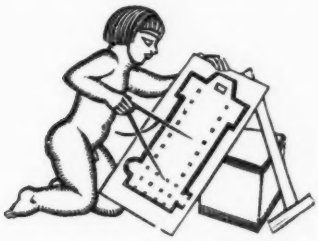
THE ARCHITECTS' JOURNAL



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Next week the Current Architecture Section will be devoted to a number of Railway Villages erected for the Great Western and the London and North Eastern Railway Companies. There will be a critical article by Major Harry Barnes.

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PRINCIPAL CONTENTS

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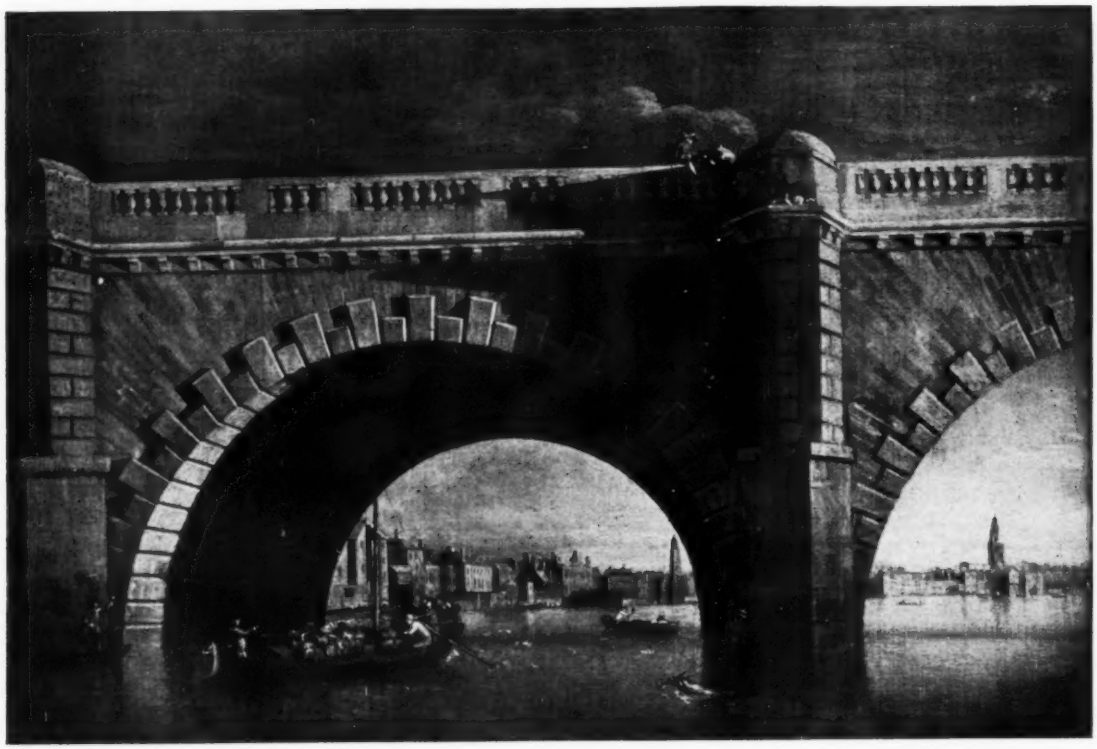
CHRISTIAN BARMAN, *Editor*

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



RENDERINGS OF ARCHITECTURE

Selected and annotated by Dr. Tancred Borenius.

xlviii : Samuel Scott (1710-1772).
Part of Old Westminster Bridge.

The claim of Horace Walpole that Samuel Scott was a better painter than Canaletto is one which obviously cannot be upheld ; but how satisfactory a result Scott sometimes was able to achieve may be seen from the present picture, in which the artist has made excellent use of the big and simple masses of Old Westminster Bridge—constructed in 1739-50, and replaced by the present structure in 1862—and in which the treatment of light and shade is particularly effective. Born in 1710, Scott had already been active as a painter for many years when Canaletto came to England in 1746 ; his early style was presumably based on the study of Dutch and Flemish painters, though he afterwards fell under the influence of the great Venetian, which can be seen particularly clearly in the present example. The view, it will be noticed, is taken down stream, with the York water-tower just visible within the outline of the arch on the left.—[National Gallery, No. 1223.]

THE ARCHITECTS' JOURNAL

Wednesday, December 15th, 1926

THE LONDON BRIDGES

THE report of the Royal Commission on Cross River Traffic in London will hereafter be counted to be of historic importance. Not only does it embody proposals which are of far-reaching significance for the future of the metropolis, but it is couched in terms of such practical wisdom that its recommendations are possessed of a quite peculiar authority. Seldom before has a Royal Commission been called upon to deal with problems of greater magnitude and complexity, and yet within the space of four months it has produced a unanimous report which, if acted upon, will solve our traffic difficulties for many years to come, while at the same time it will conserve those æsthetic interests which " practical " men so often ignore.

It may be worth while to remind ourselves that this report would never have been called for if the controversy over the fate of Waterloo Bridge had not become so acute. In large part we owe this great effort of constructive statesmanship to the protests of those who so aroused public opinion on the question of Waterloo Bridge that the Prime Minister considered it desirable to set up an independent tribunal to consider the whole problem of cross-river traffic in London. In particular, the Conference of Societies for the Protection of Waterloo Bridge may congratulate itself upon the complete success which has attended its exertions. It may now be assumed that Rennie's masterpiece will be left substantially intact, and the grand architectural composition which it comprises in conjunction with Somerset House will continue to adorn the riverside. But the Commissioners have wisely taken the view that Waterloo Bridge is not merely an historic monument, but has, as it were, to " earn its living " under modern conditions, and they recommend that room be found for four lines of traffic by widening the roadway from 27 ft. 6 in. to 35 ft. Several suggestions have been put forward with this end. Sir Reginald Blomfield points out if the archways and piers of the bridge are to be saved the only means of saving them will be to widen the bridge from above, though it is obvious that this cannot be done without altering the appearance of the bridge. He proposes to advance the balustrade by constructing a new cornice with mintules, the corbels taking the place of the triglyphs of the Doric Order, and judging by the sketches published, the monumental character of the design would not be seriously diminished by the adoption of this device.

The Commissioners have found a solution of the Charing Cross Bridge problem which can only be described as brilliant. Instead of antagonizing the Southern Railway by suggesting the removal of Charing Cross Station to the other side of the river, they suggest a compromise whereby the station be shifted a little farther down the Strand in line with the position of a new bridge to be constructed on the down-river side of Hungerford Bridge. This new bridge would be double-decked, with not more than five arches over the river, providing for six railway tracks on the lower or present level with a 60-ft. roadway above.

On the northern side of the bridge the roadway would cross over the Strand with a head-room of about 18 ft., and passing behind St. Martin's Church, reach the ground level in the vicinity of the Cavell Memorial. Thus, during the period of the construction of the new bridge the present railway service need not be disturbed, while on its completion the railway tracks will be switched over to it, and the old bridge and station demolished. Farther east it is proposed that provision should be made for a combined road and footway, 70 to 75 ft. wide, from Southwark Street to Holborn Viaduct, which would pass over Ludgate Hill. These two new high-level roads will need very careful architectural treatment. At the Strand there will be an opportunity to provide a magnificent arched portal to this famous thoroughfare, while at Ludgate Hill care must be taken to do as little as possible to obstruct the view of the cathedral. As was anticipated, St. Paul's Bridge scheme was condemned without qualification. Other proposals of the Commission include the rebuilding and widening of Chelsea Bridge, Albert Bridge, Wandsworth Bridge, Putney Bridge, Hammersmith Bridge, and the provision of new bridges at Lambeth and Hampton Court.

The important question arises : "How is this great programme to be carried out ? " The Commissioners have given this point careful consideration, and they recommend that a " Central Authority," to deal with the whole problem of bridges and cross-river traffic facilities within the London traffic area, should be sanctioned by Parliament and provided with adequate financial resources. It is suggested that the functions of this authority should be discharged by the existing " London and Home Counties Traffic Advisory Committee," which, by an amendment of the London Traffic Act of 1924, " should be empowered to hold and administer the funds placed at its disposal by Parliament for the purpose of securing the carrying out of the programme of works recommended in this report." It is scarcely conceivable that Parliament should fail to give the sanction required, for in the event of such failure it would have surrendered its high position as the principal guardian of the public interest, and we should have to reconcile ourselves to the continuance of the present chaos.

NEWS AND TOPICS

RURAL ENGLAND — LANDSCAPE ARCHITECTURE — STEEL HOUSES — THE NORTH CIRCULAR ROAD — THE LATE MR. LEONARD STOKES.

THE Council for the Preservation of Rural England is at last in a position to begin a career of active usefulness, and no lack of opportunity exists for the exercise of its functions. Decay in the value of large estates for agricultural purposes, and a demand for small plots of freehold land on which to erect homes of sorts, have led to the invasion of rural districts by a new type of straggling suburb formerly unknown in this country, and only now made possible by modern means of transport. Professor Patrick Abercrombie pleads in the *Times* of December 6 for " the support of the general public " on behalf of the Council against the ruin of England's traditional beauty, and he is right in so doing, for without some general desire for the maintenance of rural amenities we shall soon have none to maintain.

* * *

Mr. Thomas Mawson points out that our troubles in connection with our misused countryside are largely due to ignorance, and suggests that additional facilities will be required for the serious study of landscape architecture. Mr. Mawson speaks with the authority of one who has practised what he preaches, and his claim that the peculiar beauty of Rural England owes much to the purposeful labours of great masters of landscape cannot be seriously disputed. It is all too usual to find people who assume that the beauty of well-grown trees and well-arranged grouping is a matter of mere good luck, England having been singularly fortunate in this respect until the age of steam and industrialism. Luck does play a part, but a visit to Kew Gardens, followed by one to the outskirts of a manufacturing town, will demonstrate how small that element of luck really is. Conscious planning based upon real knowledge, and particularly upon knowledge of colour composition, is at the foundation of successful landscape architecture. Mr. Mawson's association of the highway authorities with the speculative builders as desecrators is refreshingly frank; ignorance of the elements of landscape architecture is behind many a blunder in the lay-out of modern roads. The flimsy erections which spoil the countryside are almost always offensive in colour, even if passable in form, for the stringent economy which has weeded out unnecessary features has also insisted on the introduction of miserable materials whose texture and colour do violence to the landscape during every hour of daylight.

* * *

Lord Crawford last week, at the inaugural meeting of the Council for the Preservation of Rural England, exhibited a photograph of the new sugar beet factory at Cupar, an enterprise in which Lord Weir takes a keen interest. It is in this district that a number of the notorious Weir steel bungalows have been erected, and those who have seen them tell me that they are worthy of every adjective of dissatisfaction that can be found in the English dictionary. A suggestion has now been placed before officials in Whitehall that in the future, should public money be voted by Parliament for the erection of a building, it might well be considered whether some control over the design of the building might not be retained. It is asserted that a simple clause could be drafted to give such control. At a time when so much public money is being spent, not only on sugar beet factories, but on electric power stations and similar buildings, surely control over design might be possible at least where public funds are concerned. It should not be forgotten, however, that the Government departments are automatically exempted from any restrictions, and in some cases they are the worst offenders.

* * *

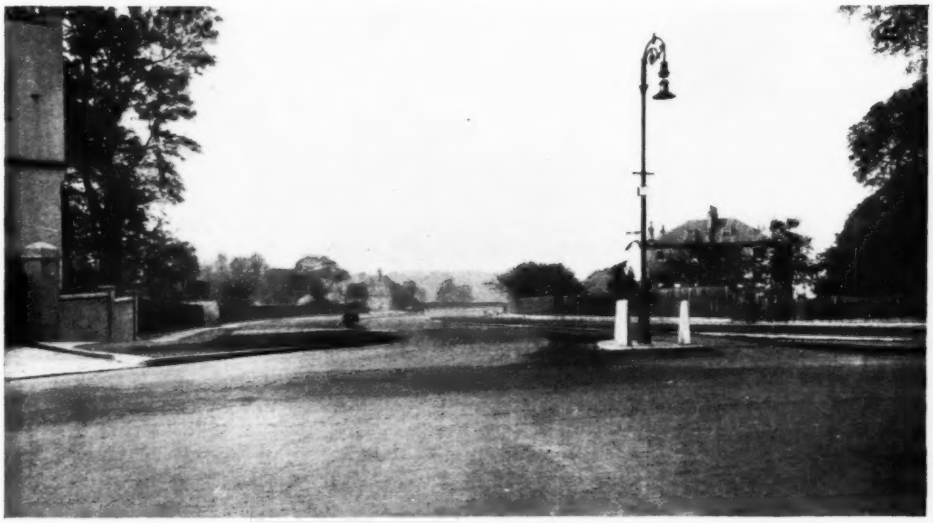
Mr. Neville Chamberlain, at the same meeting, spoke of the provision of a clause in the Bath Corporation Act of 1925 for the setting up of a standing committee of three members, one an architect, another a surveyor, and the third a Justice of the Peace, who would advise on the protection of the amenities of the City of Bath. In the very near future there will be need for this committee to take action, as a proposal is coming forward to curtail the gardens in Queen's Square in order to provide more space for parking cars. This square was the first work of importance carried out by John Wood the architect, after he had completed St. John's Hospital. It was begun in 1728 and finished in 1735. The houses around the square are rich examples of eighteenth-century architecture, while the square itself forms the southern portion of one of the finest examples of town planning in this country. The threatened gardens were originally surrounded by a stone balustrade, but these have now all been removed and replaced by iron railings.

* * *

There is also in Bath a proposal to facilitate one-way motor traffic through the Orange Grove, and either to reconstruct or demolish the old bridge. I understand that recent examination of the structural condition of this bridge, which has to be widened in order to provide for increased traffic, revealed that it was in a very unsatisfactory state. The existing bridge has already been widened three times, and many will not regret its disappearance. I am glad to hear that there is no suggestion of interfering with Pulteney Bridge, which was constructed under an Act of Parliament dated 1769, and is the one work in Bath designed by Robert Adam.

* * *

Of the new roads constructed by the Ministry of Transport, many surpass in greatness the Roman roads. They have been constructed across country that the Romans would not have set foot on; they have been carried on viaducts over rivers and marshes; they have cut irresistibly through mountain rock. The Lea valley viaduct was illustrated in the recent " Concrete " number of the JOURNAL; I wish the editor could have given some more photographs of the road. One can stand gazing along these great causeways and feel that the might of an Empire has made them. Their surfaces seem imperishable: their foundations go down to the centre of the earth. The photograph I give is of the North Circular Road where it strikes off from the Finchley Road. The Finchley Road, in North-west London, is a road along which have been built the ugliest and most pretentious houses, with side roads of modern flats leading off. And then, suddenly, there strikes off this new road. By its width, its fine sweep, it carries the eye over the country it is to traverse, and leaves the Finchley



The North Circular Road, from Finchley Road, London.

Road, with its fine houses, behind it as a slum. When Macaulay's New Zealander stands gazing upon a London in ruins, still it will be upon one of these Government roads he will take his stand.

* * *

The late Leonard Stokes seems to have been a rather austere figure—a man of negative virtue than of positive humanity. I quote these excerpts from Mr. George Drysdale's paper upon "The Work of Leonard Stokes," read at the R.I.B.A. on Monday night: "His was not the enthusiasm of the dreamer, rather of one whose work is to look after the small things of the day. As one who worked for him for many years I knew, often to my cost, what this meant, this dealing with an enthusiast who was naturally not exactly a monument of patience. A great worker, he used to complain of people who left the office and forgot it until their return. With him his work went on always. He never seemed to feel the necessity for what we call 'hobbies,' seldom even spoke of natural history or of Nature other than his love for the sun. His knowledge of cricket was lamentable. During his last years, as he sat in the office incapable of doing much, he used to bombard me with elementary questions about the game. He was rather lacking in ambition, once saying that 'enough work has generally come along for me to do without worrying about the getting of it.'"

* * *

"Like many Gothic devotees, Mr. Stokes gave, at any rate, lip service to the half truth that Classic is designed from without, in. He never seemed to realize the great principles of the Roman plan or the ordered dignity of Classic elevation, probably considering them impersonal in their appeal and unsympathetic in their entire lack of the sentimental or the personal. . . . He had no respect for the orders, once perpetrating an elliptical column which luckily was never carried out."

* * *

The Carlisle Street slums between Lisson Grove and Edgware Road are to be cleared away. This will convey nothing to most people, but for me, do I not know them well? Fifty-two years ago the Medical Officer of Health for the parish reported the flooring of the rooms and staircases in the miserable tenements to be worn into holes and broken away, the roofs to let in the wind and rain. Now the street is a Saturnalia of drunken bricks, windows cocked at the passer-by under caps of crazy slates, stucco showing indecent hanging rents, door-supports staggering idiotically. There is one shameless row of Greek columns which is demoralizing even to gaze at. They cling to a tenantless story, boarded up, probably once the quarters of the local Sing-song Society. Boarded-up also are marine stores which were low and cringing when Dickens lived, and even the boarding-up is not innocent of a charge of having mixed its beer and spirits too freely. To think that two streets away in a parallel line, and likely to participate in the reconstruction, is Lisson Grove! She was mentioned in the Domesday Book among the lands of Ossulton Hundred, given in alms.

* * *

Together with the alarming account of cracks in the Sistine Chapel comes the reassuring news that the Vatican architects have the matter in hand. The defects are attributed by the architect to "natural decay of substance, a slight defect in basic structure, and gradual subsidence of foundation soil, together with the weight of additional superstructures not calculated for in the original plans." Signor Frederico Mannucci, the architect, is directing the erection of external arches to strengthen the walls. The most conflicting views have been expressed as to the position of the Sistine Chapel as a work of art. Some writers hail it as the richest treasure of the Vatican and the most famous shrine of architectural and pictorial art in existence. Others compare it to a plain railway arch, lavishly painted with pictures which might be fine if one could only see them. This difficulty is not altogether imaginary, and mirrors are used by sightseers to obtain a view of the Michelangelo frescoes on the vault. Still, no architect or painter who is not blatantly futuristic is likely to suggest that the Chapel is unworthy of preservation. Or perhaps some lover of the picturesque may long for a chance to plant the first slip of ivy in one of the cracks.

ASTRAGAL

QUEER THINGS

[BY HARRY JOHNSON]

THE reading of a recent book, *Our Mobile Earth*, by Professor Aldworth Daly, in which the continents are wellnigh proved to be as much flotsam as anything else that is afloat upon the seven seas—that the west coast of Africa and the east coast of America, now separated by the wide Atlantic, were once united, but floated away from one another after a great split—the reading of this book, I say, made me click my tongue at the thought of what queer things there really are. A hundred years or so of town-planning and getting places laid out in apple-pie order, and then, lo! a parting of all the ways. And all one's days of worry about giving that drawing-room its south aspect, in one night, perhaps, to be set at nought.

There were other queer things, too, I recollected. There was that odd fact about the slow rising of the ground. One foot every hundred years it was said to be rising, whereby old Rome was buried deep, and many of Wren's churches were already three feet or four feet deeper in the ground. And this slow entombment of all our works is said to have been in progress beyond recorded time.

Then I fell a-thinking of all the queer things about which I had ever heard—things too queer by half to be put into the architectural textbooks, big as some of them are. There was that citadel in the Sahara—in the wilderness of the desert, and built entirely of salt. Though blackened with dust, though grey with age, it is surely salt, set as hard as the finest concrete, and rasping as broken glass. Then, too, that house at Port Eynon—a queer house if ever there was one. In a cleft between precipitous walls of rock, and with only a few feet of shingled foreshore, rises a façade of massive mortared masonry, pierced with windows, one or two upright and arched, but one or two of circular shape. Neither pen nor pencil can convey the awesomeness of this uncanny seabeaten stronghold. In normal periods the highest tide just touches its inhospitable entrance; in rough weather the only doorway is half submerged. The interior is a cave, filled with the smell of rotting seaweed, with the lofty wall of ancient masonry enclosing it, and to which the remains of a stone staircase still cling. Sages have come—and gone away again, for there is nothing architectural to build theories on. It might be Norman, or of only yesterday. If it was a stronghold of pirates or smugglers it was a matter for local chroniclers, and they are dumb. There is hopelessness of access by water, and difficulty of access by land. What of the prodigious labour of hauling and raising the masonry in its building? What of the strange twisting of brain and heart that could have driven one to dwell in such a house?

Flying sails, Guadalupe. [*From* An Architectural Pilgrimage in Mexico. *By A. C. Bossom.*]

Then, too, there is that tower in Guadalupe, built like the flying sails of a barque. A sailor turned builder, and filled with nothing but regrets for the turning, must have built that.

Something more, too. A letter-writer to the *Times* some months ago gave details of the construction of a sawdust heating stove, in general use in his district, Cadenabbia, Lago di Como. Consisting of a circular casing of sheet iron, it stands on three legs like a large dustbin. The top is closed with a flat lid, and in the centre of its bottom is a large hole. In this hole a stick, such as a broom handle, is inserted, and the sawdust is packed tightly in round it until the receptacle is full. The stick is then withdrawn, leaving an air passage, the lid put on, and the sawdust lighted from below. When it is well alight, the damper, a piece of iron that slides forwards and backwards under the hole, is closed, because the sawdust must only smoulder. A pipe taken off from the side of the iron casing near the top is led into the chimney and serves as a flue; the greater the length of this pipe in the room the greater the heating effect of the stove. About such a queer thing as this I have nothing to say.

Baudelaire describes how he dismissed a glass-vendor because he had no coloured glasses—"glasses of rose and crimson, magical glasses, glasses of Paradise"—and, stepping out on to his balcony, threw a flowerpot down on the tray of glasses as soon as the man issued into the street below, shouting down furiously, "The Life Beautiful! The Life Beautiful!"

Of houses such as a gipsy or a tentmaker would build, in which the roof is the wall, rising from the ground and climbing straight to the ridge, I believe that illustrated is the only one in England.

Reading the Bible one day—perhaps it was a Sunday—

Cottage at Bredon, Worcestershire (circa 1520).

I was much struck by the following specification for a candlestick:

> And thou shalt make a candlestick of pure gold: of beaten work shall the candlestick be made: his shaft, and his branches, his bowls, his knops, and his flowers, shall be of the same.
>
> And six branches shall come out of the sides of it; three branches of the candlestick out of the one side, and three branches of the candlestick out of the other side:
>
> Three bowls made like unto almonds, with a knop and a flower in one branch; and three bowls made like almonds in the other branch, with a knop and a flower: so in the six branches that come out of the candlestick.
>
> And in the candlestick shall be four bowls made like unto almonds, with their knops and their flowers.
>
> And there shall be a knop under two branches of the same, and a knop under two branches of the same, and a knop under two branches of the same, according to the six branches that proceed out of the candlestick.
>
> Their knops and their branches shall be of the same: all it shall be one beaten work of pure gold.
>
> And thou shalt make the seven lamps thereof: and they shall light the lamps thereof, that they may give light over against it.
>
> And the tongs thereof, and the snuffdishes thereof, shall be of pure gold.
>
> Of a talent of pure gold shall he make it, with all these vessels.
>
> And look that thou make them after their pattern, which was shewed thee in the mount.

