.

No; if the schools wish to participate in these awards more largely, let them merely get into closer touch with the Board of Architectural Education, and devise means, modifications in curricula, or what not, whereby the prizes may be competed for, and at the same time form part of the course—not make immoral and monstrous suggestions for the seizure of the prizes to keep all to themselves.

G. NORBURN.

Casement or Sash Windows?

To the Editor of THE ARCHITECTS' JOURNAL.

SIR,—I have noticed in your JOURNAL recently various letters arguing as to the value of casement or sash windows.

May I be permitted to express the opinion that very largely the correspondence has dealt with the artistic more than the practical side of the question? When one considers the subject from this latter point of view—and surely this is really the more important, because fresh air and proper ventilation are the necessary factors to good health (one does not wish to suggest that the artistic is in any way wrong)—no one can deny that the best form of ventilation is to be obtained by having an opening high up in a room or building to allow the stale air to escape, and an opening lower down for the fresh air to enter. The casement window cannot perform both these functions, though admittedly it can perform the former when a fanlight is fitted above it.

The sash window is comparatively easily cleaned and cannot possibly be blown off its hinges, as can easily happen with the casement. I realize that many complaints are made about sash lines continually breaking, but my own experience is that with a reasonably good quality pulley and an equally reasonably good quality sash line, properly fitted, there should be no trouble for a great many years.

F. G. AUSTIN.

Posters and Sky-signs

To the Editor of THE ARCHITECTS' JOURNAL.

SIR,—I have noted in the Press of late that an important conference of advertisers is soon to be held in London, the American organizers of which state that advertising in this country is "still in its infancy"; in consequence a huge advertising campaign is to be launched throughout

the country. I am strongly of opinion that should this be successful, it will be at the expense of our few treasured possessions in the way of landscape, architecture, etc.

I, for one, certainly think that already we have far too many posters, and that the ever-increasing electric sky-signs of the West End are "vulgar and inartistic" at night, whilst their appearance during the day, "sprawling right across" architectural refinements which are the product of years of study, is greatly to be deplored. If, on the other hand, the advertisers really wish to improve English advertising, why not encourage really artistic posters, and in lieu of our present garish night-signs, "flood light" the buildings as a few West End firms have done?

I feel sure that if the conference follows something on these lines, it will achieve success, produce a "Brighter London," and, at the same time, encourage an appreciation of architecture, which appears to be sadly lacking in this country at the present moment. SIDNEY H. LOWETH.

Election to the R.I.B.A. Fellowship

The following letter is reprinted from the current issue of "The R.I.B.A. Journal":—

DEAR SIR,—It caused me the very gravest regret to hear it stated at the special general meeting on January 7 that the Council consider the examination of the drawings submitted by applicants for election to the Fellowship to be a "farce," and that the election to the Fellowship from the Associateship is now "purely automatic."

I am old enough to remember the time when the Fellowship was regarded, both in the profession and out of it, as the hall mark of the profession. Clients treated it with deference, and it carried great weight in courts of law. It is no longer entitled to be so regarded; indeed, it is in grave danger of becoming rather a degradation than a distinction, and many of the Associates so regard it.

There is nothing now to prevent a man being elected to the Fellowship who has been in practice for seven years in a remote country village under the title of architect and surveyor, whose business has been restricted entirely to surveyors' work, and who has never carried out any architectural work at all; no working drawings or other proof of executed works being required from him. It is precisely this type of "architect" who will apply most readily for "promotion," and the Associate who is worth his salt will be still more inclined to stick to the qualification which at least carries the hall mark of examination, unless or until the Council tell us that this examination is also a "farce."

Yours faithfully,

CHAS. B. FLOCKTON (F.).

[With regard to Mr. Flockton's letter the Secretary writes:—

It may be as well to point out that this election to the Fellowship is confined to Associates who have qualified by examination, that before they are nominated for election they must have satisfied the Council that they have been engaged as principals for at least seven successive years in the practice of architecture, that they must be proposed by three Fellows who from personal knowledge of the candidates and their works recommend them for election, that they must have satisfied the Council as to their fitness and qualifications, and that they must have run the gauntlet of all the other safeguards provided for in by-law 8.]

Raffles College Competition, Singapore

To the Editor of THE ARCHITECTS' JOURNAL.

SIR,—An error has crept into your list of Mr. Farey's competition successes. You state that he collaborated with me in the Hampstead Flats competition and in the Holy Trinity Church Hall, Hounslow, competition. This is a mistake.

I understand from Mr. Farey that he worked on the Hampstead Flats competition in conjunction with Messrs. C. Evelyn Simmons and Trystan Edwards; and that he designed the Holy Trinity Church Hall, Hounslow, alone.

GRAHAM R. DAWBARN.

The Architectural Societies

6.—Manchester

By PAUL OGDEN, F.R.I.B.A.

IT will not be amiss to refer briefly to the architectural atmosphere of Manchester previous to the foundation, in 1865, of the Society. From about 1825 to 1865 was the great period during which the city built in the Italian Renaissance style, a period referred to by Fergusson in his "Handbook of Architecture" as being "as satisfactory as anything of former days." The two architects mainly responsible for the buildings erected during this period were Gregan and Walters. Walters built the Free Trade Hall in Peter Street, many large warehouses, the bank in Mosley Street, numerous houses in the suburbs, and, strange to say, a Gothic church in Cavendish Street. Gregan built Heywood's Bank (in St. Ann's Street), and the manager's house, these buildings being grouped together in a masterly way. The school created by these two men was passably supported by the then practising architects. Then came the Gothic revival, which killed everything associated directly or indirectly with Paganism, and with it Manchester's Italian Renaissance.

Among the founders of the present Society were the Holdens, who won the competition, open to the world, for Lille Cathedral; Wm. Corson, who succeeded to Gregan's practice (now Beaumont and Sons); Thomas Worthington, who served articles with Bowman—the Bowman who, with Crowther, published "Churches of the Middle Ages"; Alexander W. Mills, who, with Mr. Murgatroyd, built the Manchester Royal Exchange; Edward Salomons, who served articles with Gregan and assisted in illustrating "Bowman and Crowther"; and Alfred Waterhouse, who won the competition for, and built, the Manchester Town Hall and Assize Courts.

The first president was Isaac Holden, and the present one is Francis Jones. The financial position of the Society is secured by substantial bequests from the late Alexander W. Mills and from T. G. Barker. The library contains about 1,000 volumes, and consists mainly of the libraries, which were bequeathed to the Society, of the late John Holden and the late Alexander W. Mills. The library is controlled by a committee and an official librarian.

In 1891 the Society was incorporated under the Companies Acts, 1862 to 1890. Until that year the members of the Society were all practising architects, and afterwards the members were divided into three classes: Fellows, Associates, and Students. Fellowship is limited to those who have attained the age of twenty-eight years, and have been in practice for five years; Associateship to those who have attained the age of twenty-three years, and are engaged in the study and practice of architecture as a profession; and Studentship to those under the age of twenty-three

MR. ISAAC HOLDEN, F.R.I.B.A., F.S.I.
(First President—from June 1865 to June 1867.)

years, and engaged in the study of architecture either as pupils or assistants.

The Council of the Society consists of the president, two vice-presidents, the hon. secretary, assistant hon. secretary, nine Fellows, and three Associate members. The present Standing Committees are "Education in Architecture," "Competitions," "House," "Library," and "Practice."

The University of Manchester School of Architecture was founded in 1893 by the University, the Manchester Education Committee, and the Manchester Society of Architects, and it is now under the control of the University. Previous to the foundation of the University the various classes included in the courses of study were held in the University, in the College of Technology, and in the School of Art, and students had to attend the three institutions. Commodious premises in the University buildings have now been provided for the school, where every branch of study included in the courses can be taught, and proper co-ordination of the subjects ensured.

Generally the deceased members of the Society could not believe that registration would benefit architecture, although they agreed that it might benefit practising architects. Examinations in architecture, they thought, would tend to impress upon those who passed that they had acquired all the knowledge and ability needed to make great architects, whereas they had acquired merely a modicum of knowledge which *should* aid them in their practice.

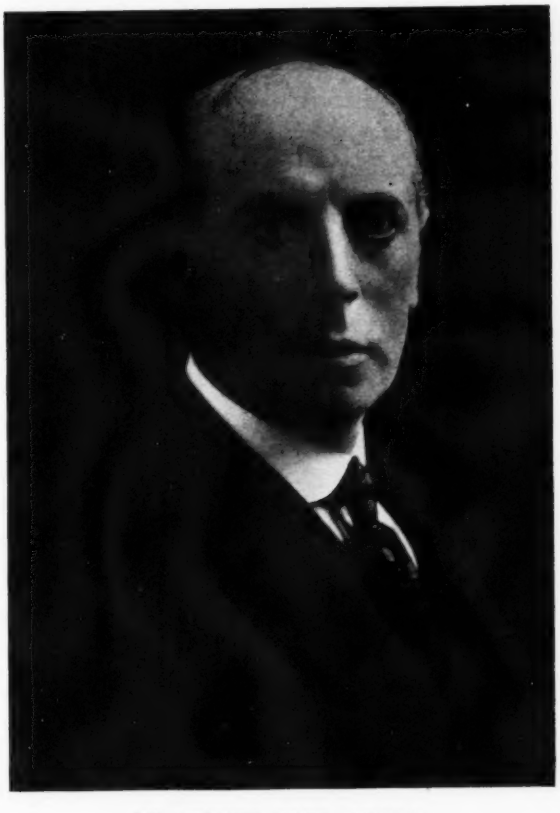
It would be ungracious not to refer to the Manchester Architectural Association. This Association was founded in the early years of the 'eighties, and membership included not only practising architects, but assistants and pupils. The Association applied to the R.I.B.A. for alliance with that body. The R.I.B.A. suggested the desirability of having only one society, and advised that the Manchester Society of Architects and the Manchester Architectural Association should amalgamate. This advice was received with displeasure by both societies, and the usual recriminations followed. Both societies, it was said, would suffer loss of dignity and prestige, they would be thwarted in their endeavours to continue the good work which was already well advanced, and that whatever one society was doing the other was effecting in a much better way. None was prepared to make the necessary personal sacrifices to effect the good of the thing they yearned to accomplish.

The Manchester Society of Architects applied for, and obtained (as stated above) the necessary Articles of Association, and became incorporated under the Companies Acts, 1862 to 1890, and every new and old member signed the legal forms for admission to the newly reconstituted Manchester Society of Architects. The new members were mainly from the Manchester Architectural Association, which now became defunct, as also did the few recriminators left amongst the new members.

