Wednesday, August 27, 1924. Vol. LX. No. 1547.

THE ARCHITECTS' JOURNAL & Architectural Engineer

With which is incorporated "The Builders' Journal."

FROM AN ARCHITECT'S NOTEBOOK.

"Architecture can want no commendation, where there are Noble Men or Noble mindes."

WOTTON.

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

A Doorway in Zaandijk

Photo: F. R. Yerbury.

(From "Old Domestic Architecture of Holland." A Review appears on page 315.)

THE

ARCHITECTS' JOURNAL

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

Wednesday, August 27, 1924. Volume LX. No. 1547.

Architecture and Clothes: An Analogy

THE bestowal of our approbation and admiration is, to a very great extent, governed by custom and convention. In the matter of clothes, for example, how rarely do we attempt to judge by any absolute standard of beauty? We are all of us familiar with that kind of wit and humour which ridicules the conventional dress of a western European; trousers like stove pipes, and a hat like a stove pipe again. We shrug our shoulders, but we do not alter our dress. On the contrary, despite the reason, the justification even of such outbursts, we instinctively admire a well-dressed man or woman. Were we asked to furnish a reason for our admiration we might well be at a loss to supply it, for all sorts of motives enter into the composition of our approval. Not least of these is the mysterious quality known as *form*, without which, we somehow feel, our very social fabric would disintegrate, like some rotted textile which crumbles to dust at a touch. Good form in clothes is expressed by a reticence and by an appropriateness. One knows well enough how too much striving to be smart leads to exaggeration and utter failure; one knows, too, that every pursuit has its appropriate dress; one does not play golf, on a public links, in cricket flannels, or dine in company in a tweed suit. And why not? It is a difficult question. Is it not chiefly because this unquestioning adherence to convention in the matter of clothes is indicative of the larger and broader conventions of daily intercourse, so necessary to maintain our very complex organization? And the deeper in the midst of this organization that we happen to be moving, the greater is the necessity of conformation to the convention. For this reason in the privacy of our homes we may, if we should feel so disposed, dine in a tweed suit.

Now, turning to architecture, we find that an unusually close parallel exists. There are those who would still question, for example, the fitness of our use of classic forms, and they can be likened to those questioning the fitness of our clothes. Such persons believe that they have reason and logic on their side, but they ignore history, which shows a constant movement of thoughts, ideas, and peoples, so that it is no more to be wondered at that our architectural forms emanate from Greece than that our religion emanates from Palestine. In matters of reticence we find that the best urban architecture is that which maintains good form without being obtrusive; in fact, that in which the individual conforms to the accepted standard of the majority. And we have only to look about us to-day to see that good form in matters architectural (and perhaps in other matters, too), is much less frequent than it was 150 to 100 years ago.

As to appropriateness, it is here that the greatest chaos exists. Just as, to some extent, we are able to recognize the occupation or pursuit of a man by his dress, so, too, the appearance of a building should be some guide to its purpose. This does not imply a resuscitation of the Ruskin literary theories as to the fitness of form to purpose, although this is clearly often desirable, just as it is often desirable in dress. Thus there is a real fitness of form to purpose in cricket flannels, but none in a man's evening dress. Yet we can admire both. In the same way there may be a quite intimate relation of form to purpose in a warehouse, and considerably less in a municipal office. Nevertheless, there should be some means by which we could distinguish a municipal office from, say, a commercial building; some appropriate convention, in fact, similar to that which tells us, at a glance, by his clothes, whether a man has been to a wedding or to a funeral. At present almost the only building whose purpose is easily recognizable is a church, and if we are to have shops and other buildings of commerce surmounted by domes, spires, and such like inappropriate features, even this will be no longer possible.

It would seem that appropriateness of form is chiefly breaking down because commercial buildings, which constitute the chief architectural activity at the present time in our cities, have, for the most part, only one desire, and that is to make themselves conspicuous. Thus the orders, domes, cupolas, Eastern ornament, and towers become grist to the mill of publicity, and architectural chaos results. It is as if—to keep up our analogy—a man wore brown boots, white trousers, a stiff shirt, a tweed jacket, and a top hat. Well, why shouldn't he? the iconoclast may observe. And the answer we would make once more is that our communal organization is based on order; on consideration of the many rather than the few; and this necessitates certain conventions.