—which is to be found in Exodus, xxv.

A queer story was told me the other day by an architect who had a client who was frightened of sound. And it was strange that he should have been, because from being a poor boy he had made a large fortune out of sound. He first noticed his fear when he was wakened early on dark winter mornings by servants passing his door on their way downstairs. He found himself lying awake thinking, and unable to go off to sleep again. But he had double doors put to his room, and thought that now everything would be all right. Then as he lay abed he fancied he could hear the water running through pipes into a large cistern overhead, and he had all the pipes taken to the other side of the house. A footstep in the street would keep him awake for hours, and he had double windows installed with an air cavity between. But his own footfall upon the floor of his room would sound in his ears like the falling of a sledge, and so his floor was overlaid with a thick cushion of cork. But there were other footfalls. In the small hours of the morning he thought he heard the feet of birds pattering on the flat roof. Wire netting was spread above it, and he heard them no more. But on this one room in which he tried to sleep, which was only some 11 ft. by 15 ft., he spent money which would have built most people a house. And still he was unable to shut out sound. Always there was something to find its way in. Nay, the quieter and more silent did he make his room at night, the louder and more reverberating did any sound become. The rich client presented a remarkable case of clair-audiance. The aural nerve was a microphone, along which travelled the sound of a pinfall. He could, he said, clearly hear the bat's tenuous cry. He would ring his architect up at all hours of the day and night to complain of the inefficacy of the precautions, or to suggest to him some new idea for keeping out sound. The architect, by his constant attention to the problem, became almost a specialist in the science of sound. But though he subjected every material to this one and only question: "Did it conduct sound?" in the whole range of his investigations he could find nothing utterly unresponsive; nothing, he told me, which did not act as a telephone to the hypersensitive ear of the rich man—the man who had made a large fortune out of sound.

But queerest of all queer things I know, is that story of the Emperor of Bavaria who loved architecture so much that, though there was nothing to build, no need for the buildings, he built a whole city full of façades, leaving it to a later generation to fit to them what they would.

THE ARCHITECT AND BUILDING DEVELOPMENT

[BY H. V. LANCHESTER]

IN THE ARCHITECTS' JOURNAL for November 24 the article on "The Architect's Fees" aimed at defining the position of the specialist, whose remuneration is, according to the R.I.B.A. scale, chargeable to the client. This clause in the scale has been responsible for provoking many arguments in the profession as to its right interpretation, but it is hardly necessary further to elaborate these, in view of the superior utility of investigating the relations of the architect to the art of building. To go back to earlier times, we find that, though the functions of the architect have varied, and though he has not always borne his present name, the guiding spirit of all structures of recognized historic value must always have been an architect of one type or another. In Egypt the knowledge of the sciences of geometry and astronomy seem to have taken a leading place in the architect's professional equipment, and in Attica an acute sensitiveness to the subtleties of proportion. The Roman specialized in structural expedients, and the Byzantine in effects of light and colour. In medieval France we see the architect's inventive powers devoted to placing the most intricate structural solutions at the disposal of emotional expression. The Renaissance reacts from this, with occasional counter reactions, such as the Baroque and the Gothic revival, bringing us to the present day.

Now the architect tends to be a traditionalist. The dignity and antiquity of his craft cannot fail to affect his outlook towards it. This is to the good in so far as it keeps him from embarking on illogical and uncouth experiments,

but, on the other hand, it leaves him vulnerable to the temptation of treating design as a mechanical rendering of established forms; a temptation accentuated by the multiple demands of modern practice, which are unrelated to the art of architecture. It would be as well to refer to a few of these demands, from which the architect of aforetime was more or less exempt. First, we have the matter of time: both the design and its execution are usually required to be achieved in a relatively short period, and the architect who is concerned with both has often less time at his disposal than he would like in which to formulate his conceptions. Then we come to the question of cost. Can we imagine that the Parthenon was carried out under a competitive contract? It hardly seems likely, and at any rate there are temples going up to-day in the East where no consideration is being given to the ultimate cost. Consider for a moment the extent to which most architects have their minds withdrawn from the specific functioning on architecture by distractions due to these two questions alone.

These are not the only non-architectural demands. The varied practical requirements to be met are only to a limited extent within the province of architecture, but more remote from it than these are the problems of securing employment in the stress of an over-elaborated social scheme, and the demands often made that the architect shall prove the commercial efficiency of his proposals. The genuine architect is not seldom submerged beneath these adventitious additions, and it is not surprising if his work becomes mechanically conventional. When we are inclined to think that the demands on our time are too complex, let us imagine our position if the majority of the above requirements were swept away. Should we not, then, be able to reach out to those sciences which rightly belong to our art? Would we not eagerly incorporate them in our practice? What architect would not willingly exchange the job of coercing a recalcitrant contractor for that of studying whether his halls were acoustically reliable or his steel construction efficient, not to speak of the mysteries of the disposing of steel rods properly in proportionate masses of concrete? After all, the man who designed Beauvais Cathedral had to solve far more intricate problems than are involved in any of the steel and concrete buildings of to-day, but he probably had fewer distractions while considering them.

It may be admitted that the architect has managed to acquire more responsibilities than are consistent with the undivided devotion that his art demands. But is it not a question whether he is not curtailing them from the wrong end when he resolves to depute to others decisions vitally involving the character of the structure instead of those concerned with the general conduct of the operations from the business point of view? These latter could very well be deputed to anyone possessing appropriate qualifications without detriment to the claims of design. There are, moreover, many more persons who could take over these and all the supervision of materials and workmanship, compared with the number who can achieve a high place as artists. Specialization is obviously inevitable in view of the increasing complexity of demand, but the divisions are being made on the wrong lines. They should certainly not cut through the means employed in designing a building which is ultimately a complete concept. It does not follow that one man should necessarily take the whole range on his shoulders. The practice of architecture can often lead to fine achievements by the collaboration of two men whose aims are in harmony, but whose qualifications differ. In such a case they may be regarded as equivalent in efficiency to the very rare type of mentality which, like that of Sir Christopher Wren, covered both the scientific and æsthetic aspects of design. This collaboration must, however, be an intimate one, perfected by prolonged intercourse, and not just an accidental linking up of one practitioner with another. In some branches of work it may be satisfactory to join the civil engineer with the architect, but as regards most forms of building it is best that the architect or architects should be responsible for the design as a whole, with all its component parts, be they structural or expressive.

Why is it best? is the question that will follow. The answer is simply the definition of the architect as one who designs buildings. This brings us to the definition of a building which it would be pedantic to attempt. Let us leave it to each individual architect to decide for himself the character of the work he would like to undertake. The point to be made is that within his range he should be able to devise all the necessary structural expedients, and to decide which are the most appropriate. Unless he possesses a clear and comprehensive knowledge of these he is not in a position to make valid comparisons, and can only make a guess at which he would employ before inviting the collaboration of his specialist consultant.

In view of the conditions now obtaining in the art of building, these comparative studies are of paramount importance. Neither stone nor brick are as yet obsolete, and their use is both æsthetically and economically still valid for many types of structure, but their younger competitors, steel (cased in various ways), concrete, and these two in varied combinations, have made an irresistible claim to consideration. How can the architect, without an intimate knowledge of the right methods of employing these newer materials, decide on the validity of this claim in cases where it is in the balance? Let him review his own practice. If it has been other than of a definitely specialized character he will be able to cite cases where, owing to the local supplies in the specific requirements, or to both, he has employed timber, stone, brick, steel, concrete, and almost every combination of these, including reinforced brickwork, reinforced concrete, and, more rarely, steel reinforced with concrete. All these take a definite place in architectural work, influencing the character of the designs.

This is being recognized in the leading schools where programmes demanding these different types of construction are now being offered. Students are encouraged to exercise their discretion in the solution of structural problems by various methods, so that it may be anticipated that the next generation of architects will take a more extended view of the scope of design. It is, however, open to doubt whether the schools have yet formulated quite the best method, and whether the system, general on the Continent, of making the earlier stages of the curriculum identical for the architect and the civil engineer, is not a superior one. It is true that this tends towards what is in our eyes a somewhat harsh and stark form of architectural expression, lacking the graces due to a more intimate study of traditional refinements. But it is a question whether this does not promise better for the future than our own predominant obsession in favour of traditional mannerisms, which covers innumerable illogicalities, hindering the forcible development of a pure and clean architectural style based, as it should be, on the expression of the characteristics of our age.

CURRENT
ARCHITECTURE
SECTION

NEW-COMERS IN OXFORD STREET

[BY PROFESSOR C. H. REILLY]

OXFORD STREET is a strange street in which all kinds of unexpected things may happen, and, as a matter of fact, do. Who would expect, for instance, coming from the Marble Arch, past a lot of old dwelling-houses turned into shops, to find suddenly, like an elephant among the china, the great imperial-looking buildings of Mr. Selfridge? The first block was striking enough when it was erected before the war, but now this block has been reduplicated, and the two, gigantic as they are, are to be connected, mastered and controlled by the great tower Sir John Burnet is building. That, indeed, will be the excitement of the town. All of us await the day of its appearance with impatience. Sir John has shown us in a nice little drawing at the Royal Academy this year what the base of it is to be like, but none of us know the outline of the superstructure. I hope there may be another little drawing at next year's Academy revealing this, though not, perhaps, in the architectural room. If anyone could solve this apparently insoluble problem Sir John is the man. We all back him. If Adelaide House can knock the stuffing out of everything within a mile of it he and his partners will have no difficulty in assimilating to his tower little trifles like the two main Selfridge blocks. The new wholesale department here illustrated, however, is a different matter. It has not been brought into the general scheme, and it is not by Sir John. It is not, indeed, a very fortunate building.

Peter Robinson building, Oxford Street. By T. P. Clarkson, in association with H. Austen Hall.

The idea of carrying a top story of stone with a considerable cornice and balustrade in that material over eight continuous bays, four stories in height, of steel or cast iron is not a happy one. One can imagine it being dictated to the architect by the owner, who saw that metal bays between his big columns in his main buildings looked well and gave a good deal of window space, and in simple-minded greatness said the more metal the better. But it is obviously not so. The stone, if used at all, must dominate the situation and appear to carry itself everywhere. The metal infilling must be little more than the windows of an ordinary building. To my thinking these two materials do not combine well. It might be possible, though it has not yet been done with success as far as I know, to have a completely metal building. It would probably look thin and starved among its stone or brick neighbours, but it would be logical and better than any possible mixture of Stonehenge and the Crystal Palace.

A better solution of the problem of combining these materials is to be found at 100-102 Oxford Street, in the new premises designed by Messrs. Constantine and Vernon. Here the stone certainly looks as if it would carry itself if the infilling were knocked out, and yet there is a considerable amount of the latter and a great glass area. The ground-floor shop is managed in the sensible modern way, with a great stone frame sufficiently wide to isolate it from its neighbours and from the work above. One cannot say, of course, that with such a span as shown here the problem is completely solved. It can never be satisfactory to have one void in a building, and that at the base, as big as all the others put together. Still, granting that such a void is in the programme and must be provided (it is an English condition not to be found in all countries by any means), this way of treating it with a huge stone lintol and

Above, 19-23 Oxford Street. By W. and E. Hunt. Below, 100-102 Oxford Street. By Constantine and Vernon.

a couple of piers is probably as good as any. The superstructure here is a good example of how a narrow frontage may be made a self-contained and effective composition by plain spaces on either side, on which, not only to return the cornices, but apparently to build up the whole scheme. This building, not very large, will never now be swamped by its neighbours. Indeed, having secured this plain field on which to work, the cornice over the pilasters and the motives in the attic need not, perhaps, have been so pronounced, and a more restful skyline might have been arranged.

The shop-front at Nos. 19-23 Oxford Street is a similar scheme of wide white lintol and piers, waiting in this case, one assumes, to absorb the little Edwardian shop and entrance. The idea of treating the beam over the ground-floor shop window and that over the first-floor one as part of the same lintol was first introduced into England from America, I believe, by Mr. Austen Hall, in Messrs. Peter Robinson's new premises. It has a great deal to be said for it æsthetically. You seem to get double strength and be able to carry the load above with far greater comfort. Messrs. W. and E. Hunt have carried out this idea in these shops with the refinement one always expects from them.

The new shop-front for Messrs. Singer at No. 447 has a similar treatment, but the infilling in this case does not seem to justify the big lintol so well. Under it is a stoutish frame of bronze, which looks almost strong enough to carry the white marble instead. Its strong horizontal lines, too, and those of the lintol, appear to me to conflict a little with the arch over the entrance.

We come now to two new isolated blocks, the second new

Selfridge's wholesale department, Oxford Street. By G. Thrale Jell.

premises for Messrs. Peter Robinson, by Mr. T. P. Clarkson, in conjunction with Mr. Austen Hall, and that for Messrs. Bourne and Hollingsworth, by Mr. Alan Slater. Both these blocks score heavily by their isolation, so that their flanks can be seen. That is one of the few advantages of the grillage plan of American cities: one has less narrow frontages and increasingly more buildings showing a return elevation to at least one side street. We can see at once the scale and dignity it gives to Messrs. Peter Robinson's block. The order on this block follows that of the first block, but with pilasters instead of columns, which is, perhaps, an improvement, and that we know had to follow the order of the Circus. Hence, Mr. Austen Hall's fine granite base to his first building never had enough to do. The Fifth Avenue example of this method of combining the ground- and first-floor into one great wall with rectangular openings—Messrs. Lord and Taylor's store—has, about twenty stories above this base. Here we have three. However, in this second block the plain faces of the pilasters carry through the surface of the base stories better than the columns did in the first block, and the disproportion between the strength and simplicity of the lower stories with the complication of the upper ones is not so marked. Still, certain delicacies in the first building are missing in this one. The granite lower stories in that had enriched reveals which gave great interest. Here the enrichment has been omitted. Indeed, these two lower stories in their plain state suggest a bereaved and widowed Mr. Hall—a terrible thought for most of the younger architects, and, indeed, for some of the middle-aged ones too.

Mr. Alan Slater's great new block is full of interest. The illustration does not do it justice. The scheme has life and colour, if some of it is a little small in treatment. However, when one can see the whole block and realize the

Bourne and Hollingsworth's building, Oxford Street. By Slater and Moberley.

447 Oxford Street. By Hugh Macintosh.

symmetrical composition a greater breadth will be apparent. One may be permitted to hope that when the superstructure is finished Mr. Slater will be allowed to rebuild the shop-fronts and bring some of his fine stonework to the ground. One can so well remember Mr. Slater's father putting up the building his son has just pulled down and rebuilt, that Mr. Slater, with so progressive a firm for his clients, would do well philosophically to contemplate his own son treating him in a similar manner.

[For list of contractors see page 761.]

A NEW HYDRO FOR UPPER AUSTRIA

[BY J. F. McRAE]

TICKLE the earth with a hoe, it will laugh with a harvest. Delve a little deeper, and oil may gush forth, or a medicinal spring may bubble up to cure all the ills that flesh is heir to. At Schallerbach, in Upper Austria, prospectors who were boring for oil found instead a spring of hot water that was pronounced excellent for the cure of rheumatism. Now, the Schallerbach waters may possibly possess all the virtues that are claimed for them. Whether found at Bath or Baden, Harrogate or Homburg, to say nothing of Saratoga, such springs never fail to gush up miraculous cures; but perhaps the analysis should often be psychological rather than chemical, and hence be applied to the patient rather than to the waters. Faith, which can move mountains, should find the cure of rheumatism a much easier task: the late M. Coué could have told us why. And the nastier the taste, or the more unendurably hot the water, the quicker the cure; that phenomenon might be explained more subtly than by suggesting a keen desire to escape a nauseating draught or a purgatorial tubbing.

Whether the Schallerbach waters are as nasty as Epsom salts, or whether it suffices to apply them externally, does not greatly affect the issue, for whether one bathes in them or swallows them, the curative effect is bound to follow the normal course of being in some degree psychological as well as partly physical. It is because of the potency of psychological effect that a prime consideration in building spas, kursaals, and the like should be to secure comfort and pleasure. Such institutions should be set in the midst of natural surroundings that further the work of healing by mental effect. In the measure in which environment soothes and pleases the patient's health is restored.

Hence the importance, also, that the building, as well as its surroundings, should be of a smiling, reassuring, placid character, fostering the idea and encouraging the hope of returning health. Any candid doctor will agree that cheerful surroundings count for more than drugs, or even for more than all the vaunted waters of Vichy. When medieval Bermondsey was bereft of its pious abbots and its rural charm, its erstwhile famous waters lost their power to effect miraculous cures, and, perhaps because of the decay of faith, perhaps because the odours of bone-boiling have ousted the odour of sanctity, Spa Road ceased to attract

the *malade imaginaire*. Bone-boiling does not produce the atmosphere in which felicity can be expected to flourish. So accomplished a hygienist as the late Sir Benjamin Ward Richardson had a profound belief in the potency of felicity to promote health. "Where felicity is," he says, "the actual cares of the world, cares heavy and sorrowful, sit lightly; the impossible becomes the possible or the easy." Health ensues on this happy frame of mind. This point was given practical expression by architects and medical experts in our special Hospital Issues last year; and it is now fully agreed that the mental effects of cheerful, comely, and convenient design have far more influence on the health of patients in hospitals and sanatoria than our grandsires were at all aware. They did not sufficiently recognize that to bring felicity to patients is to promote health. Patients react to their surroundings, and a cheerful environment "doeth good like a medicine," and is as curative as the genial presence of a doctor blessed with "a bald head and a good bedside manner" is well known to be.

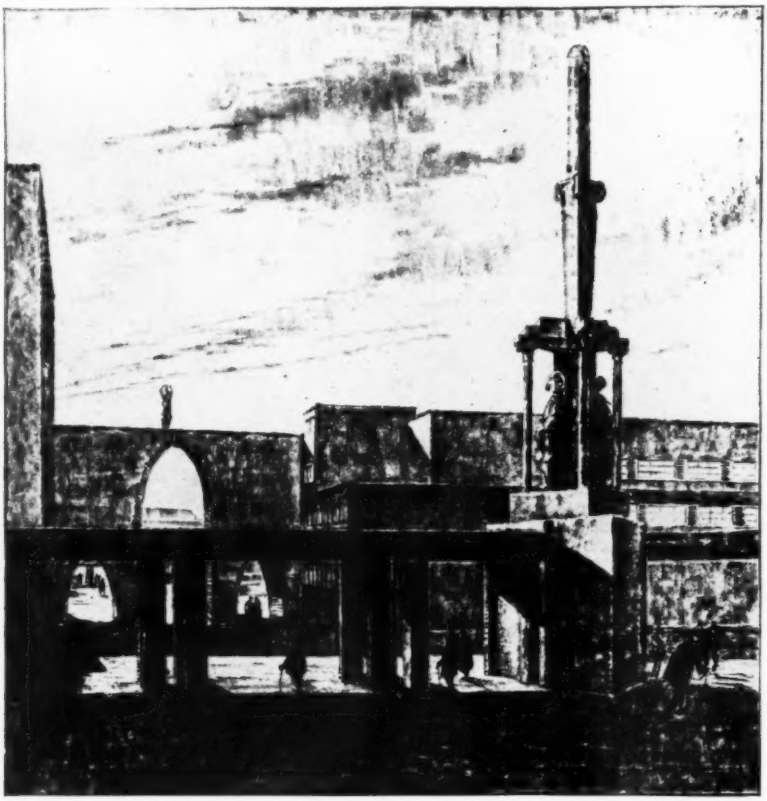
Very wisely, therefore, the limited liability company that was formed to take over the Schallerbach thermal springs saw the importance of inviting several eminent architects to take part in a competition for the design of a kurhaus, with concert-hall, restaurant, and other elements of felicity. The winners of the competition were Theiss and Jaksch, of Vienna.

For the moment their lay-out promises more felicity than the buildings, and it must be borne in mind that the architects' intentions have yet to materialize fully. Looking at their plans it is easy to accept the assurance of an Austrian correspondent that the architects have shown a sympathetic appreciation of the beauty and health-promoting value of the landscape environment, with its low, fir-clad hills, through which roads have been cut giving easy access to the building. There is also to be a bridge across the river that divides the village from the hydro.

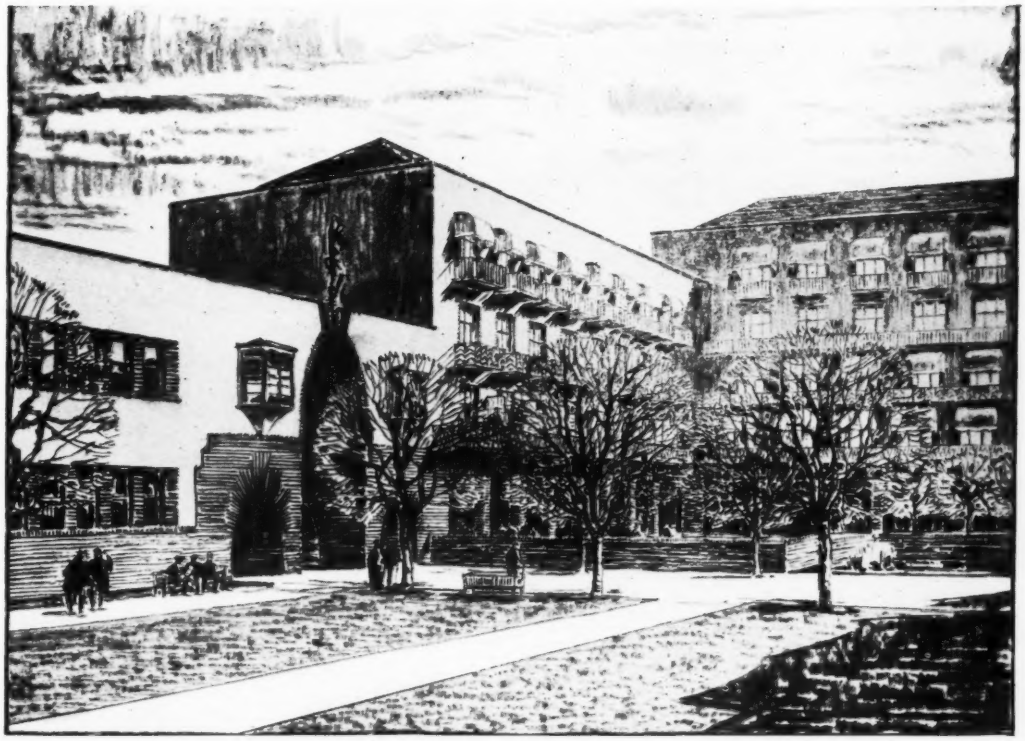
It will be seen from the plans that it is the intention to provide a somewhat extensive range of separate baths, together with a full complement of apartments for dressing, waiting, and lounging. Further, the scheme includes an "hotel-sanatorium," with three hundred bedrooms, as well as an adequate number of sitting-rooms. There are also a colonnade where patients may perambulate as they drink the water; a kursaal comprising concert-hall, reception rooms, café and restaurant; and, in addition, provision is made for an electricity station, a central heating installation, an engine-house and machinery room, and the necessary washhouses. There are to be added the indispensable administration offices, and terraces and rest rooms where patients may bask in the healing sunshine.