There is at present a wholesome calm, which may have a tendency to further the purifying of the thing we call architecture and the individuals we call architects. Now we look to the School of Architecture at the Victoria University, Manchester, for guidance in the former, and include the latter in our devotional exercises.

"But I think, said I, that the proper method of inquiry into all these things, if it reach their communion and alliance with each other, and reason in what they are akin to one another, will contribute something to what we want, and our labour will not be unprofitable; otherwise it will. . . . But whilst they are not able, said I, to impart and receive reason, will they ever be able to know anything of what we say is necessary to be known?"—PLATO.

[The previous articles in this series appeared in our issues for May 2 and 30, August 1, September 12, and December 26, 1923.]



MR. FRANCIS JONES, F.R.I.B.A.
The President To-day.

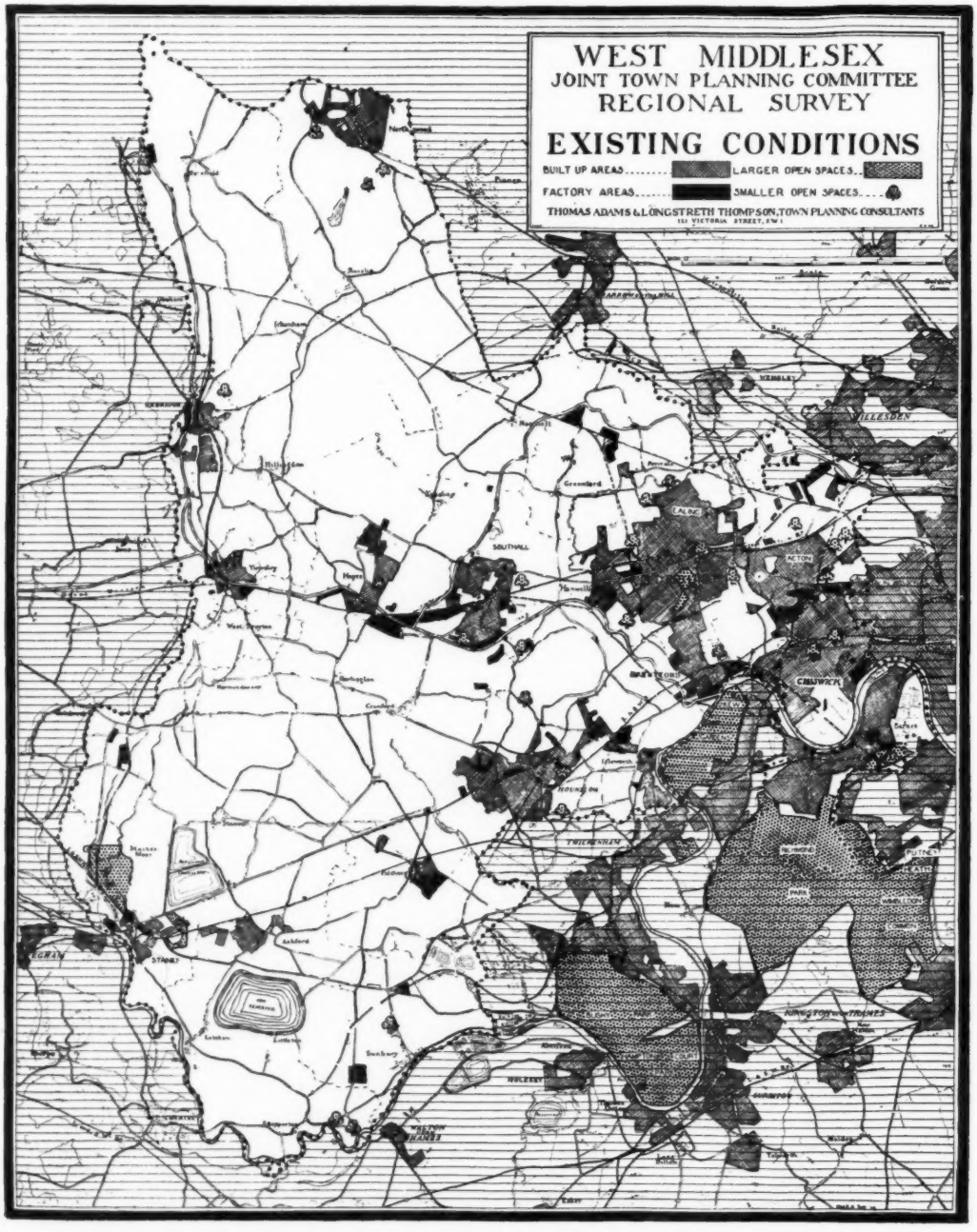
Book Reviews

A Middlesex Regional Plan

West Middlesex is certainly not the most chaotic of London's purlieus; nevertheless, the preparation of a regional plan is essential. This was realized by the authorities concerned in October, 1921. In January, 1922, a joint committee was constituted and retained the services of Mr. Thomas Adams, who was instructed first to survey the district and make an interim report, discussing the general conditions of the whole area and making preliminary suggestions, and later to submit a final plan and report with definite proposals for its development.

The questions requiring most attention in West Middlesex are housing and communication. The district as a whole is healthy and not overcrowded, and not too badly provided with open spaces, although these are badly distributed. It is tending to develop as a manufacturing district, largely owing to the good rail facilities provided by the G.W. Railway; some sort of zoning will therefore be essential to prevent haphazard growth. But industrial expansion at present is severely handicapped through lack of housing accommodation.

The subject of the communications of Greater London

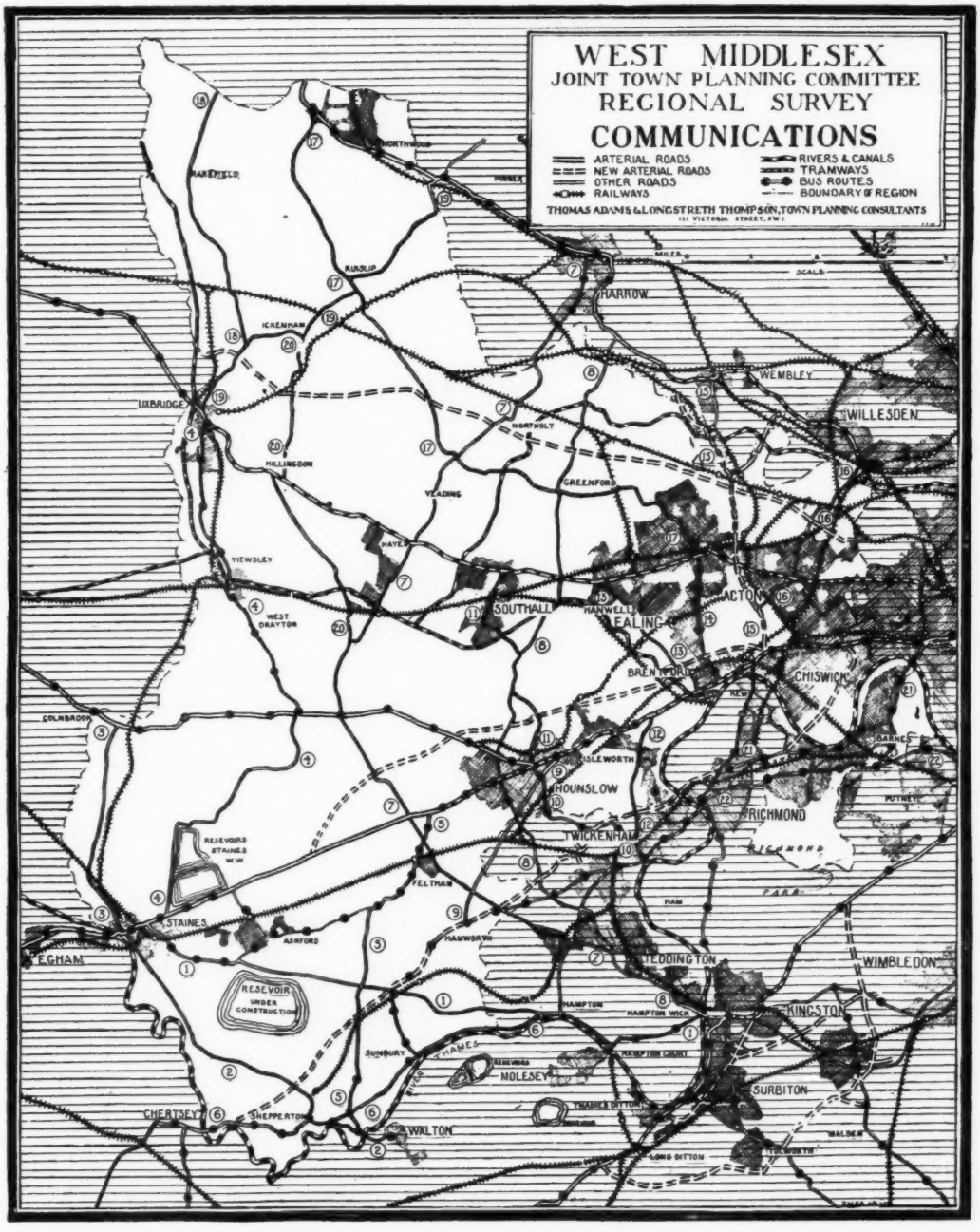


MAP SHOWING THE EXISTING CONDITIONS IN THE REGION WITH REGARD TO BUILT-UP AREAS, FACTORY AREAS, AND OPEN SPACES.

(*From "West Middlesex Joint Town Planning Committee: Preliminary Report upon the Regional Survey."*)

has been greatly discussed during the last twenty years. There was the Royal Commission on London Traffic, followed by the London Traffic Branch of the Board of Trade, but on one point these and other bodies have been unanimous, and that is as to the necessity for a comprehensive scheme in which transport shall take its place alongside all the other matters involved in the town plan. Unfortunately, however, it would seem that there is already a very real danger that road improvements may proceed without due regard to the town plan. The particular danger occurs through lack of discrimination between the road width and the building line. Where these things are taken as synonymous a certain type of development takes place in which the houses may be built to the boundary of the road, which may, of course, be very undesirable. This is typical of the kind of thing that may happen through lack of co-ordination, and a mistake once made it is practically irrevocable, and stands for all time as another example of English muddle. Hence the necessity, not only of the regional plan, but also of the execution of the regional plan, which, after all, is only a means to an end, that end being a district yielding the greatest good to the community as a whole. The actual case arises with the proposal to widen the Uxbridge Road to 110 ft., and the authors suggest that a building line should be fixed varying from 15 ft. to 25 ft. from the new boundary, making the total distance between buildings 140 ft. to 160 ft. (Not 145 ft. to 160 ft. as they erroneously state.)