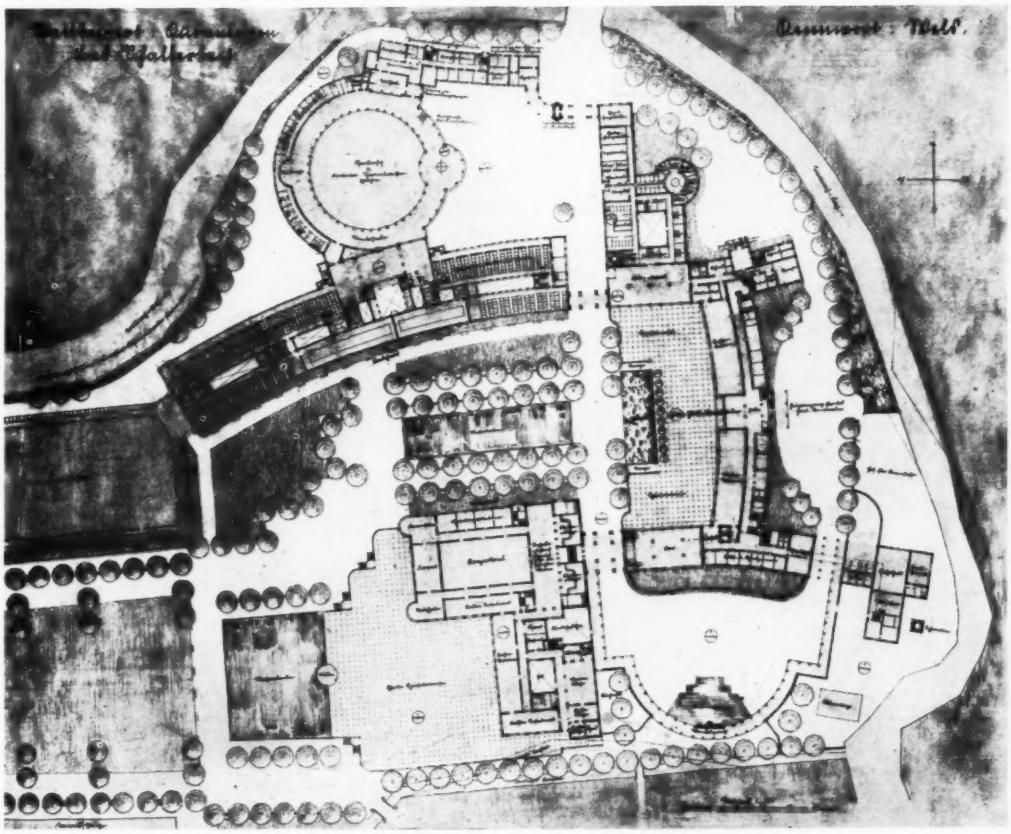
It will be realized that, as we have already said, the designs shown must be taken as evidences, not of achievement, but of intention, for at present the "fountain room," or, as we might say, the pump-room rotunda, is the only feature that is at all near completion. It may safely be inferred from the plans, however, that ultimately Schallerbach may, with any luck, become a serious rival to other Continental spas; but Homburg and Nauheim need not at present anticipate total eclipse.

Yet the lay-out for the Schallerbach institution is decidedly an interesting and suggestive indication of current Continental practice in this kind. Of the elevation no more need be said than that it shows a plenary provision of balconies where patients may court the healing kisses of the sun-god.

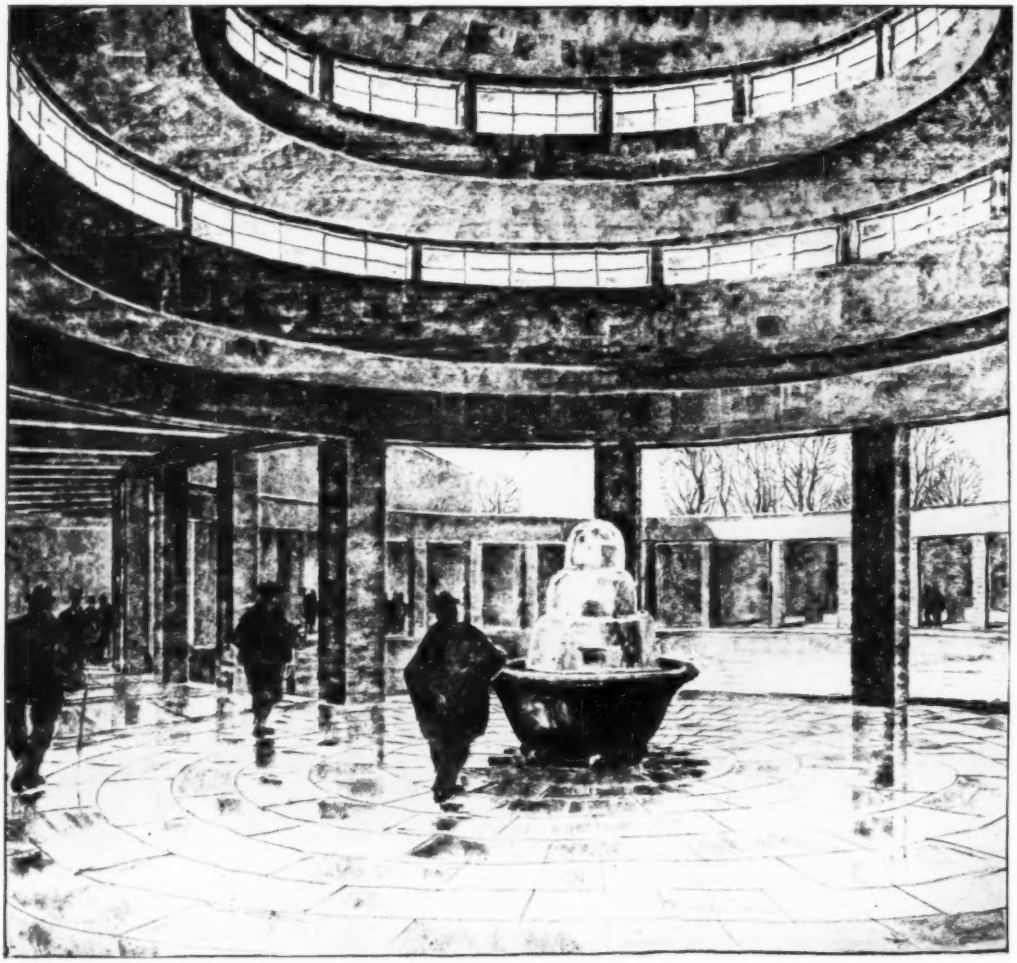


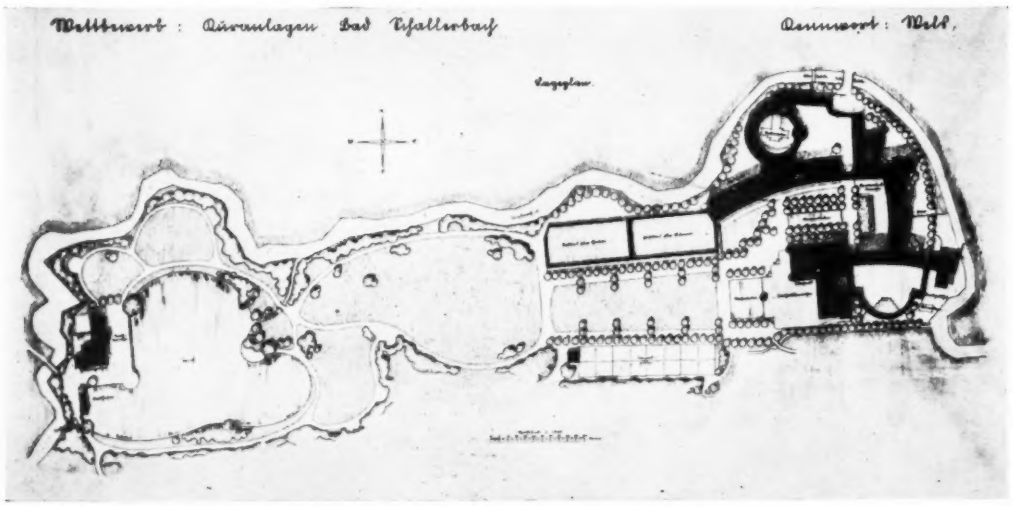
The hydro at Schallerbach, Austria. By Theiss and Jaksch. The garden entrance.





The hydro at Schallerbach, Austria. By Theiss and Jaksch.
Above, the hotel-sanatorium. Below, the general lay-out.





The hydro at Schallerbach, Austria. By Theiss and Jaksch. Above, the fountain room. Below, the lay-out of the grounds and walks.

SOANE'S BANK OF ENGLAND

iii: THE CONSOLS OFFICE

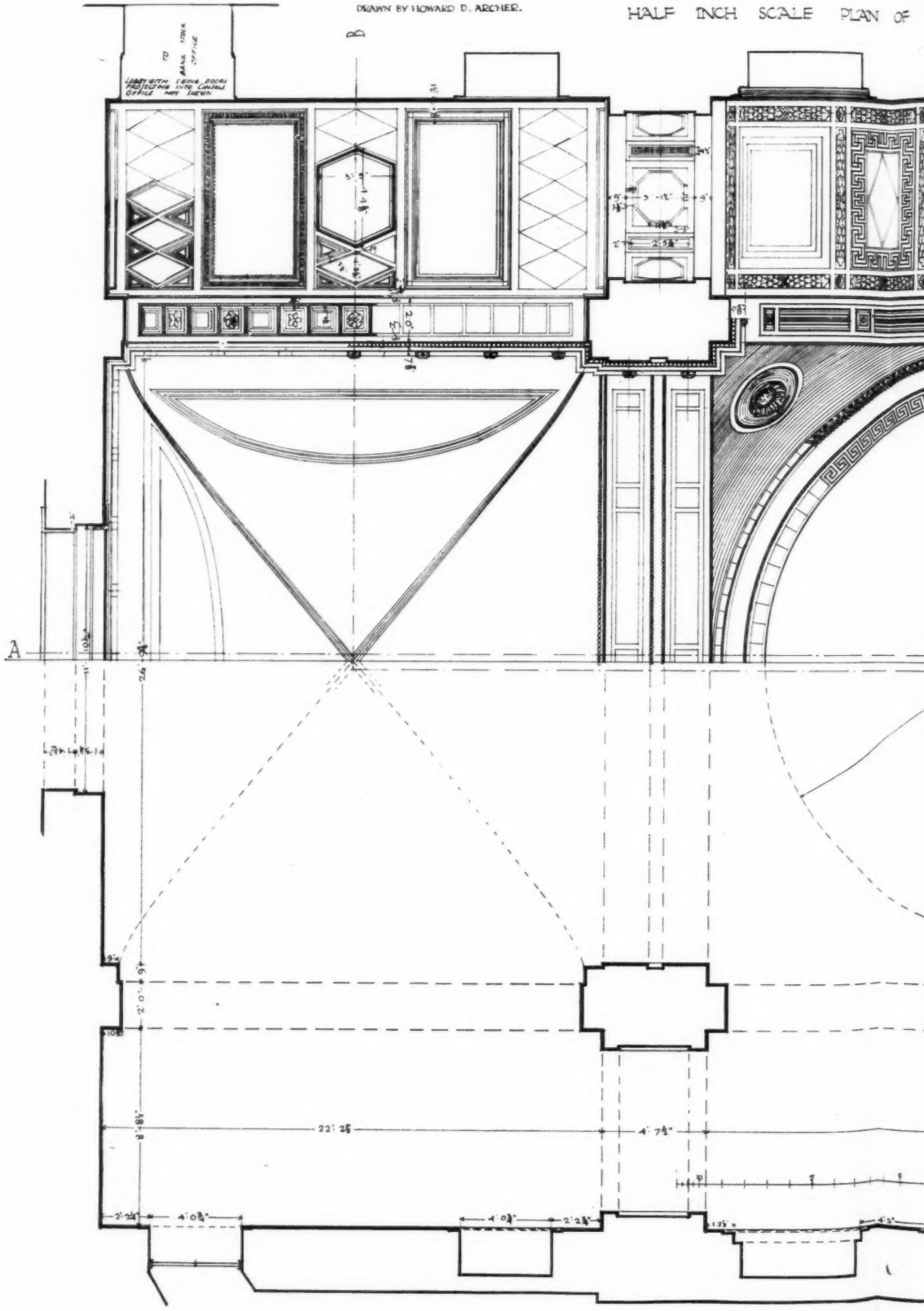
a: The Plan

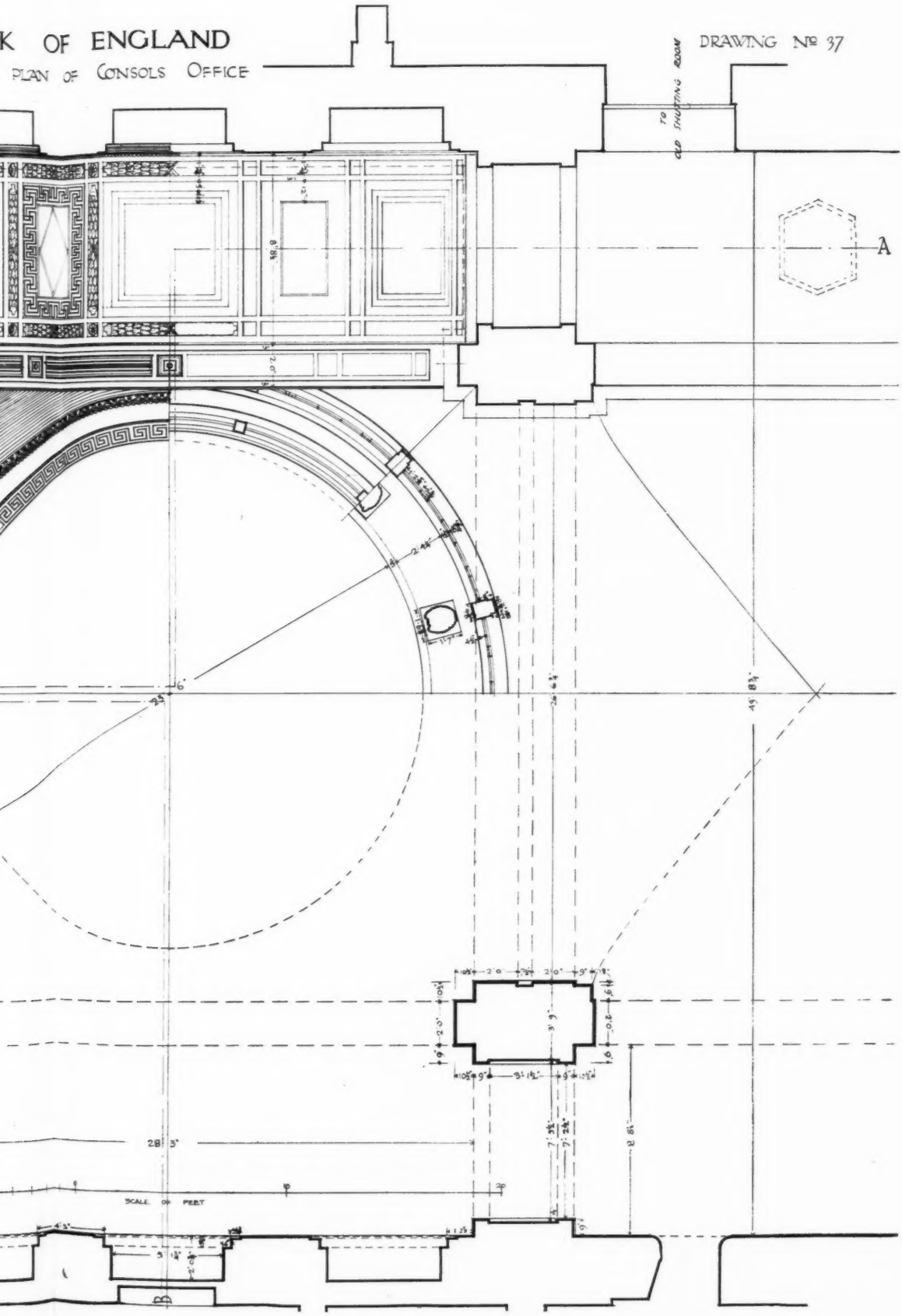
The acquisition, by the Bank, in 1792, of the property lying between its then northern boundary and Lothbury, rendered the whole site an island with streets on all sides. After clearing the new land of its courts and houses, Soane first erected a blank protecting outer wall, leaving the development of the interior to follow as the need arose. Of the new buildings which materialized, the Consols Office, 1798-9, was the most important. It adhered to the type plan which he had evolved in the Bank Stock Office, but it exceeded this hall, in linear dimensions, by nearly one-half, with the consequence that the weight of the superstructure was increased relatively almost four times, necessitating the use of piers of much greater area.—[H. ROOKSBY STEELE.]

F.W. TROUP, F.S.A. F.R.I.B.A.
14 GRAYS INN SQUARE W.C.1.
DRAWN BY HOWARD D. ARCHER.

THE BANK OF

HALF INCH SCALE PLAN OF





SOANE'S BANK OF ENGLAND. MEASURED DRAWINGS OF THE INTERIORS. (*iii*) THE CONSOLS OFFICE. (*a*) THE PLAN

TRIBULATIONS OF EARLY PRACTICE: ii

[BY KARSHISH]

viii: A VISIT TO THE JOB

OUR architect is here supposed to be visiting the scene of his building operations for the first time, for his checking of the setting-out was a quite different affair. Need I mention that under no circumstances must he ever set out work, nor take a directing hand in any setting-out, nor even formally approve a setting-out? I hope not; what has already been written should make any such warning unnecessary. An architect should check settings-out, but his approval of them must be by silence; he refrains from raising objections, that is all. It is the business of the builder to set out and amend any errors in setting-out, and there must be no direction by the architect or the builder may disclaim responsibility. Our architect, then, *not* having set out the work, but having checked it only, is to be imagined as turning off the road and through a spinny on a cool, damp morning in the early spring, and so finding himself upon the field of operations. No expected scene of bustling activity meets his eye. He sees a hut like a bathing machine sunk into the ground and with a funnel sticking out of it; a long, untidy-looking shed; a small heap of gravel, and scattered signs of excavation. Apparently the ground is deserted, but soon he observes a man spading earth; two others are lighting their pipes, three more gazing after a lorry which is making a perilous journey over the soft ground and round by the end of the wood, and yet another is apparently posing for a long-exposure photograph. Our architect hurries to the hut and, in passing the open front of the shed, is startled by the suddenness with which two figures lurking there spring to activity and finish putting a bag of cement on a barrow. At the same moment the photographer's subject comes out of his trance, the smokers spit in their hands, and the lorry-gazers heavily disperse in various directions.

Our architect now realizes that things are getting done almost too fast; there is an alarming reality about the intricate maze of trenches. Surely *that* cannot be the drawing-room! There must be some mistake! It is too small! The other rooms are also too small! He hurries to the hut. The door is shut, but the foreman is safe and snug inside, closeted with a red-hot iron stove and enjoying the parched air of the Syrian desert spiced with the fragrance of scorched wool. His hat is on the back of his head, and he is immersed in amazing calculations on the back of a drawing with the stump of a carpenter's pencil which has not been sharpened since last used to write on a scaffold board. There's something wrong somewhere, he tells the architect cheerfully, who replies that he noticed something was wrong directly he saw the trenches. The foreman, however, assures him the setting-out is right. "I thought you meant the dimensions are wrong." "Yes, sir, so they are. A matter of 2 in." "Two *inches*!" "Well, one and thirteen-sixteenths of an inch, I make it." Thereupon the foreman perplexingly goes over his calculations, but, amazing as they are, he is right. He has unravelled an error. There is a discrepancy of $1\frac{3}{16}$ in. between the length dimension supported by the total of components on one side of the plan, and the components on the other. Our architect is not the man to worry about a paltry matter of less than 2 in. in 80 ft. "Never mind. It's near enough," he says. "But where am I to save it?" the foreman asks. It takes half an hour to track the inaccuracy down and decide to alter the dimension across the dining-room, which will just allow an 11 in. shelf behind the larder door. It had not occurred to our architect that 2 in. may be of consequence if they reduce the width of a passage or a doorway, and that any accumulative error is suspect, for it may be the resultant of several errors. A plan, like a bank ledger, must balance exactly.

When our architect precedes the foreman out of his bake-oven into the cool air he is again impressed by a leisured calm which reflects no consciousness of the agreed and liquidated damages for every separate day's delay held out with such menace by the contract, for he is not yet aware that it is extremely unlikely, however long and however active his career may be, that he will ever know of a sixpence thus exacted unless he is concerned in a dispute taken to arbitration. The foreman has excellent reason for all he is doing and for all he is not doing. He is, we may suppose, an impatient and quick-tempered man, and has an off-hand, matter-of-fact manner destitute of all charm except that of uncompromising frankness. He is not too well pleased, if the truth were known, to find himself tied up to an architect who wants to know the reason for everything and then wants the reason explained, and then questions the explanation, invites opinions, and questions them also.

Our architect has taken the precaution to prime himself up from the drawings and specification before he left his office, and has a clear idea of what he may expect to see. Accordingly, when he observes certain puddles lying in the trenches and places where the bottom has been trodden into mud, he says, with immature tact, "You're keeping the trenches clear of water, aren't you?" The foreman tells him "Yes." He has made sumps and is bricketting-out. "There's only a bit of rain-water," he adds; "nothing to signify." Our architect does not know what a "sump" is, but is so wise as not to ask the question, but to keep his eyes open. They soon inform him. He pauses above a big puddle. "You haven't drained this," he says. "Oh, well, there's bound to be a bit of wet. You can't get rid of it all," the foreman answers, passing on.

Now, our architect has never before viewed trenches with a critical eye, he has never asked himself why it is particularly necessary to keep them clear of water, and he has no idea whether what he sees is a trench free from water or one needing drainage. At the same time he is, for no exact reason, dissatisfied with the state of affairs. He is now, if he knew it, at what might well be a turning-point in his life. The foreman's manner carries a strong suggestion that the matter is of no importance, our architect has no practical knowledge to support an objection nor experience to guide him, and being very conscious of his ignorance he will be tempted to allow the foreman to decide the matter, at any rate for the moment. To so yield, however, and to smother his doubts, would be the first step towards establishing a habit of sloppiness and indecision; it would make it more difficult for him to assert himself when the next cause for doing so presented itself; it would encourage the foreman to assume an authority which he had no right to assume, and the exhibition of weakness would give him a much poorer opinion of the architect than the most obstinate exhibition of ignorance would do.

I hold up this incident of the clay puddle; it depicts a typical dilemma and an occasion when our architect's character is under test. The foreman's right understanding of what is expected of him, and the builder's realization of the discipline he must conform to, are involved. Last of all, the integrity of the building is endangered, for our architect is perfectly right in his instincts, and if he does not interfere it is possible that in a year or two within those ambitious walls Muriel will say to Grace, "Oh, look! How the cornice is cracking!" If, then, our architect faces the doubt with the trench in front of him and the reality of concrete in his mind, he will perceive with no great demand on imagination and reasoning powers that the saggy patches of ground will yield unequally under the weight of the building, and that cracks in the fabric may result; and he will tell the foreman he objects to water lying in the trenches, and that they must be kept properly drained. The foreman will probably lift his voice without remark, or whistle on his fingers, and an order will be given. Our architect will feel immense relief to know that the work will be as he thinks it ought to be, and his confidence will be enforced. He has for the first time exercised his discretion and used his authority. Following this he will require the trodden ground to be dug out, which he would not have been able to require if he had shirked the puddle; and after that, again, he notices that the water is being bailed out with a shovel, that part is draining back, and that by thus increasing

the sunk ground a worse puddle will be formed by the next shower of rain. He calls the foreman's attention to this. The foreman is, characteristically, short in his manner. "You need have no fear, sir. The man knows his job," he says. Our architect, who is beginning to feel his legs under him, has no mind to be put off. He resents the airy style in which he is addressed, as he is entitled to do. He reminds the foreman that, as architect, he is responsible for seeing the stipulations of the contract carried out; that the specification requires the trenches to be kept clear of water, and that they must be kept clear of water, and that no concrete is to be laid till he is satisfied with the bottom.

It is a happy chance that he has been able to show the foreman that he can keep a stiff lip. The foreman will take the hint. "Very good, sir. If you tell me what you want done it shall be done." A channel is cut in the trench bottom to drain away some of the water and another sump is made to collect the rest. This little fight over the trench is but one incident in a long hour of friendly intercourse. The foreman describes his understanding of the plans, asks a question or two, displays his trench mark which the architect checks with a bricklayer's level, a scaffold board, and a line of pegs driven into the ground. There is little that is technically difficult at this early stage of the work, but as we have shown our architect ascendant, we may now display him at fault.

Let us suppose, then, that he notices the trenches for the main foundations to be deeper at one end of the building than at the other. The foreman explains that the ground falls by about 15 inches, and that as no stepped foundations are shown on the drawings, he has assumed that none are intended. Our architect says he wants all the trenches the same depth, but he does not recognize the practice described as stepped foundations, and supposes the foreman to mean offsets of footings. This leads to cross purposes, confusion, and waste of time, and our architect has to admit ignorance; but when he understands that the foreman proposes to drop the level of foundations so as to overtake the fall of the ground, he cannot see the need for doing so. "Why not let the trench bottom follow the fall of the ground?" he says in a flash of inspiration. "Much simpler, of course! And I think it will make a better job—and there will be no 'extra.'"

The foreman looks at him oddly. The brim of his hat comes down over one eye as he scratches his head underneath it. He has never been asked to do such a thing before, he says. The architect wants to know what the objection is, and the foreman cannot tell him, for with him theory does not extend beyond his practice, and the proposal is alien to his practice, and no wonder. Our architect is, perhaps, gratified at his sagacity and invention. Even the foreman, he notes, has no objection to offer to the idea, although he never heard of it before. The foreman, however, if his respect for a better educated man than himself did not restrain him, would be inclined to regard our architect as a species of enlarged tomfool; though even the builder might not readily explain what the foreman and he both know by instinct, namely, that though there may be no harm in a slight fall of foundation bottom under certain conditions, yet the principle is so thoroughly bad that it is never countenanced in building practice. There is not even any saving in expense to excuse the risk of a building sliding laterally and developing the worst conditions of settlement.

How long our architect may be supposed to pursue his notion in despite of the traditions of building craft will depend upon the degree of confidence and bumptiousness with which he may imagine himself to be endowed, but no such foundations will ever be laid, for the foreman would not accept instructions, and the builder would refuse to associate himself with work of that kind.

Sooner or later our architect will realize that he is profoundly and ridiculously at sea, and learn that he can only interfere with the time-honoured practice of the building crafts with extreme caution instructed by sound knowledge.

[*To be continued*]

R.I.B.A. AFFAIRS

Special attention is called to the fact that, except in very special cases, a headmaster's certificate will not be accepted as a qualification for registration as Probationer R.I.B.A. after October 1, 1927, and no one will be registered as a Probationer unless that person has passed one of the recognized examinations in the required subjects. A list of the examinations recognized may be obtained free at the R.I.B.A.

At the last statutory examination for district surveyors and the examination for building surveyors under local authorities ten candidates presented themselves, and it is thought that attention should be called to these examinations as being well worth the consideration of students of architecture. The subjects included in the examinations are all of direct practical interest to architects, and a sound knowledge of them is indispensable to those who wish to practise good architecture, so that not only those who propose applying for appointments either as district surveyors or building surveyors benefit from having passed the examinations, but students who want to have guidance in their studies also benefit. The study of the Metropolitan Building Acts is of value not only to the metropolitan architect, but also to those who practise in the provinces and occasionally do work under London district surveyors. The next examinations will be held on October 19, 20, and 21, 1927, and the closing date for applications is October 3. Full particulars can be obtained on application to the secretary, R.I.B.A., 9 Conduit Street, W.

Following are notes from the minutes of the last Council meeting of the R.I.B.A.:

International Exhibition of Architectural Drawings, Melbourne. The Council accepted an invitation to send an exhibition of British architectural drawings to the exhibition at Melbourne in May, 1927.

Ethics of Architectural Practice. On the recommendation of the Practice Standing Committee the Council suggested to the Board of Architectural Education that more consideration should be given to the instruction of architectural students in the Ethics of Practice of the Profession.

Competition for the League of Nations' Building. The Council signed a petition promoted by the Boards of the Maatschappij tot Bevordering der Bouwkunst, Bond van Nederlandsche Architecten, B.N.A. (Company for Promoting the Architectural Art), and the Genootschap Architectura et Amicitia (Society Architectura et Amicitia) at Amsterdam, in favour of an extension of the time limit for sending in designs in this competition.

Glastonbury Abbey. The Council approved a request from Dr. Arthur Bulleid, of the Glastonbury Antiquarian Society, to obtain signatures for petitions to the Archbishop of Canterbury and the Urban District Council of Glastonbury in connection with the proposed purchase by the Glastonbury U.D.C. of the piece of land in front of the Abbot's Kitchen for the purposes of a motor park.

The Architects' Benevolent Society. A grant of £100 was made to the Architects' Benevolent Society for the year 1926.

The Architects' Defence Union. A loan of £100 was made to the Architects' Defence Union for the purpose of propaganda and advertising.

Town Planning. The Council received a report on the International Housing and Town Planning Congress, Vienna, from Mr. E. C. P. Monson, who went to Vienna as the delegate of the R.I.B.A.

The Universal Society of the Theatre. Mr. Herbert A. Welch, F.R.I.B.A., was appointed R.I.B.A. representative on the Executive Committee of the General English Committee of the Universal Society of the Theatre.

Membership. The following ex-members were reinstated: As Associate: R. Scott Cockrill; as Licentiate: W. Alban Jones.

Honorary Corresponding Membership. The Council decided to nominate Professor Fritz Schumacher, city architect of Hamburg, for the Hon. Corresponding Membership.

Studentship. Twenty probationers were elected as students.

SIMPLE CURVES

[BY R, AUTHOR OF "R's" METHODS]

ii: THE PARABOLA

STUDENTS of architecture should be able to recognize immediately the beautiful conic curves (figure fifteen), and know the more important characteristics. Our usual wont is to draw the curve from one point to another. Books on conics do not often give this information, being written from another point of view. The parabola is a fixed curve; just as a circle, it can only be one shape. By drawing parts to a different scale it often seems quite different, for instance, a part near vertex is diagonal of two or more vertical squares, at another part the curve may be diagonal of hundreds of horizontal squares (see figures sixteen and seventeen). At point 1 from vertex it is V1 in height. Therefore from V to 1 the curve is a curved diagonal of a square: at quarter

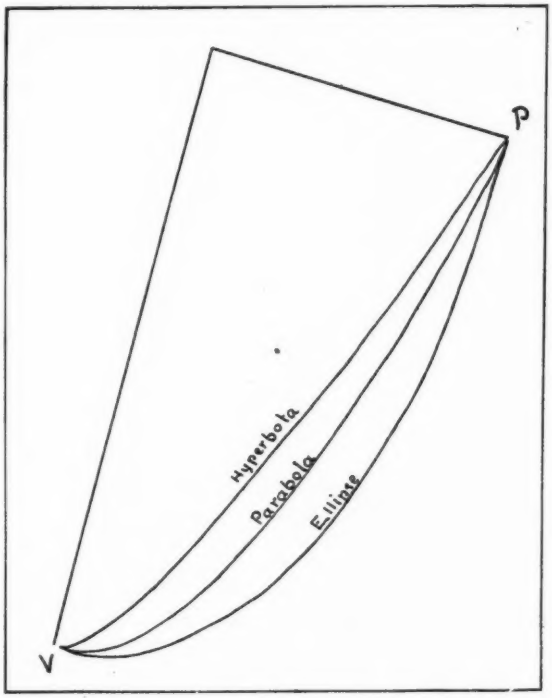
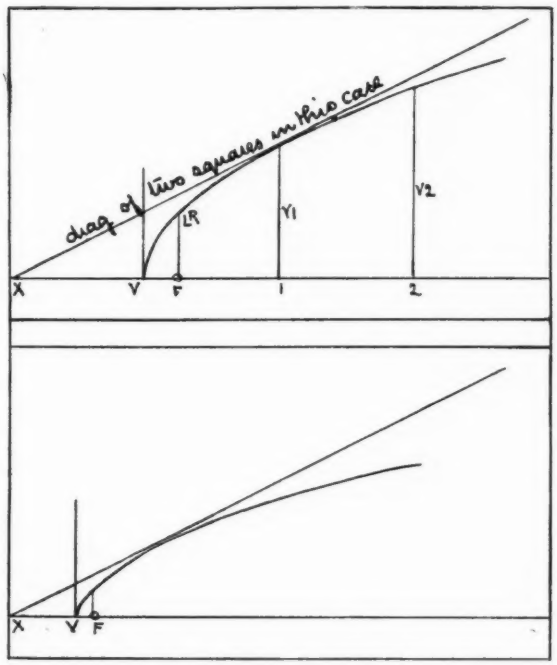


Figure fifteen.



Figures sixteen and seventeen.

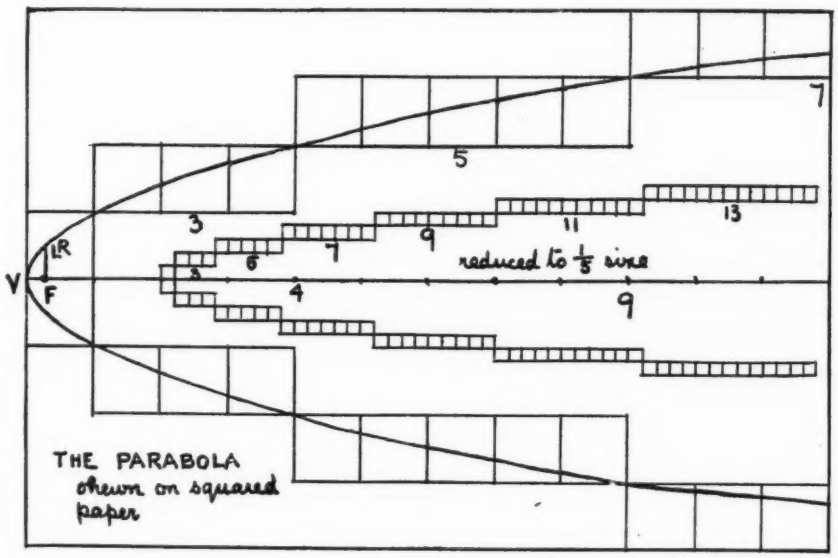


Figure eighteen.

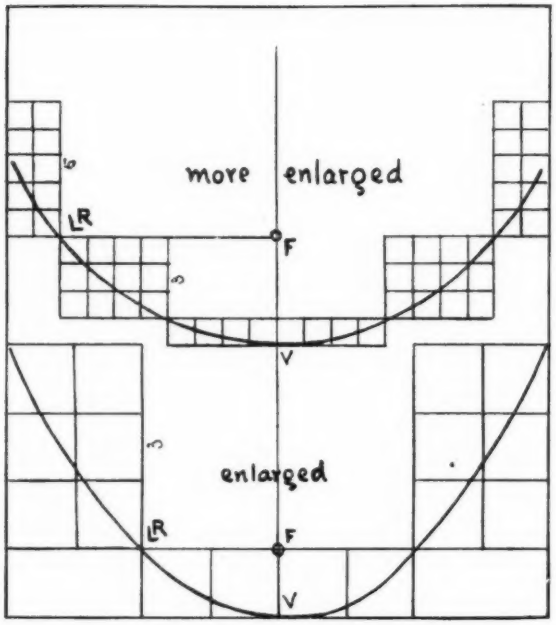


Figure nineteen.

the distance from V is the focus of the curve shown F; a vertical through this point is twice V F; this vertical is called the semi-latus rectum, it is marked L R.

The most instructive way I have discovered of showing the parabola is to draw it on squared paper, by this means its individual progress can be shown and studied, and if this is done to several scales, as shown in figures eighteen and nineteen, it will soon be understood as a slightly curved diagonal of squares arranged in a simple series of progression.

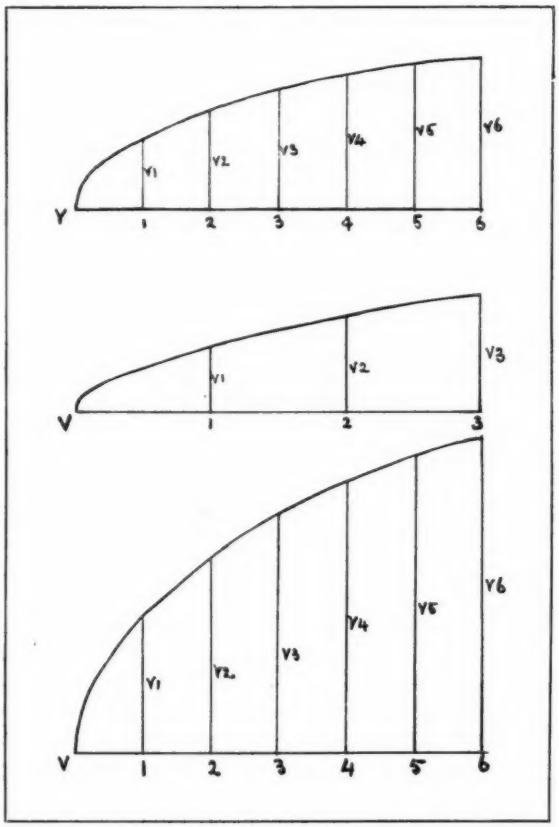


Figure twenty.

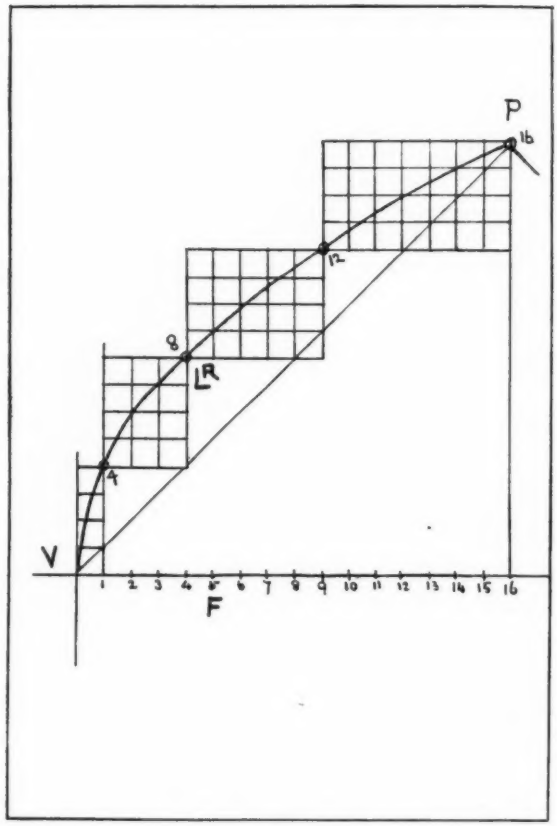


Figure twenty-one.

At any distance from the vertex the height of curve is the square root of the distance (figure twenty). Again, taking height at any distance from vertex as V1, the height at twice the distance is V2; at three times the distance it is V3, and in like manner.

Dividing V P into sixteen parts horizontally and vertically (see figure twenty-one) the parabola can be expressed 1. 4; 4. 8; 9. 12;

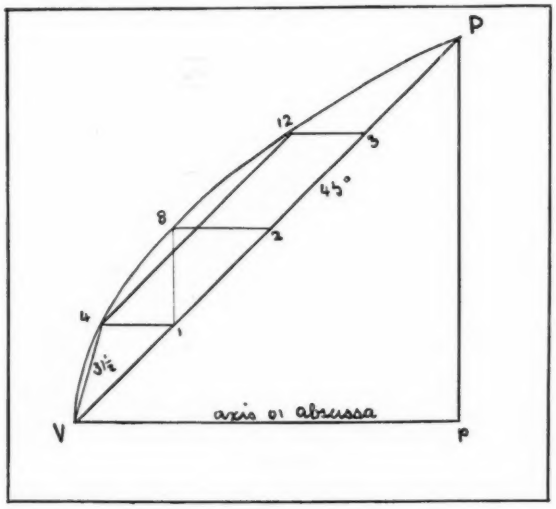


Figure twenty-two.

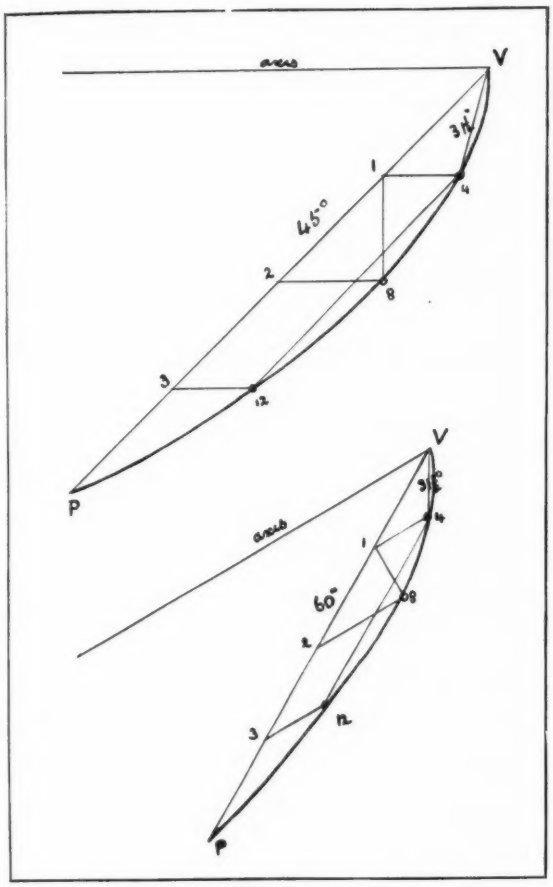


Figure twenty-three.

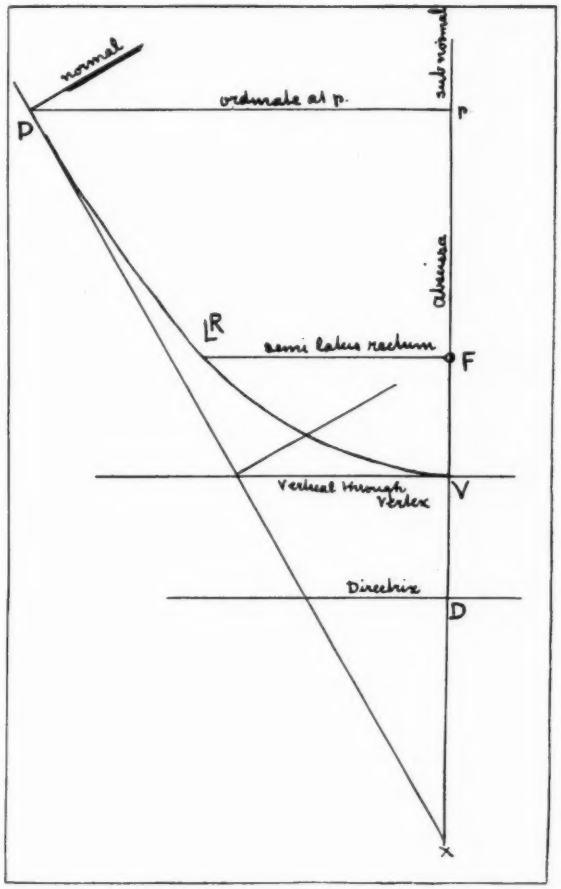


Figure twenty-four.

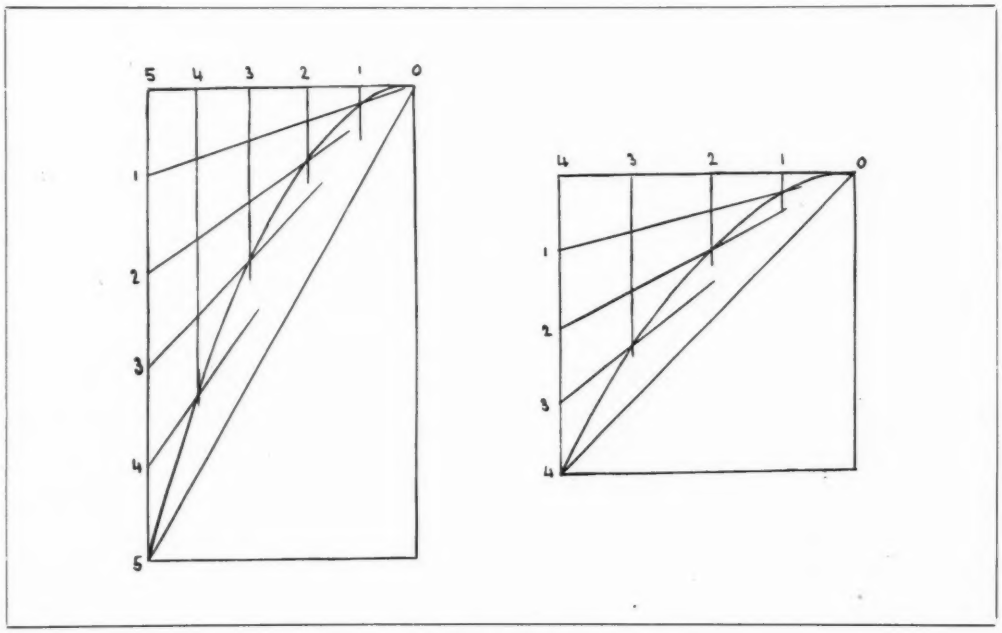


Figure twenty-five.