In order to ascertain particulars concerning the factories in the district 240 employers were circularized with a questionnaire. Of these only eighty-one replied, namely 33 per cent. There would appear to be, however, about



MAP SHOWING PRINCIPAL LINES OF COMMUNICATION WITHIN THE REGION.

(From "West Middlesex Joint Town Planning Committee: Preliminary Report upon the Regional Survey.")

500 factories in the district; therefore particulars from only 16 per cent. of the factory owners were actually obtained. This is a very low figure, from which it would seem to be utterly useless to make elaborate calculations or deductions. To do so, indeed, is as fallacious as to work out a part of some calculation to several points of decimals when the premise itself is only calculated to one point. A degree of accuracy is inferred which does not actually exist. Thus of what use is it to be told that, "for nearly every factory there are numbers of employees who travel from distant places. The proportion varies from 5 to 90 per cent., and the most usual percentages quoted are between 25 and 75 per cent., the actual average being 49 per cent.," when "nearly every factory" means only "nearly every" of the 16 per cent. of the factories that returned the necessary information upon which these figures are based. We stress this point to indicate the danger that lies in indulging in a desire for impressive statistics which may be of little real value.

There are 1,950 acres of open spaces in the district, representing 2·7 per cent. of the total area, or about 209 persons per acre (a useful calculation which does not appear in the report). This actually is not a bad figure. But—and here again we see the danger of reliance on figures—everything depends upon the distribution of these spaces. And it is unsatisfactory, for, of the total acreage of open space, 950 acres (nearly half) is concentrated in the urban district of Barnes. It therefore behoves most of the authorities immediately to secure land for open spaces before future development makes acquisition more costly. The early acquisition of open spaces is at once one of the most neglected and one of the most essential precautions which every district, faced with even the remote prospect of development, should take. But there are various forms of open spaces, and among those that we should particularly like to see is that of the road parkway and the park highway, to borrow terms from Professor Abercrombie's "Dublin of the Future." For the latter there should be possible scope in connection with the main arterial radial roads to the metropolis, and what indeed could be more desirable than the entrance to London by way of a broad tree- and grass-lined boulevard? If other and lesser cities can do as much surely it behoves London to make beautiful her approaches. We hope that West Middlesex will show the way. The new Brentford by-pass, the Chertsey Road, and the Western Avenue each afforded opportunities for the creation of a beautiful park highway, opportunities which have undoubtedly been lost. As for the road parkways, these might with equal advantage be made in connection with the new ring roads of which the district is sorely in need.

Of the eighteen local authorities in the district, seven are obliged to prepare town-planning schemes, having populations of over 20,000; actually, however, eleven have passed a resolution to prepare a scheme. These are to be worked out by the individual authorities on the lines agreed upon by the joint committee. The final plan and report of the consultants is due to be presented to the committee in October. We await its publication with interest.

West Middlesex Joint Town Planning Committee. Preliminary Report upon the Regional Survey, by Thomas Adams and Longstreth Thompson.

Home and Country Arts

This is a unique little book which we hope will be read by all interested in what one may describe as *real* country life.

It treats, in a manner entirely fresh and simple, of occupations such as drawing, designing and embroidery in all their stages, emphasizing the need of seeing beauty in common things—a wagon—a rudely constructed cottage gate—a loaf of home-made bread; because each of these is in its way quite perfect, and at the same time *useful*. But one must do it all "as if it were a game." Mr. Lethaby becomes rather unkind when, in his chapter on "Seeing London," he speaks of the City as a place to get away from. But we must all feel like that at times.

He pleads for the revival ("more or less supplementary to farming") of all those arts and crafts and old customs which have played such an important part in the building up of our national character and prosperity, and for the general cleaning-up of our countryside, at present so defiled by the rubbish dumps and hideous hoardings which everyone views with disgust and yet allows to remain. He says, "If we would preserve our old buildings we must learn to see and love them an then set about making them sound and habitable."

The charm of this little book lies in its unaffected and natural style. As the author says, "These pages, few and unsystematic, have, as it were, written themselves going along, on no very coherent plan."

A plan of no uncommon risk, usually, but in the case of Mr. Lethaby's book, entirely successful.

M. B. W.

"Home and Country Arts." By W. R. Lethaby, F.S.A. Home and Country N.F.W.I., 26 Eccleston Street, London. Price 1s.

St. Dunstan-in-the-East

In this book the Rev. Arthur G. B. West gives an account of the origin, history, and monuments of the church and parish of St. Dunstan-in-the-East, formerly known as St. Dunstan-by-the-Tower. The date of the foundation of the church is unknown, although the "Dictionary of Chronology" gives a speculative one of 960. Four years previous to this Dunstan had been exiled from England, and had taken refuge in Ghent, and it is believed that he restored a church, already standing on the present site, in thanksgiving for his return to favour. He certainly secured the new charter needed for its endowment in 964. Dunstan died in 988, and the dedication of the church is placed at roughly A.D. 1000 to 1066. In eight centuries of London life throngs of men and women, famous in their day, have gathered in the church, and many stirring events have been enacted within its precincts. The church kept in close touch with the national life, and was intimately connected with the severe political and religious crises in which the city was embroiled. Architecturally the church has suffered many vicissitudes. The stones of the fabric crumbled through weather and wear in the centuries; the church was restored, gutted by the great fire, and again restored by Sir Christopher Wren, who also added the tower and spire.

Several unsuccessful attempts have been made during the past thirty years to pull down St. Dunstan's, with the exception of the tower, for the sake of its site value. In 1919 the church was placed among the nineteen churches proposed to be abolished, it being again recommended that the tower be retained, but, as is well known, the proposals were received with widespread indignation. There is, however, an active party still in existence demanding the destruction of these churches, and the author, in appealing for the preservation of his own church, gives a good case for retaining them all. On architectural grounds their demolition has been strongly opposed by architects and artists, but the author outlines the big financial help that the City churches give (upon which there is much public ignorance) annually to churches in Greater London. The "Union of Benefices and Disposal of Churches Measure, 1923," now before the National Assembly of the Church of England, under which power is sought to dispose of churches in the metropolitan area, must be either abandoned or greatly amended.

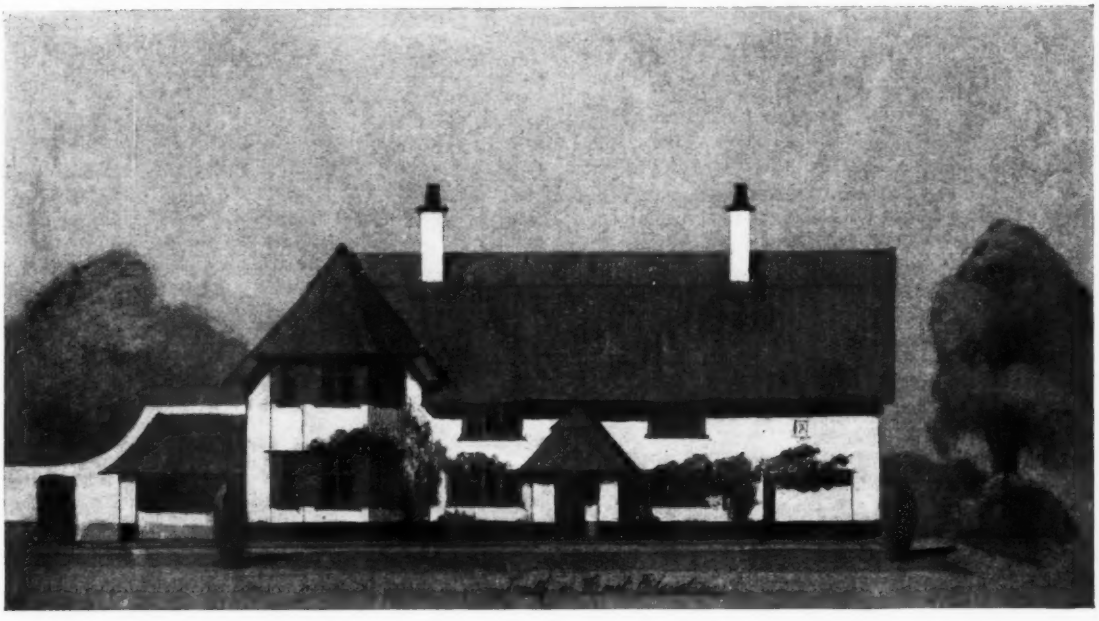
The book is absorbing from beginning to end, and some of the stirring episodes dealt with equal, if not rival, those portrayed by the imaginative novelist. It is, however, a pity the book is so scantily illustrated.

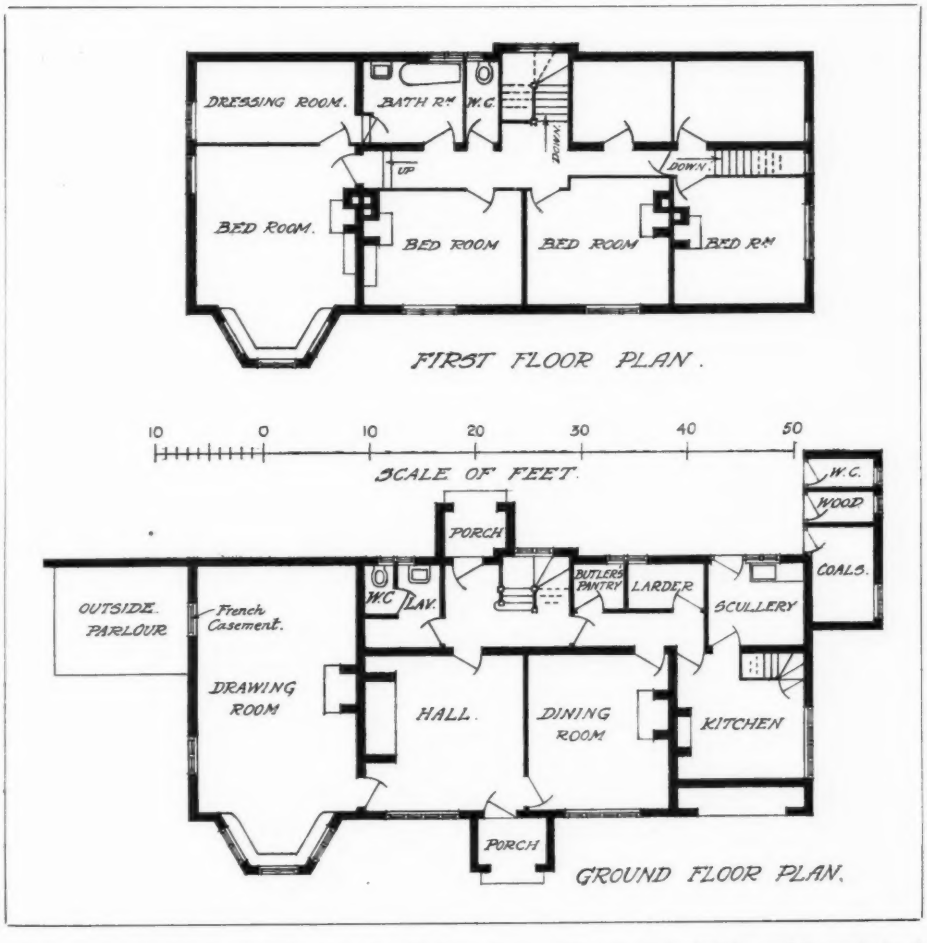
E. R.