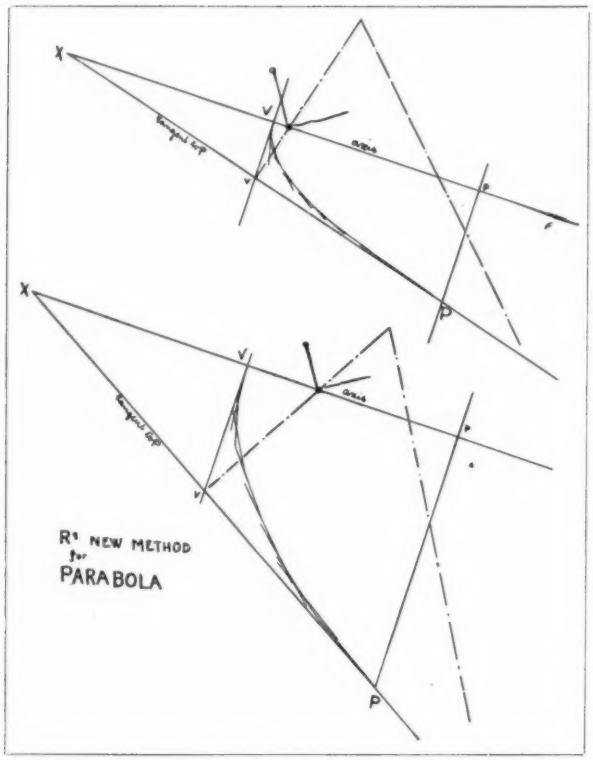


Figure twenty-six.

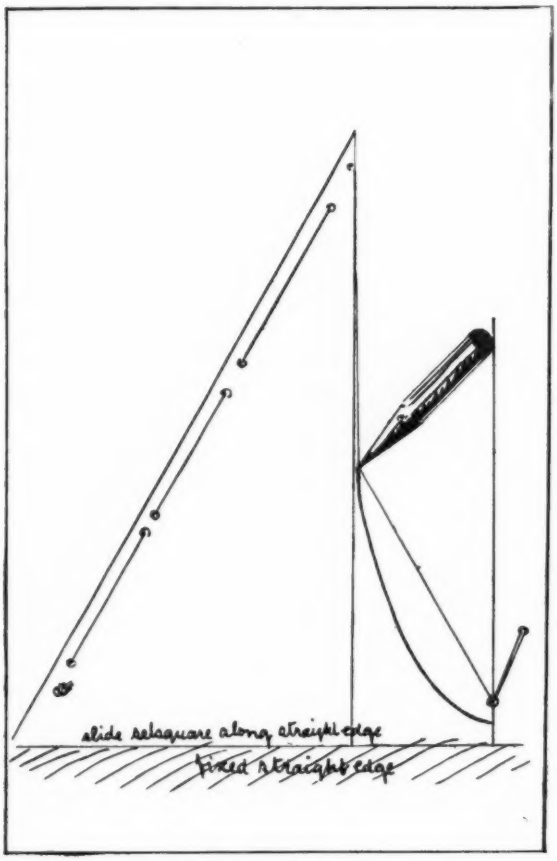


Figure twenty-seven.

and 16. 16; 4 is the focus and vertical from F to curve is the semi-latus rectum = twice V F. This construction shows another way of getting curve of parabola by means of line from V to P and the points .4, .8, .12; this is shown in figure twenty-two.

Decide on point P (figure twenty-two), first making V P=P P; join V P; divide it into four equal parts. Draw 2 8 parallel to axis; draw 1.8 at right angles to axis. Draw 1. 4 and 3. 12 parallel to axis. From V draw 30° slope (31½° is more correct) to get point 4.; a line through this parallel to V P gives point .12. As these are the more usual position of the echinus the diagrams (figure twenty-three) are added for study. This method seems to fit any part of the curve from the vertex. If it is drawn on horizontal or 45° slope it is most easily remembered.

Some useful mathematical facts of the parabola are shown in figure twenty-four. F V=V D=eccentricity. X P is tangent to curve at P; P V=V X. From F (focus) to any point on curve = from that point to directive semi-latus rectum = twice F V. Sub-tangent = twice abscissa; sub-normal = semi-latus rectum. Perpendicular from tangent to focus always lies on vertical through vertex.

The usual methods (figure twenty-five) of drawing the parabola are excellent, but they do not give those interesting facts that are made clear by some of the previous diagrams.

My new method rapidly to draw a parabola through vertex V and P a point on curve is shown in figure twenty-six. Draw axis through V; it can be any inclination; draw verticals through V and P; V V is to be half P P ; draw V P and put a setsquare as shown by dotted lines, and stick a needle where setsquare crosses axis at the point F, the focus. Slide setsquare round pin, keeping the right angle on V V, and draw tangents, these cross and form the parabola.

I have made an improvement (figure twenty-seven) on the usual rod and string instrument for drawing the parabola, and although apt for rapid demonstration, is not of much practical use for getting a curve between two points, and these are the conditions we generally get. The cord is the length of vertical rod.

CORRESPONDENCE

THE ARCHITECT'S FEES

To the Editor of THE ARCHITECTS' JOURNAL

SIR,—Your interesting article on the subject of architect's fees is concerned principally with the payment of fees to the consultant and the manner of their payment, the consultant being, generally speaking, the consulting structural engineer whose services are required where reinforced concrete or steel construction form an important feature in the fabric of the building.

You lay stress on the hardship imposed on the architect in going to his client and demanding that he should pay substantial fees for work carried out by various consultants engaged by him, and point out that in some cases he pays such fees out of his own pocket, and at others buries them in the fees to the quantity surveyor or in the builders' charges. I agree with you that the latter method is entirely wrong, and the position which the consulting structural engineer is, consequently, asked to accept is a very invidious one. I venture to think the time is not far distant when the architect will find it impossible to obtain the services of a consultant of repute or ability under these latter conditions, and it may be that, unless proper steps are taken, the Institution of Structural Engineers, for the protection of their members, may have to define as " unprofessional conduct " the acceptance of fees paid in such a manner.

In regard to the former method, surely this is a question which depends entirely on the extent of the work which the consultant is asked to do. You mention, in regard to reinforced concrete, that the cost may equal one-tenth of the total cost of the building. Under such circumstances it would appear that with so small a percentage a consulting engineer, if engaged, should be paid by the architect as if he were employed on the architect's staff. The other extreme which you mention is where nine-tenths of the cost of the building is for the reinforced concrete structure.

Surely, unless the architect has a staff competent to prepare the necessary drawings, the importance of the work involved is so great that he could have no hesitation in going to his client and making arrangements for the payment of the consultant direct by the client. In the latter case the objection of the client may be that he is called upon to pay, not only the fees of a specialist, but also overhead fees to his architect for the work done by the consultant. This appears to be entirely a matter of arrangement as to the amount of the architect's fees, between him and his client, and whether he is entitled under such circumstances to demand the R.I.B.A. scale of charges is a subject on which I do not propose at the moment to offer an opinion. Where, however, the major portion of the building is of an engineering character, it does seem that the positions of the architect and the structural engineer should be reversed, i.e. the architect being employed by the engineer as consultant for one-tenth of the work.

You omit to refer to the question of the adequacy, or otherwise, of the scale of fees to cover the preparation of reinforced concrete designs. The cost of preparing such designs is notoriously higher than the cost of preparing drawings for ordinary building work, and I fully appreciate the fact that some modification in any case appears to be requisite in the scale adequately to cover the preparation of such designs where reinforced concrete is employed.

In your reference to the decisions of the Ministry of Health I do not think you laid sufficient emphasis on the fact that such decisions refer to buildings of a public character, and if this is taken into account architects engaged on such buildings should not, I feel sure, find any difficulty in making satisfactory arrangements with such bodies as to the engagement of consulting structural engineers and the payment of the appropriate fees.

To summarize what I have said above, the first point is for a careful revision of the R.I.B.A. scale to be undertaken under clause f, and, secondly, that a proper and regular system of publicity should be undertaken so that public bodies, corporations, and such-like potential clients are made aware of the proper methods for holding competitions, employing architects, engineers, and consultants to the eventual good of the professions and the protection of the building owners.

H. J. DEANE,
President of the Institution of Structural Engineers.

[All architects will welcome Mr. Deane's suggestion that a structural engineer should be prohibited on the score of etiquette from accepting a commission without the full knowledge and approval of the client. The whole letter is an extremely interesting one, and when Mr. Deane refers to the client's tendencies to regard the fee paid to the architect on a reinforced concrete structure as an "overhead fee for work done by the consultant," he lays his finger on what is, as I see it, the central difficulty in all this business. The architect's job is to plan and design a workable building, and to see that it gets built and equipped as it was meant to be built and equipped, and that it works as it was meant to work. For this job he is paid a fee, the amount of which is based on a rough-and-ready but very simple and convenient calculation. But if the client chooses to use, instead of brick and timber, a material requiring a vast number of extra drawings all to itself, then he must obviously pay for these drawings too. And no matter how much he may have to pay for these drawings, he should not expect them to take the place of the architect's drawings, which are of a totally different kind. They cannot in any circumstances take their place. The structural engineer does not do the work of the architect; a beam is not a building; a plan cannot be drawn up by means of bending moments. The architect's fee is due to him for work done by him, work that can only be done by him.

Mr. Deane is, as his letter shows, fully aware of the true nature of these different functions. His suggestion that in a building "the major portion of which is of an engineering character" the architect should be employed by the engineer seems reasonable enough, too. Reasonable, that is, in those cases where it is necessary for architect and engineer to employ each other. But why should they "employ" each other? Most people would surely prefer to see them both employed by the client. A building has not, however, earnt the description "of an engineering character" just because a certain *amount* of reinforced concrete is contained in it. Mr. Deane says, if I understand him rightly, that where the cost of the reinforced concrete is nine-tenths of the cost of the building there the architect is, in fact, employed for one-tenth of the work only. In saying this he appears, as I note with sorrow, to subscribe to the fallacy which he himself has traced to the inexperience of the client. He might just as well say it of a brick building in which the cost of the bricks is nine-tenths of the cost of the building. The architect's work does not diminish because more bricks are used, or more concrete, for the question is not how much the concrete costs, but in what kind of a building it is used. A building "of an engineering character" is easily recognized; a number of them were illustrated in our Concrete number. But they are not recognized by counting up the cost of the concrete. One might, I suppose, build a concrete cinema in which the cost of the concrete equalled nine-tenths of the cost of the building. Suppose this were possible, would it not be pure nonsense to say that the architect was employed for one-tenth of the building only? If he is employed at all he is employed for ten-tenths of the building, neither more nor less. But in a bridge or other "building of an engineering character" he could not, of course, make such a claim, and that is no doubt the sort of structure Mr. Deane really has in mind.—Ed. A.J.]

AUTHORITY AND LIBERTY IN ARCHITECTURE

To the Editor of THE ARCHITECTS' JOURNAL

SIR,—A friend of mine used to say that writing articles was like talking to dumb men in the dark. To appearances there is no response. Only occasionally and accidentally does one hear of them being read. So in sheer desperation there is awakened a feeling of gratitude towards one's enemies whose attacks at any rate are a reminder that one is being read, even if misunderstood.

It is with some such feelings that I begin my reply to Mr. Trystan Edwards. He pays me the compliment of saying that I explain my point of view so lucidly that even those who disagree with me must acknowledge that I have given them serious matter for reflection. What I have said that has given Mr. Edwards cause for serious reflection I should very much like to know, for there is nothing in either of his articles that suggests that he has understood me, much less reflected on anything I said. On the contrary, he appears to have read my articles and rejected them, for no deeper reason, so far as I can see, than that they challenge those preconceptions respecting architecture which, without a doubt, he imbibed at Liverpool, and which he is concerned to defend. I insist upon this in spite of him disclaiming to belong to the powerful Classic school to which I object, for it is precisely to the point of view which he represents that I take exception. I do not object to the Classic school as it is found in America, or as Classic is understood by many architects in this country. My objection is entirely to that pedantic, academic, self-satisfied approach to architecture which imagines itself to be Greek, but which I am persuaded is as far removed from the spirit of the Greeks as it is from that of the Goths.

To begin, everything Mr. Edwards says about the Gothic Revival is entirely irrelevant. The churches erected in its heyday are as academic and uninspired as the buildings of the Greek Revival, while most of the secular Gothic of that time is entirely indefensible. Most of the buildings are screams. But the recognition of these facts does not lead me as it leads them to the conclusion that the Gothic Revival was a mistake, because, apart from it, architecture was dying of inanition, if it was not already dead, and the enormities of the Revival were the inevitable accompaniment of any effort to awaken it into life. The first attempts to do anything new are apt to be failures. To condemn the Gothic Revival because of its failures is to condemn the attempt to revive architecture, and to acquiesce in its death. Mr. Edwards assumes that if the attempt to revive Gothic had not been undertaken the building tradition would have remained

intact and the subsequent confusion avoided. But I am assured such would not have been the case, for the architects of that time, both Classic and Gothic, were æsthetically dead. They had no taste. The recovery of taste or æsthetic sense was a precedent condition of any revival of architecture, and that involved a break with the Classical tradition and a willingness to experiment. The architects who adhered to Classic during the nineteenth century went from bad to worse, and Classic architecture in this country was only rescued from its degradation when architects of the Gothic, Queen Anne, and Arts and Crafts tradition turned their attention to it. This is an historical fact, and there is a reason for it. The architects of this tradition as a consequence of their wanderings and experiments were becoming æsthetically alive, whereas the Classic school were traditionalists in the worse sense of the word.

Mr. Edwards speaks in praise of the vernacular architecture of the period 1750-1830, expecting, no doubt, that I shall disagree with him. But it is not the vernacular, but the academic Renaissance that I attack, and I attack the academic Renaissance because it destroyed the vernacular tradition. It is no use Mr. Edwards attempting to place responsibility for this on the shoulders of the Gothic Revival, for the vernacular tradition was scarcely affected by any revival until the eighties, but steadily degenerated into utilitarian building—into the brick box with slate lid, as Morris called the houses built during that time, into rows and rows of monotonous and uninspired streets with large window-panes and grained woodwork. If it be true, as Mr. Edwards maintains, that architecture did not decline during the period 1750-1830—if the vernacular architecture during that period was in a healthy condition—why did this subsequent degeneration take place? The vernacular work of 1750-1830 has many merits. It is good compared with what came after it. But it is not so good as the work that preceded it. It is true that during the years 1750-1830 the builders exercised some invention in detail. Nevertheless, their inspiration was failing. They exercised their power of invention within narrow and narrower limits until at the end of this period they ceased to make any effort. The builders lost their instructive capacity of design because they were oppressed by the academic standards of the architects who enforced their classicalisms as stringent standards over the whole country; and I am assured that if Mr. Edwards and his friends could get their own way they would as surely destroy the incipient revival of architecture that is taking place as their predecessors in the latter half of the eighteenth century destroyed the living tradition. For, remember, the eighteenth-century architects did not admire the vernacular tradition; they despised it as something vulgar. That Mr. Edwards feels himself at liberty to praise this vernacular tradition to-day is not due to the academic professors, but to Morris, Philip Webb, Norman Shaw, Lethaby, and the Arts and Crafts School who taught the profession to admire such work. I can remember the time when to tell a Classic architect that Georgian work was architecture was to be rated a crank, since to all such members of the profession architecture was something with columns in it. And that was the beginning and the end of it.

Mr. Edwards appears to be determined to misunderstand everything outside of his own immediate purview. Thus criticizing the Gothic Revival and Arts and Crafts he says: "The finest craftsmanship will not redeem a vulgar conception." Whoever said it would? Why cannot we have both? That some architects and craftsmen are more inventive in detail and others stronger in general conception is no reason for assuming that imaginative detail is incompatible with unity of design, or for assuming a spirit of hostility to men whose genius is for detail.

It is right to insist that detail should be subordinated to general conception, but wrong to assume that if the general conception of a building is good the architect can afford to leave his detail uninteresting.

But the real divergence is much more fundamental than anything I have so far discussed. It is, I think, to be found in this—the inability of the academic architect to understand that the Gothic element is as essential an ingredient of any living architecture as emotion in life. My objection to the academic point of view is parallel to my objection to the rationalist who assumes that the whole universe can be explained in the terms of reason. Philosophers to-day make no such attempt. They recognize that reason is not fundamental; that at the back of every reason is to be found an emotion or instinct, and, therefore, take their stand finally on instinct rather than reason. Mr. Edwards does not appear to be aware of the position at which modern thought has arrived. On the contrary, like the old rationalists, he assumes that logic is truth and distrusts his emotions, for he values architecture, not in relation to its emotional or æsthetic content, but in relation to its logic. I do not think I value logic in architecture less than he does: but I cannot worship logic, for logic may be entirely divorced from æsthetic content. And architecture must have æsthetic content before I am willing to accept it as architecture at all. I prefer an architecture which has a rich æsthetic content and is deficient in logic to one which is logically complete and æsthetically empty; because, while the former gives me some pleasure, the latter only bores me. That is why I place the vernacular Renaissance above the academic Renaissance. In the vernacular Renaissance there is a Gothic element which is its vitalizing principle; but in the Late Renaissance this Gothic element was strangled, and in proportion as it was strangled architecture became formal, stereotyped, and lifeless. I should have thought the truth of this would have been apparent to any architect. For to possess any real architectural values at all is to be conscious of a sharp decline in the latter half of the eighteenth century. If Mr. Edwards does not see this, then I can only assume that there is nothing that I can say that will have the slightest effect upon him. For if he does not see the reality of this decline I am finally as incapable of proving its existence to him as I am of proving to a blind man the existence of sight.

ARTHUR J. PENTY

MODERN BUILDING AND NATURAL BEAUTY

To the Editor of THE ARCHITECTS' JOURNAL

SIR,—The general impression conveyed by the concrete bridges and other structures, illustrated in your issue for November 24, is that they inevitably destroy natural beauty. If it were not for the bridge, the illustration of the Rhône shows a beautiful natural scene, which is improved by the old building on the left, and which might have been still further improved by the old bridge-builders. But the modern concrete bridge, though quite one of the best of its kind, is entirely at variance with the natural beauty of the river, with its rocky banks, and strikes a discordant note of brutal utilitarianism. The same remarks would apply to every one of the bridges illustrated, and they only seem really at home in surroundings of a similar kind, such as the bridge at Warrington.

No words of mine could do justice to the towers and other concrete structures illustrated, any one of which, set in our English country-side, would poison the air for miles around. In the case of the water tower at Broadstairs—a place where rural beauty is surely worth preserving—a plain circular tower would have been less offensive, and if clothed with the natural beauty of ivy it would blend harmoniously with its surroundings.

So far all these examples may serve to illustrate how modern building is gradually destroying the natural beauty of the world. It may at least be urged that they are economically necessary to the modern civilization which they express—a civilization which is inherently at variance with Nature.

But when we come to the Lea valley viaduct an entirely new principle seems to be involved. Here we find enormous unconnected pylons which, however imposing in their mass and outlines, appear to me to have no practical excuse for their existence.

I have always believed that practical function is an essential part of all beauty in building. All the picturesque charm of the old village justifies itself because it is founded on practical needs: that away, beauty degenerates into mere affectation. This point of view is confirmed by the popular verdict.

All the great Gothic architecture of the past is a kind of inspired engineering, but the art of the matter is inseparable from the bones of the structure itself. But in the case of this viaduct, it would appear that the engineer had allowed the architects to take no part in the engineering portion of the enterprise, so that the whole enterprise seems to symbolize the engineers' idea that architecture is a useless thing. The concrete lamp-post may be mentioned as another example of the entire failure of modern concrete construction to bring itself into harmony with rural England.

BAILLIE SCOTT

THE COMPETITORS' CLUB

THE NINETEENTH CENTURY: ii

After the unfortunate experience in the case of the Law Courts there was a lull in the promotion of important competitions by the Government and other authorities. This was due partly to the failure of the Law Courts competition and partly to adverse financial conditions. The next competition worth noting was that for the municipal buildings at Birmingham, for which W. H. Lynn prepared a very fine plan, linking up the new block with the neighbouring Town Hall. Ultimately, in 1874, the design by Yeoville Thomason was carried out. It was inferior architecturally, but more economically planned.

For over a decade after this there was a pause in building activities, and few competitions of any importance were inaugurated; but in 1887 invitations were issued to six architects to submit designs for the Imperial Institute, and from that date to the end of the century a great number of large buildings were carried out from designs obtained by means of competitions. The architects selected for the Imperial Institute included four practising in England, one in Scotland, and one in Ireland. In our own day doubtless representative men from the Dominions would be included in such a case, but in 1887 the Dominion schools of architecture were in their infancy, and it would have been difficult to find architects of a status justifying their inclusion. The competition may be usefully compared with that held in 1891 for South Kensington Museum, in which eight architects were invited to compete. In the first case the requirements were very loosely and vaguely stated, with the result that about half the competitors found themselves unable to plan a building really representing what was evidently desired. They did not get that stimulus to their imagination which would enable them to realize a conception embodying the dignity of Empire. In the case of South Kensington Museum the conditions were better defined, and in consequence, while the mode of expression did not display any very marked advance, the schemes generally offered a more organic and a sounder solution of the problem set.

The years from 1886 to 1892 may be described as prolific in competitions. At the beginning of this period we have the Birmingham Assize Courts, the designs for which are well worthy of the attention of students of planning. The winning design was a clear example of the methods by which Sir Aston Webb, with his then partner Ingress Bell, attained such a high position as masters of planning. These architects may be regarded as the successors to Alfred Waterhouse in looking to the logical requirements of the purpose aimed at as the basis of their scheme.

A little later several competitions produced designs by men who were then regarded as the younger generation. The Town Hall at Sheffield, and the Battersea Polytechnic were won by Mountford, who also carried out the Battersea Town Hall, and a number of other important buildings, mostly secured in competition. H. T. Hare was also very successful. Probably the Town Hall at Oxford may be regarded as one of his best buildings, though there are many others which display the merits of skilful and original planning. Brydon won the Chelsea Library in 1888. The list of competitions at this time and onwards is far too long to reproduce here. It included libraries, hospitals, and schools, and afforded numerous examples of the best standards of planning at that era. The gradual advance in orderly and economic design is clearly noticeable, and will well repay study by those who care to review the designs in detail.

Reference has already been made to Gibson and Russell's County Hall at Wakefield, but their West Ham Institute is no less worthy of notice as an example of well-considered arrangement. Their plan for Cardiff Town Hall and Law Courts only took second place by reason of the fact that the winning design adopted an axis, which, in affording quite a different mode of grouping, placed it at a great advantage. The latter competition was almost the last important one in the century. It evoked some new ideas, and exercised a definite influence on later work. From that time onwards competitive planning has evolved under various hands almost as fast as it did in the latter half of the nineteenth century, a period of exceptional development.