"The Church and Parish of St. Dunstan-in-the-East, Great Tower Street, E.C." By Arthur G. B. West, M.A., Rector. Price 2s. 6d. net. Simpkin, Marshall, Hamilton, Kent & Co., Ltd.

Modern Domestic Architecture. 76.—A House near Norwich

George J. Skipper, F.R.I.B.A., Architect





This house has been designed to be carried out in clay blocks or lumps. The site is backed by and is partly in the clearing of a plantation standing in gentle rising ground, with views to east, south, and west. The finishings inside are to be mostly in oak. The reproduction is from a watercolour drawing by the architect.

The Business of an Architect

12.—Contracts

By C. MURRAY HENNELL, F.S.I.

THE architect cannot be expected to have had a legal as well as an architectural training, but in view of the advice he frequently has to give and the steps he must constantly take, it is most important for him to have at least a very fair knowledge of the laws of his country so far as they affect his daily work. He should know most of all about the law of contracts. This subject occupies a considerable portion of the text-books on common law, but is by no means so uninteresting as it may promise to most of us to be. There are three kinds of contracts :—

(1) Contracts of Record.—Obligations proceeding from some court of record, such as judgments, etc.

(2) Specialities.—Contracts which are in writing, sealed, and delivered.

(3) Simple Contracts.—Agreements which may be either in writing or by word of mouth only.

We need not worry to any extent about (1) and (2), and can safely leave them to the lawyer to deal with, but the architect's work has much to do with simple contracts.

There are various other legal subdivisions of contracts, but it is only necessary for us to bear in mind two more of them, and they are easy, viz. :—

Express contracts, the effect of which is openly expressed ; and

Implied contracts, which are dictated by law.

The latter are best explained by example. If a man orders goods from a shop, there is an implied contract on his part to pay their proper price. This is a matter of some importance to the architect, for if anyone seeks the advice or services of a professional man, the contract to pay the proper and reasonable fees for them is implied. The fewer implied contracts we have to deal with the better, and the architect will be careful to see that all the building contracts with which he is concerned are express contracts. It is necessary for him to ensure that they are most definitely expressed, and that all likely contingencies are provided for. Very few private clients refer a building contract to their solicitors, although the architect should point out that this course is open to them. In cases of large and complicated contracts it is advisable not merely to recommend legal advice, but to state that it is essential ; otherwise responsibility for a bad legal error may be laid at the architect's door.

The first principle affecting the nature of a contract is *the consideration*, which is its price or motive, and it is essential in all simple contracts that there shall be a valuable consideration. It should be noted that the consideration need not be adequate, but it must be real (see Anson's Contracts, 88 *et seq.*).

Builders do not usually work solely on account of their love of building, and *the consideration* is not likely to be lost sight of, but the architect has to arrange the contract primarily in accordance with the *modus operandi* by which the amount of the consideration is arrived at, and various methods of dealing with this matter present themselves, viz. :—

1. A fixed sum based on the drawings and specification without quantities, the price of variations being agreed or becoming the subject of disputes during execution or at completion of the works.
2. A fixed sum based on a bill of quantities, which
   (*a*) forms parts of the contract ;
   (*b*) does not form part of the contract.
3. The cost price of the work plus
   (*a*) A percentage for profit ;
   (*b*) an agreed fixed sum (or premium) ;
   (*c*) an agreed sum (or premium) subject to increase or decrease according to the speed and economy that are effected in the building.

Methods 1 and 2 are the most common, and their merits and demerits were dealt with in the last chapter, where it was shown that 2(*a*) was the fairest to all parties.

Method 3 (in one of its subdivisions) has to be adopted in certain instances, such as for complicated alteration works, involving the use of old materials and parts. During the period immediately after the war it was almost impossible in most districts to get builders to enter into any contracts at all except on this basis. The element of risk due to fluctuations of prices of materials and rates of wages were then too great for contractors to consider other forms of contract, but we may hope that these conditions will not prevail again, at any rate to so marked a degree.

The prime cost method has many advocates, and it goes without saying that contractors, at least those who secure the work, are strongly in favour of it, for they run no risk. Some architects also, especially those who wish to design and re-design a building as it goes along, have a pronounced preference for work on these lines.

One must not assume that, under method 3(*a*), a reputable builder will intentionally increase the cost of the work in order to enhance his profit, but a tendency towards slackness and extravagance is, more often than not, noticeable throughout a job when prime cost plus percentage is the consideration of the contract. It seems better to adopt method 3(*b*), whereby the contractor has his remuneration fixed beforehand. By this method he has nothing to gain by increasing the cost, and it is to his interest to complete the works in the shortest possible time.

A well-drawn contract on this basis generally works smoothly and satisfactorily for all concerned. A contingency which sometimes arises and presents considerable difficulty is that of extra works. These the contractor may consider, rightly or wrongly, to be outside the scope of the scheme originally contemplated when his fixed profit was agreed. Builders expect variations in matters of detail, and it would be unreasonable of them to demand further profit in respect of every small change ; but when additional works of an appreciable amount are introduced it is a different matter. One way of dealing with this is to insert a clause in the contract requiring the contractor to give notice to the architect within three days of the receipt of any order which in the former's opinion will materially increase the cost of the works and in respect of which he requires an extra premium, whose amount shall be fixed on the basis of so much per cent. on the estimated additional cost of the variation, to be agreed between the architect and the contractor. They may not, of course, be able to agree what the additional cost involved is likely to be, but it would be exceptional for there to be so great a discrepancy between their estimates as to make an appreciable difference in the extra premium to be fixed. In any case, this is a more satisfactory, or less unsatisfactory, arrangement than the not unusual one by which such extras are to have a percentage added to their actual cost, for this means that two bases of arriving at the contractor's profit are running at the same time, and it will in most cases be found practically impossible to keep the prime cost of the variations separate from that of the work in the original contract.

There are many who favour 3(*c*), and various forms of contract have been drawn up by architects, contractors, and by public bodies to provide for it. Theoretically it is

excellent, but it is beset with practical difficulties, which lead to disputes. It was tried in several building schemes directly after the war, and this is what happened: the contractor in the first place had to fix his first estimate high in order to have some chance of obtaining a bonus for economy effected. Then rates of wages and prices of materials went up, and his original estimate was altogether out of it; circumstances beyond his control prevented him from completing the work until long after the contract date; and in the end, what with these contingencies, "up and down" clauses, variations, and extras, the final accounts became so complicated that the bottom fell out of the contract, and settlement had to be made as best it could. Even when prices are steady, and there are no strikes or lock-outs, it is the variations and extras that are likely to upset everyone's calculations in a contract of this nature.

In framing any contract on the basis of cost price plus profit, great care must be exercised so that it is clearly shown what is meant by "cost price" and what is to be included in the so-called "profit" or "premium." It is usual for the "cost price" to include everything expended upon, and directly and definitely chargeable to, the job. This means that "wages" will include National Health and unemployment insurances, and "materials" embody their carriage to the site; but use and waste of plant, tools, etc., temporary boardings, shutterings, and moulds, their cartage to and from the job, office expenses, accident and third-party insurances, and so forth are generally regarded as overhead charges, to be included in the percentage or pre-arranged profit. In some cases "general foreman" and "timekeeper" are part of the "cost," and in others they are treated as overhead charges. Everything must be stated in the contract, and nothing left to imagination.

In prime cost contracts every account, invoice, and wages and time sheet should be certified for quantity and quality by signature of the clerk of works or other representative of the architect on the site, and only documents thus signed should be recognized as vouchers in support of the contractor's accounts.

(To be continued.)

[The previous articles in this series appeared in our issues for April 4, 11, 25; May 9 and 30; June 27; July 18; August 1; November 7 and 21; December 12, 1923; and January 23, 1924.]

Little Things that Matter. XXV—
The Planning and Arrangement of Furniture in Studies, Libraries, and Billiard Rooms

By PERCY V. BURNETT, A.R.I.B.A.

Studies.

A STUDY is mainly a work room, and should be slightly apart from the other living-rooms where possible. A north-west aspect is best, with as little as possible to distract the worker by way of outlook and decoration. This is the room into which the man of the house will retire for peace, calm, and relief from domestic worries, and for this reason should be cosy and soothing. The essential furniture is a desk, bookcase, armchair, safe, and small chairs, whilst there are occasionally special requirements, such as a drawing desk for an architect or engineer, and storage for works of reference for literary men.

The desk must have left-hand light, and should stand clear away from the walls. The size may be assumed to be 4 ft. 9 in. by 2 ft. 6 in., and there should be an electric plug for a desk lamp. A person sitting at the desk should, for preference, face a blank wall, and not an article of furniture. The bookcase, frequently built-in, is best placed opposite the window, and not tucked in the dark recess formed by the chimney-breast, as is usual.

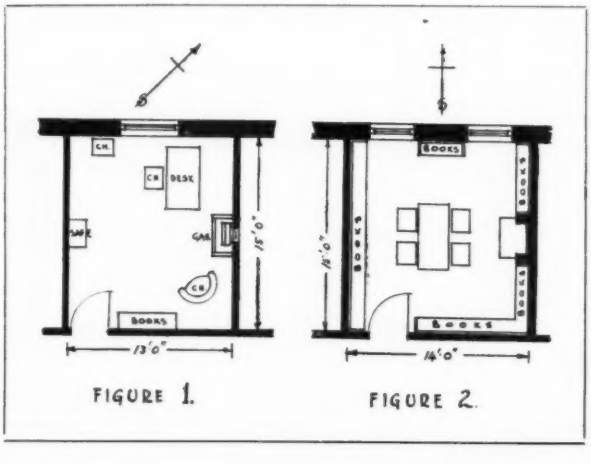


FIGURE 1.