It would be difficult to find a more illuminating guide to the planning of public buildings than an analytical study of the competitions of the last century. This should be done by reviewing the changes in the demands made and the gradual improvement in formulating them, and by studying the individual methods of dea'ing with them, as illustrated by the plans of those architects who achieved prominence. One may commend such a study to anyone who feels an interest in this aspect of design; not with the idea that he would base his own work on what he might find, but following the same principle that underlies most other architectural studies, namely, the value of investigating the history of the features which are embodied in the general practice of to-day.

SENESCHAL

COMPETITION CALENDAR

The conditions of the following competitions have been received by the R.I.B.A.

January 3. Academy, Perth. Open to Architects practising in Scotland. Assessor, Mr. James D. Cairns. Premiums: £100 and £50. Particulars from Mr. R. Martin Bates, Education Offices, Perth. Deposit £1 1s.

January 8. Town Hall Extensions and Public Library Building, Manchester. Assessors, Messrs. T. R. Milburn, Robert Atkinson, and Ralph Knott. Particulars from Mr. P. M. Heath, Town Clerk. Deposit £1 1s.

January 15. Designs for complete modern furniture for *a*, a double bedroom, *b*, a drawing-room, *c*, sitting hall, *d*, dining-room. Assessors, the Countess of Oxford and Asquith, the Lady Islington, Sir Frank Baines, C.V.O., C.B.E., F.R.I.B.A. (Director of H.M. Office of Works), Messrs. H. Clifford Smith, F.S.A. (Department of Woodwork, Victoria and Albert Museum), F. V. Burridge, O.B.E., R.E., A.R.C.A. (Principal of the Central School of Arts and Crafts), P. Morley Horder, F.S.A., Philip Tilden, Percy A. Wells (Principal of the Cabinet Department, Shoreditch Technical College), Holbrook Jackson (Editorial Director, The National Trade Press, Ltd.), and Captain Edward W. Gregory (Editor, *The Furnishing Trades' Organizer*). For the preliminary adjudication there are 200 guineas in prizes, and for the final, 300 guineas. Particulars from the Editor, *The Furnishing Trades' Organizer*, Regent House, Kingsway, London, W.C.2.

January 25. Conference Hall, for League of Nations, Geneva. 100,000 Swiss francs to be divided among architects submitting best plans. Sir John Burnet, R.A., British representative on jury of assessors.

No date. Incorporated Architects in Scotland: 1: Rowand Anderson Medal and £100; City Art Gallery and Museum; 2: Rutland Prize (£50) for Study of Materials and Construction; 3: Prize (£10 to £15) for 3rd year Students in Scotland; 4: Maintenance Scholarship, £50 per annum for 3 years. Particulars from Secretary of the Incorporation, 15 Rutland Square, Edinburgh.

The conditions of the following competitions have not as yet been brought to the notice of the R.I.B.A.

June 30. Designs for the planning of the Civic Centre, Birmingham. Assessor, Mr. H. V. Lanchester, F.R.I.B.A. Premium of £1,000 to the design placed first, and a further sum not exceeding £1,000 divided between the authors of other approved designs. Particulars from Mr. Herbert H. Humphries, M.INST.C.E., City Engineer and Surveyor. Deposit £1 1s.

No date. Town Hall and Library, Leith. Assessor, Sir George Washington Browne, R.S.A. Particulars from the City Chambers, Edinburgh.

IN PARLIAMENT

[BY OUR PARLIAMENTARY CORRESPONDENT]

The Mercantile Marine War Memorial

Mr. Gosling, a member of the Imperial War Graves Commission, asked leave to introduce a Bill to enable the Commission to use a site on Great Tower Hill for a memorial to those 12,000 men of the Mercantile Marine who lost their lives in the war. He said that the Commission had found that the most generally acceptable solution was the erection of a monument in some prominent site in London. A design had been prepared by Sir Edwin Lutyens, R.A. The governing consideration in the design had been to provide, in a beautiful setting, space on which each of the 12,000 names could be individually inscribed in such a way that they might be easily read by the relatives and the general public. The entire cost of building the memorial, and of maintaining it afterwards, would be met from the Commission's own funds, and it was noteworthy that the Governments of the Dominions, as well as the Government of the United Kingdom, contributed to those funds and were thus in a practical sense associated with the memorial.

The site which had been chosen, in the garden on Tower Hill, was regarded as eminently suitable for such a purpose, no less from its proximity to London's shipping than from its comparative quiet. The land was Crown land, but under an old statute of 1797 the management of the garden was exercised by a body of trustees, representative of the Corporation of Trinity House and of the Port of London Authority, as well as of other occupiers of houses and premises abutting on Tower Hill. The trustees, with these occupiers, enjoyed the right to use the garden under the provisions of the Act of 1797. The memorial would have separate entrances direct from the public footway which skirted the garden, so as to enable members of the public to have free access to the memorial during the day without interfering with the users of the garden. The Tower Hill trustees had approved the design, and had agreed, on certain conditions accepted by the Commission, not to oppose the grant of Parliamentary powers to enable the memorial to be built; but they had no power effectively to sanction the building unless an Act of Parliament was obtained. The Commissioners of Crown Lands had agreed not to oppose a Bill, and the First Commissioner of Works approved the scheme. The Commission were not aware of any likelihood of opposition from any quarter. The object of the Bill was above party, and it had the support of this country and of the Dominions.

Leave was unanimously granted, and the Bill was brought in and read a first time amid cheers. It was backed by the leaders of the three political parties—the Prime Minister, Mr. Lloyd George, and Mr. Ramsay MacDonald.

The Cenotaph

At question time Captain Arthur Evans asked if the First Commissioner of Works would cause an underground subway from either side of Whitehall facing the Cenotaph to be constructed in order that persons laying wreaths and visiting the Cenotaph could do so free from the disturbance of the traffic proceeding up and down this thoroughfare?

Captain Hacking replied that the First Commissioner was not of opinion that the need for a subway was such as to warrant the considerable expenditure which would be required for its construction at this spot.

The Value of Old Cottages

The Public Health (Smoke Abatement) Bill and the Housing (Rural Workers) Bill have been read the third time. During the consideration of the latter measure, Mr. Chamberlain accepted an amendment to provide that in arriving at the value of any dwelling, any carving or panelling shall not be taken into account. Mr. Rye, the mover of the amendment, explained that in some old cottages carving and panelling were both often found, and they might bring the total value of the cottage over the £400, which was the limit for assistance laid down in the Bill. The Labour Party opposed the amendment, which was, however, carried by 197 votes to 84.

Electric Lines and Ancient Monuments

During the report stage of the Electricity Bill in the House of Lords an amendment was agreed to providing that: "Where an application has been made to the Minister of Transport for his consent to the placing of any electric line above ground, and representations are made that the line will prejudicially affect any ancient monument within the meaning of the Ancient Monuments (Consolidation and Amendment) Act, 1913, the Minister of Transport, in determining whether to give or withhold his consent, or to impose conditions, shall take into consideration any recommendations made to him by the Commissioners of Works with a view to preventing the ancient monument being prejudicially affected."

THE REPAIR OF LINCOLN CATHEDRAL

[BY ROBERT S. GODFREY]

Of all the memorials of the early history of the English people none is of greater beauty or more intense interest than the magnificent cathedral which caps the steep limestone hill on which the ancient City of Lincoln has stood for more than two thousand years. The Lindcoit of the ancient Britons and the Lindum Colonia of the Romans had grown into the fourth city of the realm at the time of the Norman Conquest, so that an important Norman camp was formed here, and not many years after the Conquest the cathedral itself was built.

The destruction of Lincoln Cathedral by fire in the twelfth century, its rebuilding by Alexander the Magnificent, and the destruction of the new cathedral by an earthquake in 1185, brings us at a leap to the repair work being carried out to-day, for many of the cracks which threaten the building at the west end were caused by the earthquake in 1185. It must not be thought that nothing has been done during the last 700 years to try and prevent disaster; far from it. As a matter of fact, the authorities have records of the numerous attempts that have been made from time to time to stop the spreading of the disintegrated masonry.

One attempt which is worthy of note was that in 1821, when six tons of iron bands were fixed inside and outside of the tower at various levels. These bands of iron are 4 in. wide and 1 in. thick; several of these bands are broken and have spread as much as 3 in. In addition to these bands, several thousand iron wedges have been driven into the masonry joints to level up the lines of the masonry. This has caused even greater destruction.

The very dry summer of 1921 had a disastrous effect on the cracks, some of which were opening at one period of the year at a speed of one-sixteenth of an inch in twenty-four hours. That the work had to be done, and done quickly, is an undisputed fact, but it is equally true to say that but for compressed air its achievement would have been impossible. Not only is compressed air used for grouting, but also for drilling the holes in the masonry to various depths up to 16 ft., into which "Delta" bronze cramps are inserted for reinforcement, also for cutting out perished stonework, for cutting and carving new stonework, for water raising, water spraying for laying dust caused by rapid drilling into the masonry, for wood-boring, and numerous other items of labour saving. The saving in labour by using compressed air against any other method known varies from 300 to 800 per cent. The chief saving is in the drilling, which amounts to 800 per cent. The average speed for drilling through the stonework during the last four-and-a-half years is 12 ft. per hour, and most important of all, the work is done without shaking down the rubble and blocking the hole. Since the jackhammers were

put into operation no single case has been reported of the displacement or cracking of the stonework owing to the jack-hammer blow, and ten times the amount of grout is now used per hole compared with grouting after hand-drilling, showing how inefficient was the hand method.

Owing to the large amount of loose sand and rubble contained in the walls, the cement is used in larger proportion to the sand in the grout mixture than is usual, the mixture at Lincoln being 3 of cement to 1 of sand. Although every precaution is being taken to obtain a perfect adhesion of the cement grout to the rubble core with a perfect penetration into every crack and interstice, the authorities are not solely relying upon the binding properties of the cement, however, but are reinforcing all the important holes, especially those which are drilled at an angle across all the cracks, with twisted "Delta" bronze square section rods, which have approximately the strength of steel, without the disadvantages of rusting steel and iron for work of this nature.

The destruction to the masonry caused by the corrosion of iron bands, bars, and wedges is absolutely beyond estimation, whereas by using "Delta" bronze No. iv there is not the slightest possibility of corrosion. In addition to cramping the inner and outer wall faces, and also across the cracks and the disintegrated masonry, concrete bands have been constructed in the passages which are constructed in the thickness of the walls of the north-west tower, also on the floor of the clerestory passages in both the north and south-west transepts, one has been constructed in the lower passage round the four walls of the lantern under the centre tower, 88 ft. above floor level, and another is nearing completion in the wall passages in the clock chamber, 125 ft. above floor level. Eight similar beams have been constructed at various levels in the north-west tower. Each of these beams are reinforced with "Delta" bronze, and are designed to withstand a strain of 800 tons.

Reinforced concrete floors have been constructed above all the vaulted chambers which are constructed on the outsides of the north-west tower, also the vaulting ribs in the vestibule of the north-west tower are covered with reinforced concrete. In this particular case, the vaulting ribs are held up in suspension by the reinforced concrete covering. Every item of the reinforcement is of "Delta" bronze, No. iv, various sections and sizes being used to the requirements of each particular section.

Sections of rounds, flats, squares, angle, T and H have been brought into commission. To give greater adhesion of the cement to the "Delta" bronze cramps and reinforcement, the square bars are twisted with a continuous left- and right-hand twist. All the cramps which are inserted into the holes which are drilled in the walls are doubled over at each end, these cramps vary from 9 in. to 16 ft. in length, they having a left- and right-hand twist the whole length of the cramp.

Accurate records are made and issued weekly to the authorities giving the number and lengths of cramps, the position inserted, and also the number of gallons of grout and where inserted.

Up to September 30, 1926, 11,594 cramps had been inserted into the masonry, a total weight of 18 tons 9 cwts., 37,106 gallons of grout, equal to approximately 5,936 cubic feet. For the construction of the reinforced concrete beams, rebuilding of masonry and grout, a total of 497 tons of cement and 562 tons of sand have been used.

Every possible test has been made during the last four and a-half years, both of the "Delta" bronze and cement separately, and also with the "Delta" bronze cramps fixed in a mould and covered with cement grout. These latter, when the cement has set, has been subjected to a most intensive variable temperature, both wet and dry (which will be carried out until the end of the present repairs), and there is not the slightest fracture to be found. [Anyone interested may see these by personal application to the clerk of works office by appointment.]

It may be of interest to readers to know that we have had cracks varying in width from an hair's breadth to 12 in., these latter as much as 90 ft. above floor level, and even to-day before we reach the cracks they are constantly widening, yet, after cramping and grouting there is not the slightest possible movement located. Even those that have been grouted up for four and a-half years, not under the most powerful magnifying glass can any movement be located. When one realizes the enormous weights in the three towers, which is approximately 8,500 tons in each of the north and south-west towers, and 13,237 tons in the central tower, which works out at 19 tons per square foot on the foundations of each of the western towers, and 36⅔ tons per square foot on the foundations of the central tower, it is safe to assume that if cramping and grouting is carried out in an efficient manner, with a non-corrosive metal, such as "Delta" bronze for reinforcement, you will recreate your crumbling medieval buildings into a perfect monolith, which will withstand the ravages of time. Further, by this method of repair you do not mar in the least degree its antiquity, as when the work is completed there are no scars to show where the grouting has been carried out.

The whole of the special repairs are being carried out by direct labour under the direction of Sir Charles Nicholson, Bart., consulting architect, and Sir Francis Fox, M.I.C.E., consulting engineer, and Mr. Robt. S. Godfrey, surveyor and clerk of works to the dean and chapter.

NEW-COMERS IN OXFORD STREET

Following are the names of the contractors and some of the sub-contractors for the buildings illustrated on pages 743 to 747.

100-102 Oxford Street. General contractors, Messrs. Bovis, Ltd. Sub-contractors: A. Dawnay and Sons, Ltd., constructional steelwork and escape staircases; The Empire Stone Co., artificial stone front and the internal staircase landings, etc.; Diespeker, Ltd., reinforced concrete floors; Ragusa Asphalte Paving Co., Ltd., asphalt to flats and roofs; Major & Co., red Roman tiling; F. Braby & Co., Ltd., Glasgow, iron windows; Duncan Watson & Co., electric lighting and power installations; Dent and Hellyer, sanitary fittings; The British Doloment Co., jointless flooring; Henry Hope and Sons, lantern lights; Fenning & Co., mosaic flooring.

419 Oxford Street, W. (Selfridge's wholesale building). General contractors, Messrs. F. D. Huntingdon, Ltd.; clerk of works, Mr. E. T. Swann. Sub-contractors: Ragusa Asphalte Paving Co., Ltd., asphalt; A. Dawnay and Sons, Ltd., structural steel; W. Macfarlane & Co., cast-iron fronts; Duncan Watson & Co., electric wiring.

19-23 Oxford Street, W.1 (Messrs. George Doland, Limited). General contractors, Messrs. Lister-Mawby (Builders), Limited. Sub-contractors: Drytone Limited, joinery; H. C. Tanner, marble; Comyn Ching & Company, ironmongery; T. R. Rudd, John Tanner and Sons, stucwork; Lapidosus, Limited, stone composition; Cashmore Art Metal Workers, metal work; E. Pollard & Company, Limited, shop-fronts.

New shop-front and alterations to ground floor and basement, No. 447 Oxford Street, for Messrs. Singer Sewing Machine Co., Ltd. General contractors, Messrs. Fredk. Sage & Co., who also executed the electric wiring, metalwork, joinery, and shop fittings. Sub-contractors: Messrs. J. A. King & Co., concrete blocks; Bradford & Co., fascia and pilasters Roman stone polished, plinth black Belge polished, decorative plaster, stonework, marble floor to entrance lobby.

THE A.A. PANTOMIME

The pantomime which the students of the Architectural Association are presenting this year is called "Cylinderella, or The Story of Flo and Return." There are performances every evening this week at 8.0 p.m., the final one being on Friday. A matinée is being given on Wednesday, 15th, at 2.30 p.m. Tickets can be had only through members of the Association, who should apply to Miss Hodson, 34 Bedford Square, W.C.1 (Museum 4957). The performances are being held in the A.A. buildings.

LAW REPORTS

A BUILDING LINE CASE

Wilks, Ltd. v. *Middlewich U.D.C. King's Bench Division. Before the Lord Chief Justice and Justices Avory and Salter*

This appeal from a decision of the justices of Middlewich raised a curious legal point concerning the rights of a freeholder in regard to a building line.

The appellants, Messrs. Wilks, Ltd., wholesale grocers, of Middlewich, appealed to set aside a decision of the justices, who had inflicted a fine of 5s. in respect of an alleged contravention of the Public Health, Buildings, and Streets Act, 1888, at the instance of the Middlewich Urban District Council.

Mr. Montgomery, K.C., appeared for the appellants, and Mr. Giveen represented the respondents, the Council.

Mr. Montgomery stated that up to 1915 the appellants' shop and the premises above it formed a specific building line. But in that year the appellants set the ground-floor shop front back, erecting pillars to carry the upper portion of the building. The extra space was paved, and the public made use of it as part of the pavement. The appellants, however, sought to restore the old line of frontage and commenced the erection of a wall for that purpose. The Council then came upon the scene and said such alteration could not take place without their sanction, and that what had been done was a contravention of the statute. Legal proceedings were commenced. The appellants argued that the recessing on the old front had not altered the building line, nor had the ground been dedicated to the public, and consequently the restoration was not a matter that required the sanction of the Council.

Counsel agreed that the Act sought to preserve the building line, but, he argued, that line had never been altered, for the building had never, in fact, been set back. All that had been done was to alter the front so that the public might walk on part of the appellants' land, the line being indicated as the front main line by the front of the first story of the building. To create an offence the shop front must be brought forward in front of the building line as it originally existed.

Mr. Giveen submitted that the whole question was, in the words of the section of the Act, Was this a "putting forward"? In view of the fact that the public had for years had the unobstructed user of the land the appellants had thrown into the footpath, he contended that the building line had been set back in 1915 by the appellants, and that they could not now restore it.

The Court held that the decision of the justices was correct, and dismissed the appeal with costs.

The Lord Chief Justice said the Court was of the opinion that there were materials before the justices enabling them to come to the conclusion they had, and even though pillars might exist to show where the old front line of the building had existed, the words of the Act were such that it could not be said that the mere retention of a pillar or piece of wall was sufficient to show that the right to retake the strip of land had not been surrendered by the appellants.

Justices Avory and Salter concurred.

PRIVATE STREET WORK ACT

Faulkner v. *Hythe Justices. King's Bench Division. Before the Lord Chief Justice and Justices Avory and Salter*

This was an appeal, by way of case stated, by Mr. Faulkner against a decision of the Hythe justices in favour of the Mayor, etc., of Hythe on a point under the Private Street Work Act, 1894, which related to the carrying out of certain work in Albert Road, Hythe.

Mr. C. R. Flavers appeared for the appellant, and Mr. W. M. Andrews for respondents.

Mr. Flavers said the case was of considerable importance to people who held houses with frontages on a road on which the local authority might decide to carry out work under the Act. The question here was whether the local authority was entitled to refuse to bring before the justices an objection made by a frontager to a provisional apportionment until long after the work had been finally completed and apportionment finally made, and whether the justices then had jurisdiction to determine it when it was brought before them. The appellant was the owner of some premises in Albert Road, and the Corporation passed resolutions to do certain work to this road under the Act. There was a provisional apportionment, and notice was served in the usual way in December, 1923. In January, 1924, appellant made his objection in accordance with the Act. The Corporation, instead of taking steps to bring the objection before the justices, went on with the work and completed it, and served notice of final apportionment in September, 1925. It was then too late, said counsel, to do anything in the matter. In July, 1926, the matter came before the justices and they found that it was a highway repairable by the inhabitants at large. An objection was made by the appellant, and his contention was that the justices could not at their sitting in July hear and determine his objection to the provisional apportionment. The respondents contended that the apportionment made provisionally was not in any way prejudiced by the hearing being delayed. The justices said in the case that the question here was whether they came to a correct determination in holding that they had jurisdiction despite the lapse of time. At the hearing counsel said he took the objection that the respondents were too late in bringing this matter before the justices after the final apportionment had been made, but the justices overruled him. The appellant contended that the road was repairable by the inhabitants at large.

Mr. Justice Avory: The justices had decided that it was not.

Mr. Flavers: No evidence was tendered on the point. Counsel said after the justices overruled his objection he took no further part in the proceedings. What was done after was done on the responsibility of the clerk.

Mr. Justice Avory: The justices do not tell us what they did.

Mr. Flavers said his submission was that the justices were wrong in law, and that they had no jurisdiction to determine the question of the provisional apportionment at the time they did.

Mr. Andrews argued that this was only an objection of form. He contended that the justices had jurisdiction to deal with the matter at the time they did. In any case the appellant would not be prejudiced by the Corporation doing the work before hearing his objection, because if they were wrong they would have to bear the burden of the cost.

The Lord Chief Justice said in his opinion the true construction of the section of the Act was that the objection of the appellant must be heard "to the proposed works," and not when the work was completed. It would be fantastic to hold otherwise with regard to the section. The scheme of the section showed that the objection must be heard before the commencement of the work. Otherwise it would be grotesque to speak of objection "to proposed works." The appellant was right in his contention, and the justices were without jurisdiction to deal with the matter at the time they did. The appeal succeeded, and whatever decision the justices came to was null and void.

Justices Avory and Salter concurred, and the appeal was allowed with costs.

SPECIAL WATER SUPPLY EXPENSES

Overseers of the Poor of Waen (Flintshire) v. *Lloyd and Others. King's Bench Division. Before the Lord Chief Justice and Justices Avory and Salter*

This was an appeal by the Overseers against a decision of the St. Asaph justices dismissing an information against several defendants for non-payment of rates levied under the Public Health Act, 1875 (special expenses) to meet the expenses of a water supply for the village of Waen. The justices upheld a contention that the rates levied were invalid.

Mr. R. Sutton submitted on behalf of the appellants that the justices had no power to entertain the objection to the rates, as that was a matter for Quarter Sessions on an appeal against the rate in regard to its illegality.

For the respondents it was stated that the Urban District Council had incurred no special expenses to warrant the issue of the precept they had made.

The Court allowed the appeal.

THE WEEK'S BUILDING NEWS

Alterations to Ventnor Town Hall

The Ventnor Urban District Council proposes to alter the town hall.

Houses Proposed at Hitchin

The Hitchin Rural Council proposes to erect twenty-six houses at Knebworth.

Housing at Dukinfield

The Dukinfield Town Council has decided to build 178 houses in Clarendon Fields.

Hendon Town Hall to be Extended

The Hendon Council proposes to extend the Town Hall.

More Houses for Edmonton

The Edmonton Council proposes to build another 180 houses.

Chelsea Hospital Extensions

The Chelsea Guardians have accepted a £26,740 tender for their hospital extensions.