FIGURE 2.

The most suitable method of heating a study is a gas fire, there being no stoking to interrupt the worker, and also because the room will most probably be used at odd times for short intervals. If it is possible to form a special recess for the safe so much the better, but otherwise it may stand against a wall and should be raised up on a pedestal to prevent stooping. It is sometimes possible to arrange a cupboard for the safe under a built-in bookcase.

The decoration must be restful, and panelling and enrichments used very sparingly so as not to form a distraction. Personally I have found a jade green or buff distemper the most restful form of decoration for a study.

Figure 1 shows a simple arrangement for a small room, which need not be larger than 15 ft. by 12 ft.

Libraries.

A house library must provide accommodation first for reading and study, and secondly for the proper storage of books. For reading and study the essentials are a large central table, comfortable chairs, quiet, and facilities for writing. The lazy may prefer armchairs with hinged book supports, and there should be room for them near the fireplace.

The proper storage of books requires shelving, good ventilation, and a dry even temperature. Shelving should be arranged for the small books at the top and the largest at the bottom, and no shelf in a house library should be more than 6 ft. 6 in. high. Shelves for small books should be 9 in. deep and 10 in. apart in the clear vertically, whilst lower down they should be 12 in. deep and 15 in. apart. The back of the shelving should be lined with matchboarding in preference to plaster, and the shelves should be kept ½ in. clear of the back for ventilation. Where we can afford it glazed doors should protect the books from dust, and I have found it desirable to fill in the space between the top of the shelving and the ceiling with studding flush

with the front of the bookcase. In this way an air-space is formed which can be used to ventilate the bookshelves through a grating in the external wall. (Fig. 3.) The thickness of the shelves themselves will depend upon the span between the vertical supports, but 1 in. is usual, and rounded nosings will prevent scraping the covers when books are being drawn out.

The size of the room must obviously be dictated by the number of books to be stored, but for a small house library the minimum for comfort is 15 ft. by 14 ft., in which about 1,900 books can be stored, increasing about ninety per foot increase in length or breadth; 2 ft. 6 in. should be left clear between the bookcases and the central table. A library should be carpeted for quiet, and heated by gas or electricity in order to obviate dust.

The decoration will largely be the bookcases themselves, which will cover the entire wall surface, leaving only the frieze and ceiling. Semi-indirect artificial lighting is the most suitable, whilst a northerly aspect is to be preferred.

It is advisable in planning a library to make ample provision for expansion, and the needs of a client to-day may be quite inadequate a few years hence. Figure 2 shows a suitable plan, in which the placing of the windows to give light from more than one source to the table and bookcases should be noted.

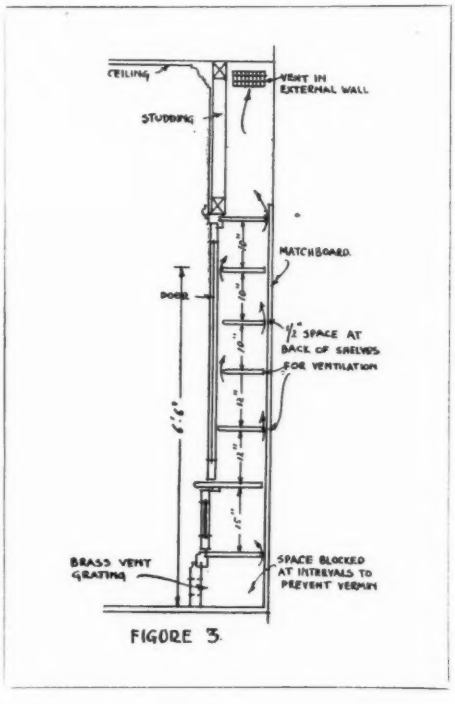


FIGURE 3.

Billiard Rooms.

A billiard room requires several small special considerations to be really successful. The aim should be to provide good light day and night, a solid level bed for the table to stand on, ample elbow-room for the players, and facilities for persons to watch the game. A full-size table is 12 ft. 6 in. by 6 ft. 6 in., and is a delicate article of furniture. It must be kept warm and dry, and sunlight should never fall upon the cloth; but, perhaps most important of all, the table must not be subject to normal house vibrations. For this reason the room should be on the ground floor, and should stand upon a solid bed built up from the surface concrete separately from the floor of the room. It is essential that this bed should be level, and should not be vibrated by persons walking round it.

Billiard-table lighting is a vexed question, and most people have their own ideas on this matter. Personally, I consider side light from both long sides of the table to be

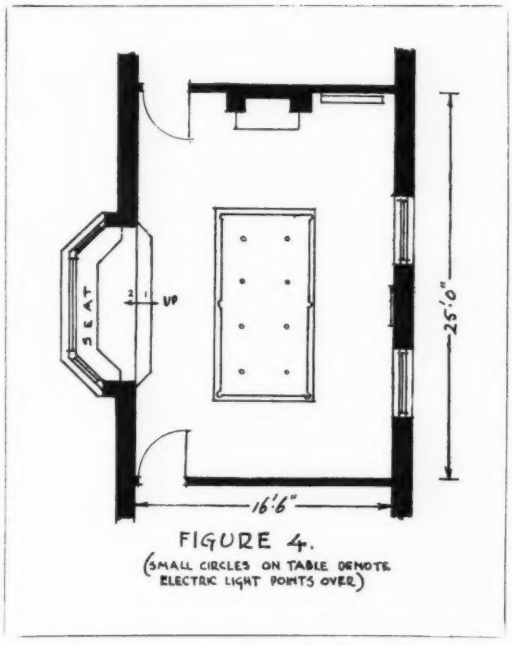


FIGURE 4.
(SMALL CIRCLES ON TABLE DENOTE ELECTRIC LIGHT POINTS OVER)

preferable to top light, but whatever means are used light must be thrown upon the table from several directions so as to avoid shadows under the balls. Artificial lighting should be from eight points above the table, 3 ft. apart both ways, and 6 ft. 3 in. above floor level. Where a skylight is used for daylight care should be taken that the shades of the artificial lights do not cast shadows on the table.

The minimum cue space round the table is 5 ft., and 3 in. less will spoil the room. Nothing is more aggravating when playing billiards than to hit the wall with the butt end of the cue when striking a ball close to the side cushion. Space for viewing the game can be at the side or ends of the room, whichever fits the house plan most conveniently, but this space should be raised up at least 12 in., as one cannot see the game from a sitting eye-level lower than 5 ft. above the floor level. A bay window is an economical way of providing this viewing space. (Fig. 4.) The space round the table must be carpeted to provide a grip for the players' feet.

Figures 4 and 5 show typical billiard-room plans, the dimensions marked on being minimum sizes, which will bear no reductions. Figure 5 shows how the shadows cast from windows in one wall only can be counteracted by a small skylight. A three-quarter size table is 9 ft. 6 in. by 5 ft., and needs only four lighting points.

[The previous article on the Planning and Arrangement of Furniture appeared in our issue for January 30.]

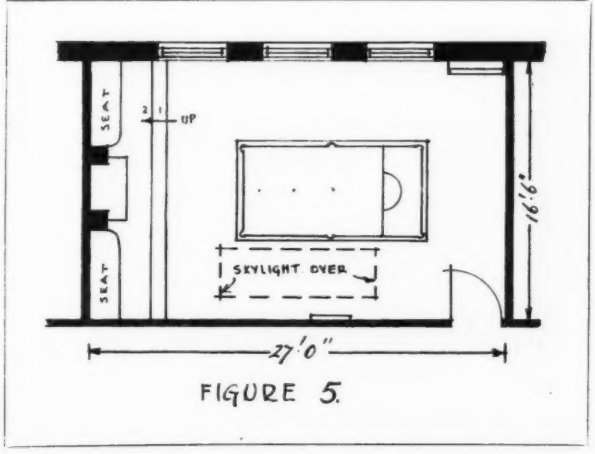


FIGURE 5.

A Pictorial Review

Illustrations of Topical, Practical, or Curious Interest

Readers are invited to send in sketches and photographs for publication in these pages. A fee of 2s. 6d. will be paid for each illustration accepted. Contributions should be accompanied by short explanatory notes.

A vase in the Gardens of the Tuileries, Paris. The pedestal is 5 ft. high and 5 ft. wide at the base, and the vase is 4 ft. high.—B.

Only three churches in Sussex have round towers. That at Southease is illustrated above. This church probably dates from the twelfth century, and the spire is covered with oak shingles. The other two churches are St. John's, Piddinghoe, and the Parish Church of Lewes.—A. J. F.

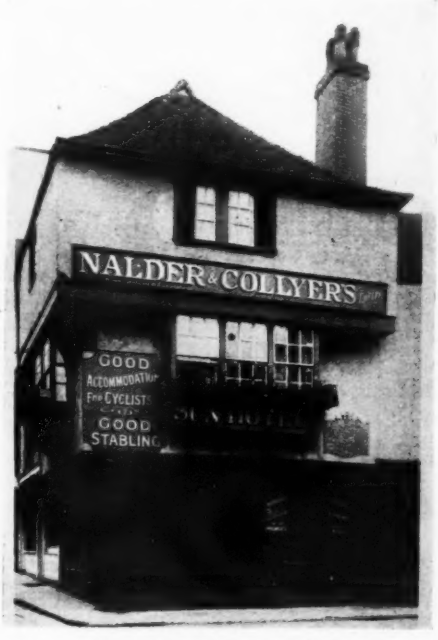
The Tour de Constance at Augues Mortes, a walled-in mediæval town situate about twenty-five miles from Nimes. After the Edict of Nantes until 1767 the tower was used as a prison for Protestants. —A. B. H.

Lower Swell, Gloucestershire, a typical village street in the Cotswold district where old and new work harmonize successfully.—E. A. P.

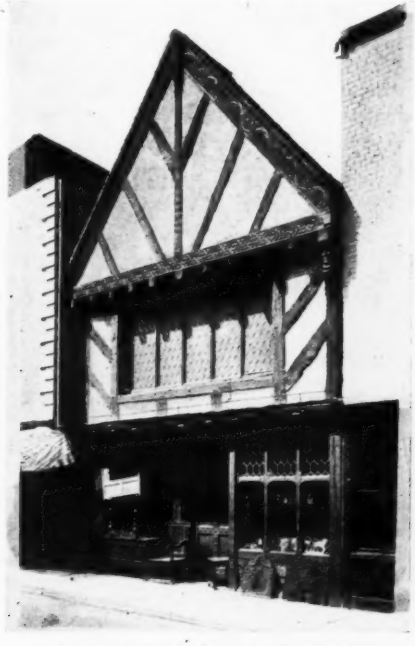
"The Crown Inn," Skipton-under-Wychwood. It has many traces of monastic origin.—E. A. P.

Two views of the Roman Forum looking towards the Cæsars and the Palatine Hill. The three columns and entablature on the left are all that remains of the Temple of Castor and Pollux. The carved block, just below, in the foreground, is one of the Plutei of Trajan. It is of white marble, and the carving, in low relief, is in an excellent state of preservation.—J. V. D.

The "Horse and Groom," Merrow, Surrey, is dated 1615, but the chimney behind would appear to be earlier. It stands at the junction of the road to Dorking with the main Guildford-Leatherhead road.—E. M. H.



The "Micawber" Inn, Canterbury.



An "antique" shop in Palace Street, Canterbury.

Acoustic Demands in Auditorium Design.*—3

By G. A. SUTHERLAND, M.A.

BY the extension of the curve showing Sabine's results in both directions based on these considerations, it is deduced that the absorbing power of the room itself, its walls, ceiling, etc., before the introduction of any cushions, must have been equivalent to 146 metres of these particular cushions. By further experiment it was shown that twelve different rooms, varying in volume from 65 to 9,000 cubic metres, all yielded the same type of curve, the series of curves obtained being shown in Fig. 13. Expressed in another way the particular shape of any one of these curves means that for any one room the product of time of reverberation and absorbing power does not vary. Comparing the curves for different rooms it is found that this product is proportional to the volume of the room.

This statement can be written :—

$$tA = 0{\cdot}05V,$$

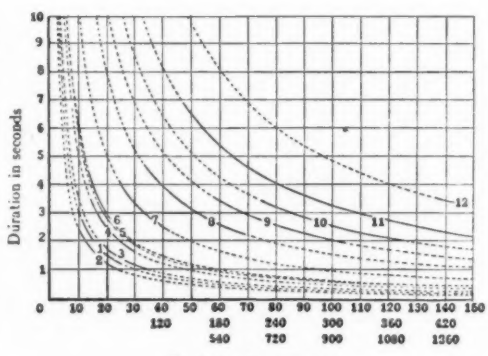
where t is the time in seconds taken by a sound of initial intensity one million times the minimum audible intensity for that pitch to decay to inaudibility, V is the volume of the room in cubic feet, and A the total absorbing power of the room and contents expressed in square feet of open window. The open window is taken as a perfect absorber of sound, and the unit of absorbing power is 1 sq. ft. of complete absorption.

The matter was also investigated on the theoretical side by Jaeger, whose analysis confirms the practical results of Sabine, and some of whose deductions we have already considered in the form of curves. Two further important points are brought out by the theory : first, that it is impossible so to fashion too large a room that it shall be satisfactory for sounds of limited strength ; secondly, that the times of growth and decay of the sound depend on the ratio of the surface to the volume. This ratio decreases as the size of the room increases, so that two rooms having the same proportions, even if lined with the same materials, will not have the same acoustic properties unless they are equal in size. Another consequence is that it is inherently more difficult to reduce the reverberation period in a large room than in a small one, i.e., the average absorption coefficient of walls and contents will have to be greater to produce the same effect in the former case as in the latter. A point that arises out of this is that if loud speakers are to be used in halls to broadcast a speech, better results are likely to be attained by accommodating the audience in a number of small rooms rather than in one large hall.

In order to see how the different lining materials, furnishings, etc., contribute to the total absorbing power of a room, reference may be made to the following table, which gives the absorbing powers of various materials for a note an octave above middle C :—

Open window	1·000
Brick wall, 18-in. thick, set in cement	0·032
Brick wall, 18-in. thick, set in cement, painted two coats oil	0·017
Plaster on wood lath, 2-in. air space, studding at 14-in. centres	0·034
Plaster on wood lath, 2-in. air space, studding at 14-in. centres, with $\frac{1}{8}$-in. finishing coat	0·028
Plaster on metal lath, 2-in. air space, studding at 14-in. centres	0·033
Plaster on hollow tile, $\frac{5}{8}$-in. coat and $\frac{1}{8}$-in. finishing coat	0·020
Glass, single thickness	0·027
Wood sheathing, $\frac{5}{8}$-in. pine on studding at 14-in. centres	0·104
Akoustolith tile	0·382
Jute felt 1·1 cm. thick	0·18
Jute felt 2·2 cm. thick	0·54
Jute felt 6·6 cm. thick	0·77
Hair felt 2·5 cm. thick	0·52
Hair felt 2·5 cm. thick mounted 6 in. from wall	0·68
Cork 2·5 cm. thick, loose on floor	0·16
Oriental rugs (extra heavy)	0·29
Carpet 0·8 cm. thick	0·20
Cheese cloth	0·019
Cretonne cloth	0·15
Shelia curtains	0·23
Audience (per square metre or square foot as ordinarily seated)	0·96

* A lecture delivered at University College.



—Showing the single type of the reverberation curve for rooms of different sizes. (Three different scales are used to reduce the size of the diagram)

FIG. 13.

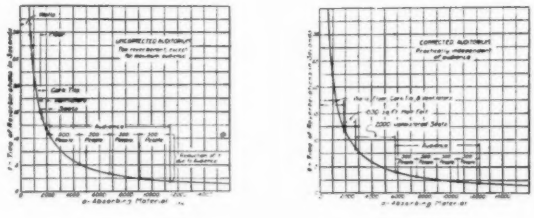


FIG. 14.

Spacial Units.

	For Feet.
Audience per person as ordinarily seated ..	4·73
Audience per isolated man	5·16
Audience per isolated woman	5·80
Ash chair	0·17
Cloth cushion to cover a single seat	1·45
Hair cushion to cover a single seat	1·77 to 1·93
Elastic cotton (cotton wool ?) cushion, covered canvas and short nap plush	2·04
Upholstered chair (hair and leather)	3·22
Upholstered settee (hair and leather) per seat	3·01

It will be noticed that, next to the open window, an audience is the most effective absorbent of sound, and it is a matter of common experience that it is generally easier to hear in a room that is full of people than in the same room empty. The size of the audience can be made to have least effect in varying the condition by having upholstered seats. Every vacant seat represents an absorbing unit, and by suitable choice of upholstery an occupied seat, including its occupant, can be arranged to give a not much greater absorbing power. For this purpose the best upholstery should be on the seats that are least likely to be occupied. This effect is shown by a comparison of the two diagrams in Fig. 14. Where the seats are not upholstered the times of reverberation vary from 11 to 2·4 seconds, according to the size of the audience. With upholstered seats the corresponding times are from 3·5 to 2·4 seconds.

(To be continued.)

[The preceding parts of this paper appeared in our issues for February 6 and 13.]

Modern Knight-Errantry

IN the days of chivalry a knight-errant yclept Ye Chevalier Creswell waved defiance against the vile scribes of advertising from the battlements of his castle—THE ARCHITECTS' JOURNAL. The challenge was accepted, and a herald who bore the name of J. D. Mugford begged the valiant knight to come down in the open and deliver battle to the chosen champions of publicity. On the memorable night of the 35th day of the year 1924 Ye Chevalier Creswell donned his armour and sallied forth, like Don Quixote of old, to maintain his argument that his truth was the fairest lady in Christendom. Attended by a couple of his doughty squires, he faced a numerous assembly at the meeting place appointed, viz., Ye Hotel Cecil, and after some courteous parleys, proceeded to give battle.

Against that vast host Ye Chevalier appeared as David challenging Goliath. Like David also were his methods of combat. He seized his sling and skilfully aimed stones into the enemy assembly. These missiles consisted of accusations hurled against all disciples of commerce, of bluff, ambiguity, subtle deception, obstruction, gain before service, hypocrisy, disloyalty to customers, and even bribery and forgery. At each shot the multitude laughed good-naturedly. But Ye Chevalier rebuked them sternly, for he regarded his divine Dulcinea del Toboso as supreme above all other truth, and he was intent on making all the world avow it.

He therefore bade his hearers publicly confess themselves vanquished so that all people might know the superiority of the professional code of honour over the huckstering crowd of the mart and their scribes. Then laughter gave way to indignation, and the scribes attacked Ye Chevalier. So hotly was he pressed that the leader of the scribes, fearing Ye Chevalier would be annihilated by sheer force of numbers (and for that little glory would accrue to his followers) bade the two squires who had attended Ye Chevalier buckle on their armour and enter the lists.

The scribes marvelled greatly at the entry of the first squire, by name Scott-Moncrieff, for he was clad in robes of very ancient fashion though of the finest texture. He carried no weapons, but he struck his fingers across a harp and gave utterance to a wild dirge of warning and despair. He translated to them an allegory of his master Plato concerning humanity in the form of a charioteer who is dashed to destruction through the unruliness of one of his steeds—Desire. And he cried aloud in woe that his hearers, the scribes of advertising, were lashing the steed to fury.

Then some mocked, but most were subdued unto the charm of that ancient music, and no antagonist lifted his hand.

But the second squire was treated in hostile fashion. The battle waxed fierce, tempers rose and were lost, blows fell hard and thick on our knights, and the cause of the peerless Dulcinea seemed imperilled.

Ye Chevalier bore up bravely against the tremendous onslaught, and the close of day found the three friends in honourable retreat towards their castle, having held out valiantly against unheard-of odds.

YE ENDE.

A Modern Commentary.

H. B. Creswell and his friends are artists. They are, therefore, temperamentally unfitted to be protagonists of a cause. Their keen artistic susceptibilities quicken their emotions, but are not favourable to cold, clear, profound thought. The manifold uglinesses of life hit them hard. Tingling and smarting from contact with a world so diverse from the ideal world, which they picture, they butt blindly at the most obvious source of their discomfort. But what is most obvious is bound to be superficial. And in their indictment of advertising they overlook the deeply rooted evils of which the vices of advertising are but the surface signs.