Housing at Folkestone

The Folkestone Council is to build 162 houses at a cost of £96,000.

Goole Post Office to be Rebuilt

The Goole Post Office is to be rebuilt at a cost of £16,000.

Blackburn Housing Plans Passed

The Blackburn Town Council has passed plans for the erection of eighty houses by private enterprise.

New Municipal Offices for Bermondsey

The Bermondsey Council is to consider plans for new municipal offices on the site of the old baths in Spa Road.

Madame Tussauds Rebuilding Scheme

The work of rebuilding the new Madame Tussauds is to start shortly. The cost of the scheme is estimated at £300,000.

More Houses for Bradford

The Bradford Corporation Health Committee has decided to apply to the Ministry of Health for permission to start the erection of 882 houses on the Eccleshill estate.

More Houses at Northampton

The Northampton Town Council is to be asked to approve tenders for the erection of 226 houses and four shops on the Gipsy Lane site. The cost is £97,826.

Forty-six Houses for Bristol

The Bristol Corporation Sanitary Committee has passed plans for forty-six houses, twenty-two of which are to be erected in St. John's Lane, Bedminster.

A New School for Dover

The Dover Education Committee has decided to forward to the Board of Education plans for a proposed new school at Astor Avenue. The estimated cost is £24,000.

A New Building Estate for Middlesbrough

The Middlesbrough Corporation Plans Committee has passed plans for the lay-out of a new building estate at Linthorpe. More than 79 acres of land are comprised in the scheme.

More Houses for Darlington

Subsidy certificates for the erection of forty-eight houses forming a part of the scheme of the Edward Walker Homes for old people have been granted by the Darlington Town Council.

Extensions to a Newcastle Cinema

Extensions are to be made to the Westgate Road Cinema, Newcastle, and plans for these have been approved by the Town Improvement and Streets Committee of Newcastle Corporation.

Housing Progress at Worthing

Eighty-eight houses are to be built on the new site in Ham Road, at a cost of £41,714. They will be the first batch of 200 which the Worthing Town Council will eventually place on the site.

Windlesham Housing Loan

Application is to be made to the Ministry of Health by the Windlesham Urban Council for the sum of £8,500 for the erection of twenty houses on the Lightwater site.

Housing at Workington

The Housing Committee of the Workington Town Council is to have erected 100 houses under their housing scheme, subject to the loan by the Public Works Loan Board of £50,578.

Barrow Housing Lay-out

The Barrow Rural District Council has decided to apply for a loan for the erection of houses in Woodhouse Eaves. Lay-out plans have also been approved for twenty-eight houses at Barrow on sites purchased by the Council.

New Schools for Sunderland

The Education Committee of the Sunderland Town Council has resolved to proceed with the building of new secondary schools on the Barnes estate of the Corporation; the cost is estimated at £99,000. Accommodation will be provided for 960 pupils.

A New Theatre for Bournemouth

A site has been acquired in Bourne Avenue, Bournemouth, on which it is proposed to erect a large theatre and café at a cost of £200,000. The theatre will accommodate 2,500, and it is intended to proceed at once with the building.

Houses Proposed at Colchester

It has been resolved by the Colchester Town Council that application be made to the Ministry of Health for sanction to the borrowing of £13,574 to erect twenty-nine houses (non-parlour type) on a site in Old Heath Road.

Leicester Housing and Road Developments

The Housing and Town Planning Committee of the Leicester Council has recommended the purchase of the Westcotes estate for £35,000, and land belonging to the Wyggeston Hospital for £7,500 for housing purposes; also the expenditure of £25,400 on the construction of roads and sewers on the Braunstone estate.

A New Southport Bathing Pool

The Southport Corporation has applied for permission to borrow £60,000 for the development of Prince's Park and the construction of a new bathing pool. The pool will be in the centre of a garden, and there will be dressing accommodation for 400 men and 400 women, and seating accommodation for 2,500 spectators.

Bradford Cathedral Scheme

Keen interest has been roused in Bradford on the subject of extending the cathedral, consequent upon the decision of the Diocesan Conference to appoint a Commission to go into the matter. In 1922 the designs of Sir Charles Nicholson, involving an expenditure of £150,000, with an additional £50,000 for endowment purposes, was adopted, but nothing further was done.

Two New Schools for Newcastle

The Newcastle Education Committee has accepted a tender of £66,267 for the erection of a new elementary school at Pendower. The committee has also decided that, in view of the housing developments at Cowgate, negotiations be entered into with the Housing Committee of the Corporation for the acquisition of a school site at Cowgate.

Croydon Borough Extension

Having decided upon an extension of its borough the Croydon Corporation will next session ask Parliament to sanction it. The proposal is to include within the boundary the Parish of Addington, in the Rural District of Godstone, together with its exclusion from the administrative County of Surrey, and the abolition of the Addington Parish Council. Some street widenings and the construction of new waterworks are also contemplated, while powers in connection with the erection of public halls and other buildings will be taken.

Land for Model Village at Oxford

The Oxford City Council in Committee is to consider the offer of Colonel R. W. ffennell to give 40 acres near Botley Village as playing fields, on condition that the proposal to build at Headington is abandoned. He has also written to the Mayor making a further offer of 100 acres of land near Marston as a site for a model garden village, provided that the City Council will agree to his ideas as to the general lay-out of the ground and to build on the average not more than six houses to the acre, exclusive of the space occupied by roads.

RATES OF WAGES

			I	II
			s. d.	s. d.
A	ABERDARE	S. Wales & M.	1 8	1 3½
A1	Abergavenny	S. Wales & M.	1 7½	1 2½
B	Abingdon ..	S. Counties	1 6	1 1½
A	Accrington	N.W. Counties	1 8	1 3½
A3	Addlestone	S. Counties	1 6½	1 2
A	Adlington	N.W. Counties	1 8	1 3½
A	Airdrie ..	Scotland	*1 8	1 3½
C1	Aldeburgh	E. Counties	1 4	1 0½
A	Altrincham	N.W. Counties	1 8	1 3½
B3	Appleby ..	N.W. Counties	1 4½	1 0½
A	Ashton-under-Lyne	N.W. Counties	1 8	1 3½
A3	Atherstone	Mid. Counties	1 6½	1 2
B2	Aylesbury ..	S. Counties	1 4½	1 0½
B2	BANBURY	S. Counties	1 4½	1 0½
B1	Bangor ..	N.W. Counties	1 5	1 1
A	BarnardCastle	N.E. Coast	1 8	1 3½
A	Barnsley ..	Yorkshire	1 8	1 3½
B1	Barnstaple	S.W. Counties	1 5½	1 1½
A	Barrow ..	N.W. Counties	1 8	1 3½
A	Barry ..	S. Wales & M.	1 8	1 3½
B1	Basingstoke	S.W. Counties	1 4½	1 0½
B	Bath ..	S.W. Counties	1 6	1 1½
A	Batley ..	Yorkshire	1 8	1 3½
B	Bedford ..	E. Counties	1 6	1 1½
A2	Berwick-on-Tweed	N.E. Coast	1 7	1 2½
A3	Bewdley ..	Mid. Counties	1 6½	1 2
B2	Bicester ..	Mid. Counties	1 4½	1 0½
A	Birkenhead	N.W. Counties	†1 9	1 3½
A	Birmingham	Mid. Counties	1 8	1 3½
A	Bishop Auckland	N.E. Coast	1 8	1 3½
A	Blackburn	N.W. Counties	1 8	1 3½
A	Blackpool	N.W. Counties	1 8	1 3½
A	Blyth ..	N.E. Coast	1 8	1 3½
B2	Bognor ..	S. Counties	1 4½	1 0½
A	Bolton ..	N.W. Counties	1 8	1 3½
A2	Boston ..	Mid. Counties	1 6½	1 2
B1	Bournemouth	S. Counties	1 6	1 1½
A	Bradford ..	Yorkshire	1 8	1 3½
A3	Brentwood	E. Counties	1 6½	1 2
A	Bridgend ..	S. Wales & M.	1 8	1 3½
B2	Bridgwater	S.W. Counties	1 5	1 1
A1	Bridlington	Yorkshire	1 7½	1 2½
A	Brighouse	Yorkshire	1 8	1 3½
B1	Brighton ..	S. Counties	1 6	1 1½
A	Bristol ..	S.W. Counties	1 8	1 3½
B2	Brixham ..	S.W. Counties	1 4½	1 0½
A2	Bromsgrove	Mid. Counties	1 6½	1 2
C	Bromyard ..	Mid. Counties	1 4	1 0½
A	Burnley ..	N.W. Counties	1 8	1 3½
A	Burslem ..	Mid. Counties	1 8	1 3½
A2	Burton-on-Trent	Mid. Counties	1 7	1 2½
A	Bury ..	N.W. Counties	1 8	1 3½
A3	Buxton ..	N.W. Counties	1 6½	1 2
B	CAMBRIDGE	E. Counties	1 6	1 1½
B2	Canterbury	S. Counties	1 4½	1 0½
A	Cardiff ..	S. Wales & M.	1 8	1 3½
A	Carlisle ..	N.W. Counties	1 8	1 3½
B	Carmarthen	S. Wales & M.	1 6	1 1½
B2	Carnarvon	N.W. Counties	1 5	1 1
A1	Carnforth ..	N.W. Counties	1 7½	1 2½
A	Castleford	Yorkshire	1 8	1 3½
B1	Chatham ..	S. Counties	1 5½	1 1½
B1	Chelmsford	E. Counties	1 5½	1 1½
B	Cheltenham	S.W. Counties	1 6	1 1½
A	Chester ..	N.W. Counties	1 8	1 3½
A	Chesterfield	Mid. Counties	‡1 8	1 3½
B2	Chichester	S. Counties	1 4½	1 0½
A	Chorley ..	N.W. Counties	1 8	1 3½
B2	Cirencester	S. Counties	1 5	1 1
A	Clitheroe ..	N.W. Counties	1 8	1 3½
A	Clydebank	Scotland	1 8	1 3½
A	Coalville ..	Mid. Counties	1 8	1 3½
B1	Colchester ..	E. Counties	1 5½	1 1½
A	Colne ..	N.W. Counties	1 8	1 3½
B1	Colwyn Bay	N.W. Counties	1 5½	1 1½
A	Consett ..	N.E. Coast	1 8	1 3½
B1	Conway ..	N.W. Counties	1 5½	1 1½
A	Coventry ..	Mid. Counties	1 8	1 3½
A3	Crewe ..	N.W. Counties	1 6½	1 2
A3	Cumberland	.....	1 6½	1 2
A	DARLINGTON	N.E. Coast	1 8	1 3½
A	Darwen ..	N.W. Counties	1 8	1 3½
B2	Deal ..	S. Counties	1 4½	1 0½
B1	Denbigh ..	N.W. Counties	1 5½	1 1½
A	Derby ..	Mid. Counties	1 8	1 3½
A	Dewsbury	Yorkshire	1 8	1 3½
B	Didcot ..	S. Counties	1 6	1 1½
A	Doncaster	Yorkshire	1 8	1 3½
C1	Dorchester	S.W. Counties	1 4	1 0½
A2	Driffield ..	Yorks	1 6½	1 2
A3	Droitwich	Mid. Counties	1 6½	1 2
A2	Dudley ..	Mid. Counties	1 7	1 2½
A	Dundee ..	Scotland	1 8	1 3½
A	Durham ..	N.E. Coast	1 8	1 3½
B1	EASTBOURNE	S. Counties	1 6	1 1½
A	Ebbw Vale	S. Wales & M.	1 8	1 3½
A	Edinburgh	Scotland	1 8	1 3½
A	E. Glamorganshire & Monmouthshire	S. Wales & M.	1 8	1 3½
B	Exeter ..	S.W. Counties	§1 7	1 2½
B2	Exmouth ..	S.W. Counties	1 5	1 1
B	FELIXSTOWE	E. Counties	1 6	1 1½
A3	Filey ..	Yorks	1 6½	1 2
A	Fleetwood ..	N.W. Counties	1 8	1 3½
B2	Folkestone	S. Counties	1 4½	1 0½
A	Frodsham	N.W. Counties	1 8	1 3½
B2	Frome ..	S.W. Counties	1 4½	1 0½
A	GATESHEAD	N.E. Coast	1 8	1 3½
B1	Gillingham	S. Counties	1 5½	1 1½
B	Gloucester	S.W. Counties	1 6	1 1½
A2	Goole ..	Yorkshire	1 7	1 2½
B1	Gosport ..	S. Counties	1 5½	1 1½
A3	Grantham	Mid. Counties	1 6½	1 2
A2	Gravesend	S. Counties	1 7	1 2½
A	Greenock ..	Scotland	*1 8	1 3½
A	Grimsby ..	Yorkshire	1 8	1 3½
B1	Guildford ..	S. Counties	1 5½	1 1½
A	HALIFAX ..	Yorkshire	1 8	1 3½
A1	Hanley ..	Mid. Counties	1 7½	1 2½
A	Harrogate	Yorkshire	1 8	1 3½
A	Hartlepools	N.E. Coast	1 8	1 3½
B2	Harwich ..	E. Counties	1 5	1 1
B3	Hastings ..	S. Counties	1 4½	1 0½
B1	Hatfield ..	S. Counties	1 5½	1 1½
B	Hereford ..	S. W. Counties	1 6	1 1½
B	Hertford ..	E. Counties	1 5½	1 1½
A1	Heysham	N.W. Counties	1 7½	1 2½
A	Howden ..	N.E. Coast	1 8	1 3½
A	Huddersfield	Yorkshire	1 8	1 3½
A	Hull ..	Yorkshire	1 8	1 3½

The initial letter opposite each entry indicates the grade under the Ministry of Labour schedule. The district is that to which the borough is assigned in the same schedule. Column I gives the rates for craftsmen; column II for labourers; the rate for craftsmen working at trades in which a separate rate maintains, is given in a footnote. The table is a selection only. Particulars for lesser localities not included may be obtained upon application in writing.

			I	II
			s. d.	s. d.
A	ILKLEY ..	Yorkshire	1 8	1 3½
A	Immingham	Mid. Counties	1 8	1 3½
B	Ipswich ..	E. Counties	1 6	1 1½
C1	Isle of Wight	S. Counties	1 4	1 0½
A	JARROW ..	N.E. Coast	1 8	1 3½
A	KEIGHLEY	Yorkshire	1 8	1 3½
B2	Kendal ..	N.W. Counties	1 5	1 1
B2	Keswick ..	N.W. Counties	1 5	1 1
B	Kettering ..	Mid. Counties	1 6	1 1½
A3	Kidderminster	Mid. Counties	1 6½	1 2
B2	King's Lynn	E. Counties	1 5	1 1
A1	LANCASTER	N.W. Counties	1 7½	1 2
A3	Leamington	Mid. Counties	1 6½	1 2½
A	Leeds ..	Yorkshire	1 8	1 3½
A	Leek ..	Mid. Counties	1 8	1 3½
A	Leicester ..	Mid. Counties	1 8	1 3½
A	Leigh ..	N.W. Counties	1 8	1 3½
B2	Lewes ..	S. Counties	1 4½	1 0½
A3	Lichfield ..	Mid. Counties	1 6½	1 2
A	Lincoln ..	Mid. Counties	1 8	1 3½
A	Liverpool ..	N.W. Counties	‖1 10	1 4½
B	Llandudno	N.W. Counties	1 6	1 1½
A	Llanelly ..	S. Wales & M.	1 8	1 3½
	London (12 miles radius)		1 9½	1 4½
	Do. (12-15 miles radius)		1 9	1 4
A	Long Eaton	Mid. Counties	1 8	1 3½
A	Loughborough	Mid. Counties	1 8	1 3½
B	Luton ..	E. Counties	1 6	1 1½
A	Lytham ..	N.W. Counties	1 8	1 3½
A1	MACCLESFIELD	N.W. Counties	1 7½	1 2½
B	Maidstone	S. Counties	1 5½	1 1½
A3	Malvern ..	Mid. Counties	1 6½	1 2
A	Manchester	N.W. Counties	1 8	1 3½
A	Mansfield ..	Mid. Counties	1 8	1 3½
B3	Margate ..	S. Counties	1 4½	1 0½
A3	Matlock ..	Mid. Counties	1 6½	1 2
A	Merthyr ..	S. Wales & M.	1 8	1 3½
A	Middlesbrough	N.E. Coast	1 8	1 3½
A3	Middlewich	N.W. Counties	1 6½	1 2
A	Monmouth	S. Wales & M.	1 8	1 3½
	S. and E. Glamorganshire			
A1	Morecambe	N.W. Counties	1 7½	1 2½
A3	NANTWICH	N.W. Counties	1 6½	1 2
A	Neath ..	S. Wales & M.	1 8	1 3½
A	Nelson ..	N.W. Counties	1 8	1 3½
A	Newcastle	N.E. Coast	1 8	1 3½
A	Newport ..	S. Wales & M.	1 8	1 3½
A	Normanton	Yorkshire	1 8	1 3½
A2	Northampton	Mid. Counties	1 7	1 2½
A	North Staffs.	Mid. Counties	1 8	1 3½
A	North Shields	N.E. Coast	1 8	1 3½
B	Norwich ..	E. Counties	1 6	1 1½
A	Nottingham	Mid. Counties	1 8	1 3½
A	Nuneaton ..	Mid. Counties	1 8	1 3½
B	OAKHAM ..	Mid. Counties	1 5½	1 1½
A	Oldham ..	N.W. Counties	1 8	1 3½
A3	Oswestry ..	Mid. Counties	1 6½	1 2
B	Oxford ..	S. Counties	1 6	1 1½
A	PAISLEY ..	Scotland	*1 8	1 3½
C	Pembroke	S. Wales & M.	1 4½	1 0½
A	Perth ..	Scotland	*1 8	1 3
A3	Peterborough	Mid. Counties	1 6½	1 2
A	Plymouth	S.W. Counties	¶1 8	1 3½
A	Pontefract	Yorkshire	1 8	1 3½
A	Pontypridd	S. Wales & M.	1 8	1 3½
B	Portsmouth	S. Counties	1 6	1 1½
A	Preston ..	N.W. Counties	1 8	1 3½
A	QUEENSFERRY	N.W. Counties	1 8	1 3½
B	READING ..	S. Counties	1 6	1 1½
B	Reigate ..	S. Counties	1 5½	1 1½
A3	Retford ..	Mid. Counties	1 6½	1 2
A	Rhondda Valley	S. Wales & M.	1 8	1 3½
A3	Ripon ..	Yorkshire	1 6½	1 2
A	Rochdale ..	N.W. Counties	1 8	1 3½
B	Rochester ..	S. Counties	1 5½	1 1½
A1	Ruabon ..	N.W. Counties	1 7½	1 2½
A2	Rugby ..	Mid. Counties	1 8	1 3½
A3	Rugeley ..	Mid. Counties	1 6½	1 2
A	Runcorn ..	N.W. Counties	1 8	1 3½
A3	ST. ALBANS	E. Counties	1 6½	1 2
A	St. Helens	N.W. Counties	1 8	1 3½
A1	Scarborough	Yorkshire	1 7½	1 2½
A	Scunthorpe	Mid. Counties	1 8	1 3½
A	Sheffield ..	Yorkshire	1 8	1 3½
A	Shipley ..	Yorkshire	1 8	1 3½
A3	Shrewsbury	Mid. Counties	1 6½	1 2
A2	Skipton ..	Yorkshire	1 7	1 2½
B	Slough ..	S. Counties	1 5½	1 1½
A2	Solihull ..	Mid. Counties	1 7	1 2½
B	South'pton	S. Counties	1 6	1 1½
B1	Southend-on-Sea	E. Counties	1 5½	1 1½
A	Southport	N.W. Counties	1 8	1 3½
A	S. Shields ..	N.E. Coast	1 8	1 3½
A2	Stafford ..	Mid. Counties	1 7	1 2½
A	Stockport ..	N.W. Counties	1 8	1 3½
A	Stockton-on-Tees	N.E. Coast	1 8	1 3½
A	Stoke-on-Trent	Mid. Counties	1 8	1 3½
B	Stroud ..	S.W. Counties	1 5½	1 1½
A	Sunderland	N.E. Coast	1 8	1 3½
A	Swansea ..	S. Wales & M.	1 8	1 3½
B	Swindon ..	S.W. Counties	1 6	1 1½
A1	TAMWORTH	N.W. Counties	1 7½	1 2½
B1	Taunton ..	S.W. Counties	1 5½	1 1½
A	Teeside Dist.	N.E. Counties	1 8	1 3½
A	Todmorden	Yorkshire	1 8	1 3½
A2	Torquay ..	S.W. Counties	1 7	1 2½
B1	Tunbridge Wells	S. Counties	1 5½	1 1½
A	Tunstall ..	Mid. Counties	1 8	1 3½
A	Tyne District	N.E. Coast	1 8	1 3½
A	WAKEFIELD	Yorkshire	1 8	1 3½
A2	Walsall ..	Mid. Counties	1 7	1 2½
A	Warrington	N.W. Counties	1 8	1 3½
A3	Warwick ..	Mid. Counties	1 6½	1 2
B	Wellingborough	Mid. Counties	1 6	1 1½
A	West Bromwich	Mid. Counties	1 8	1 3½
B	Weston-s-Mare	S.W. Counties	1 6	1 1½
A3	Whitby ..	Yorkshire	1 6½	1 2
A	Widnes ..	N.W. Counties	1 8	1 3½
A	Wigan ..	N.W. Counties	1 8	1 3½
B2	Winchester	S. Counties	1 5	1 1
B	Windsor ..	S. Counties	1 6	1 1½
A	Wolverhampton	Mid. Counties	1 8	1 3½
A3	Worcester	Mid. Counties	1 6½	1 2
A	Worksop ..	Yorkshire	1 8	1 3½
A1	Wrexham ..	N.W. Counties	1 7½	1 2½
B	Wycombe	S. Counties	1 6	1 1½
B1	YARMOUTH	E. Counties	1 5½	1 1½
B2	Yeovil ..	S.W. Counties	1 5	1 1
A	York ..	Yorkshire	1 8	1 3½

* Plasterers, 1s. 9d.
† Carpenters and Painters, 1s. 8½d.
‡ Plumbers, 1s. 9d.
§ Painters, 1s. 6d.
‖ Carpenters and Plasterers, 1s. 8½d.
¶ Painters, 1s. 7d.