The truth is, their indictment of advertising was wrongly directed. It should have been aimed at our spurious civilization. A little clear thinking would have shown them that by the advance of science and improved process, productive capacity has more than quadrupled as compared with pre-war times. There is, in fact, a glut of production—or, in other words, the purchasing power distributed amongst the public is insufficient to buy the goods which are turned out with such facility. The problem of to-day is to find a market. Hence the prominence given to advertising.

Cannot Mr. Creswell and his artist friends exercise their sympathetic imagination and realize that advertising men have in the bulk as keen a sense of honour as have professional men in the bulk ? *But they have to earn their living.* If Fortune has so favoured Mr. Creswell and his friends as to place them in a position where they may secure purchasing power without violating their principles, surely that does not give them the right to jeer at those less fortunately placed. Their scorn and admonitions should be reserved for the financial speculators and credit-mongers who imprint artificial scarcity on our society. Or, in the last analysis, they would find a far more effective outlet for their energy if, instead of tilting at windmills, they would take the trouble to understand and help abolish an obsolete financial system whose unchecked operation threatens us with revolution on the one hand, or the Servile State on the other.

FRANCES PREWETT.

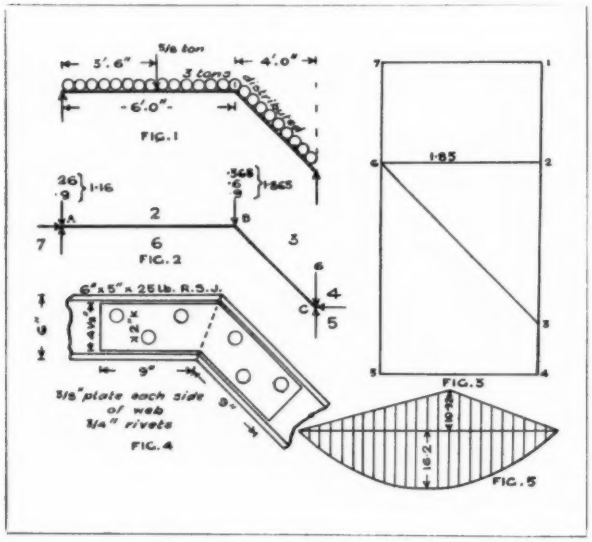
Enquiries Answered

Enquiries from readers on points of architectural, constructional, and legal interest, etc., are cordially invited. They will be dealt with by a staff of experts, whose services are specially retained for this purpose. If desired, answers will be sent direct through the post. In no case is any charge made for this service. Whenever diagrams accompany an enquiry, they should be clearly drawn and lettered and inked in.

A BENT GIRDER FOR STAIRCASE.

"C. W. C." writes: "The accompanying drawing [not shown] shows a bent girder carrying a distributed load of three tons due to staircase and landing, and a concentrated load of ⅝ ton due to a cross joist. (1) How should the bending moment diagram be drawn, and a suitable R.S.J. calculated? (2) Would it be better to use two R.S.J.'s and join them by plates at the angle? And, if so, how should their respective dimensions be ascertained? For various reasons no alternative construction is practicable, nor can any stanchion be used. I have searched several text-books to find the correct method of dealing with bent beams, but so far without success."

—This is an important case, and, as the correspondent observes, there is little in the ordinary text-books to help him. It will be necessary in this case to use two rolled steel joists 6 in. by 5 in. by 25 lb. per ft. run, joined by two 18 in. by 4½ in. by ⅜ in. plates with ¾ in. rivets. Fig. 1



shows the general arrangement; Fig. 2 the frame diagram; Fig. 3 the stress diagram; Fig. 4 the detail of joint; Fig. 5 bending moment diagrams. The following are the calculations:—

Load per ft. run = 0·3 ton.
Distributed load on AB = ½ (·3 × 6) = 0·9 ton each on A and B
Distributed load on BC = ½ (·3 × 4) = 0·6 ton each on B and C.
⅝ ton, 3 ft. 6 in. from A = ·26 ton on A and ·365 ton on B.
∴ Load on A = ·9 + ·26 = 1·16 tons.
Load on B = ·9 + ·6 + ·365 = 1·865 tons.
Load on C = ·6 ton.
Bending moment = 1·85 × 4 × 12 = 88·8 ton ins.

$B = fZ, \therefore Z = \frac{88{\cdot}8}{7{\cdot}5} = 11{\cdot}85$ in. units.

6 × 4½ × 20 lb. gives a Z = 11·5.
6 × 5 × 25 lb. gives a Z = 14·5.
Say 6 × 5 × 25 lb. steel joist.

This must be checked by finding the maximum bending moment on the horizontal portion by reason of the concentrated and the distributed loads carried there. This may be done by a compound diagram (see Fig. 5). For the concentrated load we have $\frac{5}{8} \times \frac{3{\cdot}5 \times 2{\cdot}5}{6} \times 12 = 10{\cdot}92$ ton ins.

For the distributed load $\frac{0{\cdot}3 \times 6 \times 6 \times 12}{8} = 16{\cdot}2$ ton ins., but as the centres do not come together the total will be 26·64 ton ins. instead of the sum of the two totals above. The thrust bending moment previously allowed for greatly exceeds this, and, moreover, acts in the opposite direction, so that the dimensions selected will be suitable.

Chapter VIII of the new edition of "Mechanics of Building Construction" (Longmans, 10s. 6d. net) deals with bent girders and cantilevers such as are required for staircases and galleries. HENRY ADAMS.

ACOUSTICS OF A PUBLIC BUILDING.

"Subscriber" writes: "I enclose plans and sections [not reproduced] of a proposed new public building. Please tell me (1) whether the acoustic properties of the two halls will be satisfactory, particularly in view of the fact that members of the congregation speak from their sittings as well as the speaker on the platform; (2) are the two halls sufficiently isolated one from the other to avoid sounds penetrating? An organ would be used in each hall."

—This building should be fairly satisfactory if certain precautions are taken. The flat ceiling is a useful reflector, and will enable speakers to make themselves heard. As no information is given as to the number of persons present or the amount of sound-absorbing material to be placed on the walls, it is not possible to say what the reverberation will be. The reverberation ought to be no longer than 1½ seconds. To ensure this it is generally necessary in a building of this kind to have several hundred square feet of absorbing material on the rear wall; and wood is useful near the platform. The organ would be much better if placed centrally and not divided in two. The floor should be rubber or cork in order to deaden noises of impact and to contribute a certain amount of absorption. The dividing wall between the two buildings would be as efficient, or probably more so, if the wall was solid brickwork—18 in. If the hollow wall is preferred then there should be no contact between the two halves at any point. They should form two separate walls having separate foundations. H. B.

THE LINING OF WALLS AND CEILINGS.

"F. G." writes: "Can you recommend a good fibre or plaster board for lining walls and ceilings on which permanent decoration of wallpaper (without strips to cover joints) could be put immediately, and which would not work out any dearer than plastering?"

—Thistle-board—a variety of wallboard adapted to receive a thin skimming coat of plaster—appears to be a likely material to satisfy querist. It is supplied by Messrs. R. G. Ward & Co., 5 Laurence Pountney Hill, E.C. E.

TIMBER FIREPROOFING.

"J. E." writes: "Can you give me the name and address of any firm that specializes in rendering wood non-inflammable?"

—The only firm with which I am acquainted which specializes in timber fireproofing is the Timber Fireproofing Co., Market Bosworth, Leicestershire, but the Torbay and Dart Paint Co., 26 Billiter Street, E.C., supply flame-proofing materials and solutions of various kinds. E.

The Proposed St. Paul's Bridge

Mr. Mervyn Macartney, in a letter to "The Times," says: As the architectural adviser of the Dean and Chapter of St. Paul's Cathedral, I feel bound to protest against the carrying out of the St. Paul's Bridge scheme, which will shortly come before the Court of Common Council, even more forcibly than I did thirteen years ago.

In the intervening years I have learnt more of the construction of the cathedral, with the result that I am more alarmed at its state than I was in 1910. There is visible evidence of recent movement in the two nave piers. There was an inquiry held about 1910 into vibration, but neither the consulting engineer at the time nor I was satisfied with the result of that inquiry, and since then the speed, weight, and amount of vehicular traffic has increased enormously. The vibration of the chain supporting the chandelier in the Chapel of St. Michael and St. George is quite perceptible. The introduction of the six-wheeled omnibus will certainly add to the seriousness of the menace. But the chief danger lies in the weakness of construction of the building. The foundations are but 5 ft. below the crypt floor level, and lie on a stratum of pot earth, also about 5 ft. thick, under which there is sand and gravel for 18 ft. 6 in. till the London clay is reached, the last 6 ft. to 8 ft. being saturated with water. The level of this water is 26 ft. above datum at the G.P.O. The level of Queen Victoria Street, where it will pass under the new bridge, is 28 ft. above datum. I confess that I view the sinking of abutments for arches into this water-bearing strata with the greatest apprehension.

The Chapter have an agreement made in 1911 with the Corporation which gives them some control over the construction of the northern approaches, but I doubt if, in view of present knowledge, this protection is adequate.

If Mr. Basil Mott, the engineer of this scheme, will assure the Dean and Chapter that there will be no risk whatever, his opinion will, of course, be received with respect, but it must be remembered that Mr. Mott designed the bridge before he had the opportunity of examining the cathedral, and also that as a member of the Commission on the fabric he signed the interim report of June, 1922, from which the following extract is taken :—

It would be an exceedingly formidable task to attempt to strengthen the foundations and, in our opinion, it is not necessary, provided always that no building or other operations are carried out below the level of these foundations in the neighbourhood of the cathedral. . . . .

The whole position is one to cause anxiety, and the Chapter, while not desirous of offering factious opposition, naturally feel that no risk can be taken.

Mr. Basil Mott, in reply to Mr. Macartney's letter says: As architectural adviser to the Dean and Chapter, Mr. Macartney is naturally anxious about any excavation being carried out in the vicinity of St. Paul's Cathedral below the level of its foundations, and I am in entire agreement with him. In the construction of St. Paul's Bridge, however, no such excavations will be necessary.

The northern approach to the bridge from St. Paul's Cathedral to the viaduct over Queen Victoria Street will be on a rising gradient of 1 in 40, and the work will consist largely of filling in existing basements; and the foundations for the abutments of the proposed viaduct over Queen Victoria Street, about 200 yards from the cathedral, will not be below the foundations of the existing buildings and will not be in water.

As a member of the committee now investigating the condition of St. Paul's, at the request of the Dean and Chapter, I have the safety of the cathedral very much at heart; but whatever may be the trouble from which the cathedral is suffering at present, the construction of St. Paul's Bridge will not affect it in any way. Beyond that, the filling in of existing voids close to the cathedral, which such construction entails, will be beneficial.

Contemporary Art

Woodcuts and Illustrations.

There is a most interesting exhibition of sixteenth-century woodcuts, in splendid condition, at Colnaghi's Galleries. There are several by A. Dürer (including the very fine "Martyrdom of St. Catherine"), Burgkmair, Lucas Cranach, and Lucas van Leyden, and two chiaroscuro prints in the Italian manner by J. B. Jackson. To these have been added some examples of the revival of the art of last century and the newer school of the present. The former are by Lepère, fine line-work of great delicacy, greater even than that of the Lintons' work, but less so than that of other early nineteenth-century English wood engravers, who tried to produce as great a resemblance to steel engraving as possible, and so spoiled their craft. A much broader and saner usage is observable in the work of the present school; one much more suitable to line-work in wood than Lepère's, and fortunately lacking the attempts at tone-engraving, which destroyed the really efficient school in America. This more suitable style is well seen in the cuts by Gwendolen Raverat, Sydney Lee, and John F. Greenwood, but in the latter's work there is sometimes the same cross-scratching as is found in his etchings, which gives his prints a somewhat perfunctory quality. To the black-and-white work are added a number of colour-prints by Allen W. Sealey and Emile A. Verpilleux.

At the Leicester Galleries a series of black-and-white and coloured illustrations to Hans Andersen, Omar Khayyám, and the Arabian Nights, by the very talented young Danish artist Kay Nielsen, is shown, as well as some theatre designs produced in Copenhagen. They inevitably invite comparison with the work of Edmund Dulac, and prove to be less vivid in colour, but daintier in design, with an original light fancifulness which is very attractive.

Paintings and Drawings.

It is best to get as far away as possible from Elliott Seabrooke's paintings in oil in order to appreciate them. A close inspection reveals a coarseness of technique that outdoes most of the advanced young French painters, such as have been seen also at the Independent Gallery. The drawings are more inviting at shorter range, because their detail is less crude and heavy; in point of fact they are more accomplished than the paintings, more finished, and with a quieter charm.

At the Fine Art Society, in the exhibition of the water-colour drawings of Cecil A. Hunt there are several pieces of dignified work. The broad massing of "The Castle, Ascoli-Piceno," the largest drawing in the show, is very effective, and not less so, the vivid drawing called "Pink Chimneys, Derbyshire," and "A Pass in the Apennines." Among the beautiful drawings of buildings three are especially good: Civita Bagnorea, Assisi, and Amandola.

At the same galleries are some water-colour drawings of Winchester by A. J. Mavrogordato, which, apart from the intrinsic architectural value of their subjects, rely largely on abrupt effects of light and shadow.

Photography.

A very distinguished set of 100 prints by Alvin Langdon Coburn, architectural, landscape, portrait, and vortographic, is now on view at the Royal Photographic Society. The strange effects rendered, or perhaps it would be better to say revealed, by the vortographs must be a joy to all the post-impressionist painters in London as they were to me. Their extraordinary combinations of shape, arrangement, and pattern are most intriguing. In them certainly vorticism has found its justification. The normal scenes and portraits are splendidly done, and "The Metropolitan Tower," and the "Stock Exchange" ravine, New York, are expositions of new beauty.

KINETON PARKES.

Parliamentary Notes

[BY OUR SPECIAL REPRESENTATIVE.]

The Government Housing Plans.

The Prime Minister, dealing with the Government's housing plans, said that they were going to continue the subsidy policy in relation to the problem of how they could build houses on an average of £500 each and let them at an average of 9s. a week rent and rates. From that aim they had to work out the possibilities of construction, finance, and arrangements with local authorities. Mr. Neville Chamberlain's scheme was but the thin fringe of a tremendously big programme, into the heart of which the Government were determined to dig their way in the hope that they would bring up some scheme that would really face at last the problem of how to house the wage-earners of the country. After referring to dilution, he said that the first thing was to give the building trade a guarantee of continuous work for a certain number of years. If that was done the workers had a perfect right to say that if they agreed to dilution, the community should guarantee that in the course of the next twelve months the inrush was not going to be used to swamp them completely. He expressed his confidence that, as a result of the conferences between employers and employed, the Minister of Health would be able to inform the House that complete agreement had been arrived at. In the meantime all schemes in hand were being pushed on.

Unemployed Building Operatives.

Mr. T. Shaw, Minister of Labour, informed Mr. Climie that the following statement showed the estimated numbers of persons insured against unemployment in certain occupations in the building industry in Great Britain at October, 1923, and numbers of unemployment books lodged at employment exchanges at the end of October, November, and December, 1923.

Occupations.	Estimated Numbers of Persons in these occupations, in the Building Industry, insured against Unemployment.	Numbers of these Persons whose Unemployment Books were lodged at Exchanges at—		
		22nd October, 1923.	26th November, 1923.	21st December, 1923.
Carpenters ..	122,620	4,287	4,554	4,915
Bricklayers ..	56,260	771	956	1,150
Masons	21,880	531	659	757
Slaters	5,090	202	218	271
Painters ..	105,780	17,699	24,651	28,116

Housing Progress.

Mr. J. Wheatley, the Minister of Health, informed Mr Mardy Jones and Mr. Climie that the total number of houses authorized under the Housing, etc., Act, 1923, up to December 31 last was 85,036, of which, 31,434 were to be erected by local authorities, and 53,602 by private builders. Figures were not available showing the numbers of each type so authorized, but contracts had been let by local authorities at the date in question for 11,993 non-parlour houses and 3,966 parlour houses. Of the houses to be erected by private enterprise, certificates had been issued by local authorities, or contracts entered into by societies, companies, and trustees proceeding under section 3 of the Act in respect of 9,567 non-parlour and 15,262 parlour houses, and in 3,395 cases the type is not known. Up to February 1 approval had been given by the Ministry of Health to schemes proposed by local authorities for 95,715 houses, of which, 33,994 were to be erected by local authorities, and 61,721 by private enterprise. In respect of the houses to be erected by the local authorities themselves, contracts had been entered into covering 18,687 houses. As regarded the houses to be erected by private enterprise, certificates had been issued on the approval of plans for 36,543 houses. Since the passing of the Act of 1923 loans amounting to £2,153,595 had been sanctioned to local authorities for the purpose of making advances to prospective owner-occupiers or to persons undertaking the erection of houses. Figures as to the numbers of houses to be built for owner-occupiers were not available, but it might be taken that the majority of the houses proposed to be provided by private enterprise were to be built for sale.

Competition News

The Royal Masonic Boys' School, Bushey.

The design of Mr. Henry C. Smart, of Messrs. Davis, and Emanuel and Henry C. Smart, of 73a Queen Victoria Street, London, has been placed first in the competition, promoted by the Royal Masonic Institution for Boys, for a junior school at Bushey, Herts. Seven architects were invited to compete. The designs are on view at 26 Great Queen Street, W.C.2, between the hours of 10 a.m. and 5 p.m., until February 22. Architects will be admitted on presentation of their cards.

List of Competitions Open

Date of Delivery.	COMPETITION.
Feb. 29	Architects practising in the West Riding of Yorkshire are invited to submit designs for the City of Leeds Branch Public Libraries, Cardigan Road, Burley, and Hough Lane, Bramley. Premiums, £35, £20, and £15. Assessor, Mr. Percy S. Worthington, M.A., Litt.D., F.R.I.B.A. Apply Mr. Robert E. Fox, Town Clerk, 26 Great George Street, Leeds, with deposit of one guinea.
March 1	Proposed Concert Hall and Public Baths for Newcastle-upon-Tyne. Premiums of £750, £250, and £100 respectively are offered, the first premium to merge into the commission or other payment to be made to the author of the successful design. Assessor, Mr. Alfred W. S. Cross, M.A. Apply, with deposit of £2 2s., to Mr. A. M. Oliver, Town Clerk, Town Hall, Newcastle-upon-Tyne.
March 27	New Police and Fire Brigade Station for the Newcastle City Council. Apply Town Clerk.
April 3	A competition has been promoted by the Canadian Government for designs for a full-length statue of the late Sir Wilfrid Laurier to be erected in the grounds of the Parliament Buildings, Ottawa. The winner will be commissioned to carry out the work. Second premium, $1,000. Apply the Secretary, Public Works Department, Room 784, Hunter Buildings, Ottawa.
April 26	At the instance of the British Drama League the proprietors of "Country Life" have promoted a competition for designs for a national theatre. The proprietors of that journal will bear the cost of building a complete large-scale model of the first prize design, to be shown at the British Empire Exhibition. Jury of Award: Mr. J. Alfred Gotch, President R.I.B.A.; Sir Edwin Lutyens, R.A., F.R.I.B.A.; Sir Lawrence Weaver, K.B.E., F.S.A.; Professor C. H. Reilly, F.R.I.B.A.; Professor Hubert Worthington, A.R.I.B.A.; Mr. Harley Granville-Barker; Mr. Albert Rutherston. Mr. Geoffrey Whitworth, Hon. Secretary. First prize, £250; second prize, £100; for the best model sent in with a design, £25; for the best perspective view of the interior of the larger auditorium, £25. Designs are invited from architects, or architects associated with decorative designers, of either sex, who must be British born or of British parentage. The work of such architects resident in the British Dominions will be especially welcomed. Apply Editor, "Country Life," 20 Tavistock Street, Covent Garden, London, W.C.2.
Sept. 30	Designs are invited for a statue in bronze and a pedestal (at a cost of about £5,000) in honour of the late Sir Ross Smith, K.B.E. Apply The Agent-General for South Australia, Australia House, London.

Coming Events

Wednesday, February 20.

L.C.C. Central School of Arts and Crafts, Southampton Row, W.C.1.—"Triumphal Arches." By Sir Banister Fletcher.

Institution of Civil Engineers, Gt. George Street, S.W.1.—"The Reconstruction of an Important Bridge on the L.M. and Scottish Railway." By Mr. C. B. Tye. 6 p.m.

Thursday, February 21.

British Museum.—Lecture 19: "The Evolution of Typical Roman Construction." By Miss Claire Gaudet. 4.30 p.m.

Friday, February 22.

Royal Technical College, Glasgow.—"Ancient Egyptian Architectural Craftsmanship." By Mr. W. J. Smith, A.R.I.B.A.

Monday, February 25.

Architectural Association, Bedford Square.—"The Architect as a Designer of Furniture." By Miss M. Jourdain.