PRICES CURRENT

EXCAVATOR AND CONCRETOR

EXCAVATOR, 1*s.* 4½*d. per hour*; LABOURER, 1*s.* 4½*d. per hour*; NAVVY, 1*s.* 4½*d. per hour*; TIMBERMAN, 1*s.* 6*d. per hour*; SCAFFOLDER, 1*s.* 5½*d. per hour*; WATCHMAN. 7*s.* 6*d. per shift.*

Broken brick or stone, 2 in., per yd.	£0	11	6
Thames ballast, per yd.	0	13	0
Pit gravel, per yd.	0	18	0
Pit sand, per yd.	0	14	6
Washed sand	0	15	6
Screened ballast or gravel, add 10 per cent. per yd.			
Clinker, breeze, etc., prices according to locality.			
Portland cement, per ton	£2	19	0
Lias lime, per ton	2	10	0
Sacks charged extra at 1s. 9d. each and credited when returned at 1s. 6d.			
Transport hire per day:			
Cart and horse £1 3 0 *Trailer*	£0	15	0
3-ton motor lorry 3 15 0 *Steam roller*	4	5	0
Steam lorry, 5-ton 4 0 0 *Water cart*	1	5	0
EXCAVATING and throwing out in ordinary earth not exceeding 6 ft. deep, basis price, per yd. cube	0	3	0
Exceeding 6 ft., but under 12 ft., add 30 per cent.			
In stiff clay, add 30 per cent.			
In underpinning, add 100 per cent.			
In rock, including blasting, add 225 per cent.			
If basketed out, add 80 per cent. to 150 per cent.			
Headings, including timbering, add 400 per cent.			
RETURN, fill, and ram, ordinary earth, per yd.	£0	2	4
SPREAD and level, including wheeling, per yd.	0	2	4
PLANKING, per ft. sup.	0	0	5
DO. over 10 ft. deep, add for each 5 ft. depth 30 per cent.			
HARDCORE, 2 in. ring, filled and rammed, 4 in. thick, per yd. sup.	£0	2	1
DO. 6 in. thick, per yd. sup.	0	2	10
PUDDLING, per yd. cube	1	10	0
CEMENT CONCRETE, 4-2-1, per yd. cube	2	3	0
DO. 6-2-1, per yd. cube	1	18	0
DO. in upper floors, add 15 per cent.			
DO. in reinforced-concrete work, add 20 per cent.			
DO. in underpinning, add 60 per cent.			
LIAS LIME CONCRETE, per yd. cube	£1	16	0
BREEZE CONCRETE, per yd. cube	1	7	0
DO. in lintels, etc., per ft. cube	0	1	6

DRAINER

LABOURER, 1*s.* 4½*d. per hour*; TIMBERMAN, 1*s.* 6*d. per hour*; BRICKLAYER, 1*s.* 9½*d. per hour*; PLUMBER, 1*s.* 9½*d. per hour*; WATCHMAN, 7*s.* 6*d. per shift.*

Stoneware pipes, tested quality, 4 in., per yd.	£0	1	3
DO. *6 in., per yd.*	0	2	8
DO. *9 in., per yd.*	0	3	6
Cast-iron pipes, coated, 9 ft. lengths, 4 in., per yd.	0	6	9
DO. *6 in., per yd.*	0	9	2
Portland cement and sand, see "Excavator" above.			
Lead for caulking, per cwt.	£2	5	6
Gaskin, per lb.	0	0	5½
STONEWARE DRAINS, jointed in cement, tested pipes, 4 in., per ft.	0	4	3
DO. 6 in., per ft.	0	5	0
DO. 9 in., per ft.	0	7	9
CAST-IRON DRAINS, jointed in lead, 4 in., per ft.	0	9	0
DO. 6 in., per ft.	0	11	0

Note.—These prices include digging and filling for normal depths, and are average prices. Fittings in Stoneware and Iron according to type. *See* Trade Lists.

BRICKLAYER

BRICKLAYER, 1*s.* 9½*d. per hour*; LABOURER, 1*s.* 4½*d. per hour*; SCAFFOLDER 1*s.* 5½*d. per hour.*

London stocks, per M.	£4	15	0
Flettons, per M.	2	18	0
Staffordshire blue, per M.	9	10	0
Firebricks, 2½ in., per M.	11	3	0
Glazed salt, white, and ivory stretchers, per M.	23	0	0
DO. *headers, per M.*	23	10	0
Colours, extra, per M.	£5	10	0
Seconds, less, per M.	1	0	0
Cement and sand, see "Excavator" above.			
Lime, grey stone, per ton	£2	17	0
Mixed lime mortar, per yd.	1	6	0
Damp course, in rolls of 4½ in., per roll	0	2	6
DO. *9 in. per roll*	0	4	9
DO. *14 in. per roll*	0	7	6
DO. *18 in. per roll*	0	9	6
BRICKWORK in stone lime mortar, Flettons or equal, per rod	33	0	0
DO. in cement do., per rod	36	0	0
DO. in stocks, add 25 per cent. per rod.			
DO. in blues, add 100 per cent. per rod.			
DO. circular on plan, add 12½ per cent. per rod.			
FACINGS, FAIR, per ft. sup. extra	£0	0	2
DO. Red Rubbers, gauged and set in putty, per ft. extra	0	4	6
DO. salt, white or ivory glazed, per ft. sup. extra	0	5	6
TUCK POINTING, per ft. sup. extra	0	0	10
WEATHER POINTING, per ft. sup. extra	0	0	3
GRANOLITHIC PAVING, 1 in., per yd. sup.	0	5	0
DO. 1½ in., per yd. sup.	0	6	0
DO. 2 in., per yd. sup.	0	7	0
BITUMINOUS DAMP COURSE, ex rolls, per ft. sup.	0	0	7
ASPHALT (MASTIC) DAMP COURSE, ½ in., per yd. sup.	0	8	0
DO. vertical, per yd. sup.	0	11	0
SLATE DAMP COURSE, per ft. sup.	0	0	10
ASPHALT ROOFING (MASTIC) in two thicknesses, ¾ in., per yd.	0	8	6
DO. SKIRTING, 6 in.	0	0	11
BREEZE PARTITION BLOCKS, set in Cement, 1½ in. per yd. sup.	0	5	3
DO. DO. 3 in..	0	6	6

THE wages are the Union rates current in London at the time of publication. The prices are for good quality material, and are intended to cover delivery at works, wharf, station, or yard as customary, but will vary according to quality and quantity. The measured prices are based upon the foregoing, and include usual builders' profits. Though every care has been taken in its compilation it is impossible to guarantee the accuracy of the list, and readers are advised to have the figures confirmed by trade inquiry.

MASON

MASON, 1*s.* 9½*d. per hour*; DO. *fixer*, 1*s.* 10½*d. per hour*; LABOURER, 1*s.* 4½*d. per hour*; SCAFFOLDER, 1*s.* 5½*d. per hour.*

Portland Stone:			
Whitbed, per ft. cube	£0	4	6
Basebed, per ft. cube	0	4	7
Bath stone, per ft. cube	0	3	0
Usual trade extras for large blocks.			
York paving, av. 2½ in., per yd. sup.	0	6	6
York templates sawn, per ft. cube	0	6	9
Slate shelves, rubbed, 1 in., per ft. sup.	0	2	6
Cement and sand, see "Excavator," etc., above.			
HOISTING and setting stone, per ft. cube	£0	2	2
DO. for every 10 ft. above 30 ft., add 15 per cent.			
PLAIN face Portland basis, per ft. sup.	£0	2	8
DO. circular, per ft. sup.	0	4	0
SUNK FACE, per ft. sup.	0	3	9
DO. circular, per ft. sup.	0	4	10
JOINTS, arch, per ft. sup.	0	2	6
DO. sunk, per ft. sup.	0	2	7
DO. DO. circular, per ft. sup.	0	4	6
CIRCULAR-CIRCULAR work, per ft. sup.	1	2	0
PLAIN MOULDING, straight, per inch of girth, per ft. run	0	1	1
DO. circular, do. per ft. run	0	1	4
HALF SAWING, per ft. sup.	£0	1	0

Add to the foregoing prices if in York stone 35 per cent.
DO. Mansfield, 12½ per cent.
Deduct for Bath, 33⅓ per cent.
DO. for Chilmark, 5 per cent.

SETTING 1 in. slate shelving in cement, per ft. sup.	£0	0	6
RUBBED round nosing to do., per ft. lin.	0	0	6
YORK STEPS, rubbed T. & R., ft. cub. fixed	1	9	0
YORK SILLS, W. & T., ft. cub. fixed	1	13	0

SLATER AND TILER

SLATER, 1*s.* 9½*d. per hour*; TILER, 1*s.* 9½*d. per hour*; SCAFFOLDER, 1*s.* 5½*d. per hour*; LABOURER, 1*s.* 4½*d. per hour.*

N.B.—Tiling is often executed as piecework.

Slates, 1st quality, per M:			
Portmadoc Ladies	£14	0	0
Countess	27	0	0
Duchess	32	0	0
Clips, lead, per lb.	0	0	4
Clips, copper, per lb.	0	2	0
Nails, compo, per cwt.	1	6	0
Nails, copper, per lb.	0	1	10
Cement and sand, see "Excavator," etc., above.			
Hand-made tiles, per M.	£5	18	0
Machine-made tiles, per M.	5	8	0
Westmorland slates, large, per ton	9	0	0
DO. *Peggies, per ton*	7	5	0
SLATING, 3 in. gauge, compo nails, Portmadoc or equal:			
Ladies, per square	£4	0	0
Countess, per square	4	5	0
Duchess, per square	4	10	0
WESTMORLAND, in diminishing courses, per square	6	5	0
CORNISH DO., per square	6	3	0
Add, if vertical, per square approx.	0	13	0
Add, if with copper nails, per square approx.	0	2	6
Double course at eaves, per ft. approx.	0	1	0
TILING, 4 in. gauge, every 4th course nailed, in hand-made tiles, average per square	5	6	0
DO., machine-made DO., per square	4	17	0
Vertical Tiling, including pointing, add 18*s.* 0*d.* per square.			
FIXING lead soakers, per dozen	£0	0	10
STRIPPING old slates and stacking for re-use, and clearing away surplus and rubbish, per square	0	10	0
LABOUR only in laying slates, but including nails, per square	1	0	0

See "Sundries for Asbestos Tiling."

CARPENTER AND JOINER

CARPENTER, 1*s.* 9½*d. per hour*; JOINER, 1*s.* 9½*d. per hour*; LABOURER, 1*s.* 4½*d. per hour.*

Timber, average prices at Docks, London Standard, Scandinavian, etc. (equal to 2nds):			
7 × 3, per std.	£20	0	0
11 × 4, per std.	30	0	0
Memel or Equal. Slightly less than foregoing.			
Flooring, P.E., 1 in., per sq.	£1	5	0
DO. *T. and G., 1 in., per sq.*	1	5	0
Planed Boards, 1 in. × 11 in., per std.	30	0	0
Wainscot oak, per ft. sup. of 1 in.	0	2	0
Mahogany, per ft. sup. of 1 in.	0	2	0
DO. *Cuba, per ft. sup. of 1 in.*	0	3	0
Teak, per ft. sup. of 1 in.	0	3	0
DO., *ft. cube*	0	15	0
FIR fixed in wall plates, lintels, sleepers, etc., per ft. cube	0	5	9
DO. framed in floors, roofs, etc., per ft. cube	0	6	3
DO., framed in trusses, etc., including ironwork, per ft. cube	0	7	3
PITCH PINE, add 33⅓ per cent.			
FIXING only boarding in floors, roofs, etc., per sq.	0	13	6
SARKING FELT laid, 1-ply, per yd.	0	1	6
DO., 3-ply, per yd.	0	1	9
CENTERING for concrete, etc., including horsing and striking, per sq.	3	10	0
SLATE BATTENING, per sq.	0	18	6

PRICES CURRENT; *continued.*

CARPENTER AND JOINER: *continued.*

DEAL GUTTER BOARD, 1 in., on firring, per sq.	£3	5	0
MOULDED CASEMENTS, 1¼ in., in 4 sqs., glazing beads and hung, per ft. sup.	0	3	0
DO., DO. 2 in., per ft. sup.	0	3	3
DEAL cased frames, oak sills, 2 in. d.h. sashes, brass-faced pulleys, etc., per ft. sup.	0	4	0
DOORS, 4 pan. sq. b.s., 2 in., per ft. sup.	0	3	6
DO., DO., DO. 1¼ in., per ft. sup.	0	3	0
DO., DO. moulded b.s., 2 in., per ft. sup.	0	3	9
DO., DO., DO. 1¼ in., per ft. sup.	0	3	3
If in oak multiply 3 times.			
If in mahogany multiply 3 times.			
If in teak multiply 3 times.			
WOOD BLOCK FLOORING, standard blocks, laid in mastic herringbone:			
Deal, 1 in., per yd. sup., average	0	10	0
DO. 1¼ in., per yd. sup., average	0	12	0
DO., DO. 1¼ in. maple blocks	0	15	0
STAIRCASE WORK, DEAL:			
1 in. riser, 1¼ in. tread, fixed, per ft. sup.	0	3	6
2 in. deal strings, fixed, per ft. sup.	0	3	9

PLUMBER

PLUMBER, 1*s.* 9½*d. per hour*; MATE OR LABOURER, 1*s.* 4½*d. per hour.*

Lead, milled sheet, per cwt.	£2	4	6
DO. *drawn pipes, per cwt.*	2	6	0
DO. *soil pipe, per cwt.*	2	8	0
DO. *scrap, per cwt.*	1	9	6
Copper, sheet, per lb.	0	1	0
Solder, plumber's, per lb.	0	1	2
DO. *fine, per lb.*	0	1	5
Cast-iron pipes, etc.:			
L.C.C. soil, 3 in., per yd.	0	4	1
DO. *4 in. per yd.*	0	5	0
R.W.P., 2½ in., per yd.	0	2	0
DO. *3 in., per yd.*	0	2	5
DO. *4 in., per yd.*	0	3	3
Gutter, 4 in. H.R., per yd.	0	1	5
DO. *4 in. O.G., per yd.*	0	1	9
MILLED LEAD and labour in gutters, flashings, etc.	3	12	6
LEAD PIPE, fixed, including running joints, bends, and tacks, ½ in., per ft.	0	2	1
DO. ¾ in., per ft.	0	2	5
DO. 1 in., per ft.	0	3	3
DO. 1¼ in., per ft.	0	4	6
LEAD WASTE or soil, fixed as above, complete, 2½ in., per ft.	0	6	0
DO. 3 in., per ft.	0	7	0
DO. 4 in., per ft.	0	9	9
CAST-IRON R.W. PIPE, at 24 lb. per length, jointed in red lead, 2½ in., per ft.	0	2	5
DO. 3 in., per ft.	0	2	10
DO. 4 in., per ft.	0	3	3
CAST-IRON H.R. GUTTER, fixed, with all clips, etc., 4 in., per ft.	0	2	7
DO. O.G., 4 in., per ft.	0	2	10
CAST-IRON SOIL PIPE, fixed with caulked joints and all ears, etc., 4 in., per ft.	0	7	0
DO. 3 in., per ft.	0	6	0
Fixing only:			
W.C. PANS and all joints, P. or S., and including joints to water waste preventers, each	2	5	0
BATHS only, with all joints	1	18	0
LAVATORY BASINS only, with all joints, on brackets, each	1	10	0

PLASTERER

PLASTERER, 1*s.* 9½*d. per hour (plus allowances in London only)*; LABOURER, 1*s.* 4½*d. per hour.*

Chalk lime, per ton	£2	17	0
Hair, per cwt.	0	18	0
Sand and cement see "Excavator," etc., above.			
Lime putty, per cwt.	£0	2	9
Hair mortar, per yd.	1	7	0
Fine stuff, per yd.	1	14	0
Sawn laths, per bdl.	0	2	9
Keene's cement, per ton	5	15	0
Sirapite, per ton	3	10	0
DO. *fine, per ton*	3	18	0
Plaster, per ton	3	0	0
DO. *per ton*	3	12	6
DO. *fine, per ton*	5	12	0
Thistle plaster, per ton	£3	9	0
Lath nails, per lb.	0	0	4
LATHING with sawn laths, per yd.	0	1	7
METAL LATHING, per yd.	0	2	3
FLOATING in Cement and Sand, 1 to 3, for tiling or woodblock, ¾ in., per yd.	0	2	4
DO. vertical, per yd.	0	2	7
RENDER, on brickwork, 1 to 3, per yd.	0	2	7
RENDER in Portland and set in fine stuff, per yd.	0	3	3
RENDER, float, and set, trowelled, per yd.	0	2	9
RENDER and set in Sirapite, per yd.	0	2	5
DO. in Thistle plaster, per yd.	0	2	5
EXTRA, if on but not including lathing, any of foregoing, per yd.	0	0	5
EXTRA, if on ceilings, per yd.	0	0	5
ANGLES, rounded Keene's on Portland, per ft. lin.	0	0	6
PLAIN CORNICES, in plaster, per inch girth, including dubbing out, etc., per ft. lin.	0	0	5
WHITE glazed tiling set in Portland and jointed in Parian, per yd., from	1	11	6
FIBROUS PLASTER SLABS, per yd.	0	1	10

GLAZIER

GLAZIER, 1*s.* 8½*d. per hour.*

Glass: 4ths in crates:			
Clear, 21 oz.	£0	0	6
DO. 26 oz.	0	0	7½
Cathedral white, per ft.	0	0	6½
Polished plate, British ¼ in., up to 2 ft. sup.	0	2	0
DO. *3 ft. sup.*	0	2	6
DO. *7 ft. sup.*	0	3	6
DO. *25 ft. sup.*	0	4	0
DO. *100 ft. sup.*	0	4	6
Rough plate, ⅛ in.	0	0	6
DO. *¼ in., per ft.*	0	0	6½
Linseed oil putty, per cwt.	0	16	0
GLAZING in putty, clear sheet, 21 oz.	£0	0	11
DO. 26 oz.	0	1	0
GLAZING in beads, 21 oz., per ft.	0	1	1
DO. 26 oz., per ft.	0	1	4
Small sizes slightly less (under 3 ft. sup.).			
Patent glazing in rough plate, normal span 1*s.* 6*d.* to 2*s.* per ft.			
LEAD LIGHTS, plain, med. sqs. 21 oz., usual domestic sizes, fixed, per ft. sup. and up	£0	3	6
Glazing only, polished plate, 6½*d.* to 8*d.* per ft. according to size.			

DECORATOR

PAINTER, 1*s.* 8½*d. per hour*; LABOURER, 1*s.* 4½*d. per hour*; FRENCH POLISHER, 1*s.* 9*d. per hour*; PAPERHANGER, 1*s.* 8½*d. per hour.*

Genuine white lead, per cwt.	£3	11	0
Linseed oil, raw, per gall.	0	3	7
DO., *boiled, per gall.*	0	3	10
Turpentine, per gall.	0	6	2
Liquid driers, per gall.	0	9	6
Knotting, per gall.	1	4	0
Distemper, washable, in ordinary colours, per cwt., and up	2	0	0
Double size, per firkin	0	3	6
Pumice stone, per lb.	0	0	4
Single gold leaf (transferable), per book	0	1	11
Varnish, copal, per gall. and up	0	18	0
DO., *flat, per gall.*	1	2	0
DO., *paper, per gall.*	1	0	0
French polish, per gall.	0	19	0
Ready mixed paints, per gall. and up	0	10	6
LIME WHITING, per yd. sup.	0	0	3
WASH, stop, and whiten, per yd. sup.	0	0	6
DO., and 2 coats distemper with proprietary distemper, per yd. sup.	0	0	9
KNOT, stop, and prime, per yd. sup.	0	0	7
PLAIN PAINTING, including mouldings, and on plaster or joinery, 1st coat, per yd. sup.	0	0	10
DO., subsequent coats, per yd. sup.	0	0	9
DO., enamel coat, per yd. sup.	0	1	2½
BRUSH-GRAIN, and 2 coats varnish, per yd. sup.	0	3	8
FIGURED DO., DO., per yd. sup.	£0	5	6
FRENCH POLISHING, per ft. sup.	0	1	2
STRIPPING old paper and preparing, per piece	0	1	7
HANGING PAPER, ordinary, per piece	0	1	10
DO., fine, per piece, and upwards	0	2	4
VARNISHING PAPER, 1 coat, per piece	0	9	0
CANVAS, strained and fixed, per yd. sup.	0	3	0
VARNISHING, hard oak, 1st coat, per yd. sup.	0	1	2
DO., each subsequent coat, per yd. sup.	0	0	11

SMITH

SMITH, *weekly rate equals* 1*s.* 9½*d. per hour*; MATE, *do.* 1*s.* 4*d. per hour*; ERECTOR, 1*s.* 9½*d. per hour*; FITTER, 1*s.* 9½*d. per hour*; LABOURER, 1*s.* 4*d. per hour.*

Mild steel in British standard sections, per ton	£12	10	0
Sheet steel:			
Flat sheets, black, per ton	19	0	0
Do., galvd., per ton	23	0	0
Corrugated sheets, galvd., per ton	23	0	0
Driving screws, galvd., per grs.	0	1	10
Washers, galvd., per grs.	0	1	1
Bolts and nuts, per cwt. and up	1	18	0
MILD STEEL in trusses, etc., erected, per ton	25	10	0
DO. in small sections as reinforcement, per ton	16	10	0
DO. in compounds, per ton	17	0	0
DO. in bar or rod reinforcement, per ton	20	0	0
WROT. IRON in chimney bars, etc., including building in, per cwt.	2	0	0
DO. in light railings and balusters, per cwt.	2	5	0
FIXING only corrugated sheeting, including washers and driving screws, per yd.	0	2	0

SUNDRIES

Fibre or wood pulp boardings, according to quality and quantity. *The measured work price is on the same basis . . . per ft. sup.*	£0	0	2½
FIBRE BOARDINGS, including cutting and waste, fixed on, but not including studs or grounds, per ft. sup. . . . from 3*d.* to	0	0	6
Plaster board, per yd. sup. . from	0	1	7
PLASTER BOARD, fixed as last, per yd. sup. . . . . from	0	2	8
Asbestos sheeting, 5/32 in., grey flat, per yd. sup.	0	2	3
DO. *corrugated, per yd. sup.*	0	3	3
ASBESTOS SHEETING, fixed as last, flat, per yd. sup.	0	4	0
DO. corrugated, per yd. sup.	0	5	0
ASBESTOS slating or tiling on, but not including battens, or boards, plain "diamond" per square, grey	2	15	0
DO., red	3	0	0
Asbestos cement slates or tiles, 5/32 in. punched per M., grey	16	0	0
DO. *red*	18	0	0
ASBESTOS COMPOSITION FLOORING: Laid in two coats, average ¾ in. thick, in plain colour, per yd. sup.	0	7	0
DO. ½ in. thick, suitable for domestic work, unpolished, per yd.	0	6	6
Metal casements for wood frames, domestic sizes, per ft. sup.	0	1	6
DO. *in metal frames, per ft. sup.*	0	1	9
HANGING only metal casement in, but not including wood frames, each	0	2	10
BUILDING in metal casement frames, per ft. sup.	0	0	7
Waterproofing compounds for cement. Add about 75 per cent. to 100 per cent. to the cost of cement used.			
Plywood:			
3 m/m alder, per ft. sup.	0	0	2
4½ m/m amer. white, per ft. sup.	0	0	3¾
¾ m/m figured ash, per ft. sup.	0	0	5
4½ m/m 3rd quality, composite birch, per ft. sup.	0	0	1½