However, there are signs that order may yet emerge from the present architectural chaos. One of the most successful commercial buildings in London of recent times is the Bush Terminal building. It is dignified, reticent, and possesses a real appropriateness, depending, for the most part, for effect upon its even fenestration. May it not be then that the appropriate architectural form for commercial buildings of this kind, that is to say, for blocks of offices, as distinct from multiple stores, may be on these lines. And one's opinion as to the likelihood of this is strengthened by turning to Liverpool. Here, too, there is, just now, and has been in the past, great commercial building activity, and it would seem that a peculiar type of building is emerging having an astylar treatment, and thus dispensing with the use of the orders. Such buildings are clean, simple, direct, and dignified. If the use of this form is persisted in (and there is every reason why it should be in Liverpool, since she is the one city in the kingdom having sufficient civic sense to control the façades of her buildings), it is likely that along these lines there will at last develop a definite

convention for the new requirements of commerce. At the same time it may then be possible for the use of the orders to be, more or less (for too much strictness is both unlikely and undesirable), reserved for Government and municipal buildings. The establishment of such a state of affairs would go far towards the establishment of those recognized conventions without which urban architecture must remain chaotic, and our towns, in consequence, be blatant, ugly, and disorderly.

There is one important respect in which our analogy completely breaks down. A man may disregard the conventions of dress, and his offence be observed by few and soon forgotten. But a building, disregarding the conventions of architecture, is a far more permanent and devastating evil. Does it not, therefore, behove those who build to be at least as careful in their choice of architectural form (for whatever theorists may say this is largely a deliberate process) as they are in their choice of clothes?

The New Housing Act Explained

A circular to housing authorities and county councils in England and Wales has been issued by the Ministry of Health, dealing with the Housing (Financial Provisions) Act, 1924, and explaining the general scope and objects of the Act. It is stated that the primary object of the Act is to establish continuity in dealing with the housing problem and, by the adoption of a long and continuous programme of building, to ensure such a development of all the resources of the building industry as will guarantee the production of houses on a scale sufficient to overcome the present serious shortage of houses and to make adequate provision for meeting the growing need and for the replacement of unsatisfactory accommodation. The present Act provides for a programme extending over fifteen years, and aiming at a production, at a gradually increasing annual rate of approximately 2,500,000 houses in Great Britain. With a view to enabling provision of houses to be made for letting at reasonable rent, the Act provides primarily that houses which are subject to special conditions as to their letting and to the amount of rent to be charged for them, and which are completed before October 1, 1939, shall be eligible for increased Exchequer contributions. The conditions imposed include the proviso that the houses will be let by the local authority to tenants who intend to reside in them. The total amount of the increased contributions will, subject to revision as regards houses built after the first two years, be £9 a year for forty years, or, in the case of houses situated in an agricultural parish, £12 10s. a year for forty years. These increased contributions will be payable towards the expenses incurred by local authorities in themselves providing houses, subject to special conditions, or in assisting private building enterprise to provide houses. Any questions as to whether a parish is or is not an "agricultural" parish will be determined by the Minister of Health, whose decision will be final. The Act provides that the increased subsidy of £9 a year for forty years will be available for houses built by county councils and the other boards or bodies referred to in section 8 (3) of the Housing, Town Planning, etc., Act, 1919, which are subject to special conditions. The subsidy of £12 10s. a year for forty years will not apply to houses situated in an agricultural parish which are provided by such bodies. A description is given of houses which will qualify for assistance, their planning and construction, land transfer, and particulars of assistance to private enterprise by way of loans, guarantees, etc. The conversion of houses into separate tenements, and the procedure to be adopted by a local authority are also set out in detail. The explanation, for a Government publication, is wonderfully clear, and does not need an explanation explaining the explanation.

Architectural By-Lanes

Year by year new fields open to the architect and to those with a knowledge of architecture. Our duties do not now ever entirely lie in that walk of life in which we were first called. We pause, look about us, turn aside, and, perhaps, we never do come back to the original way. In America "the film" has claimed many young men as architectural designers who had started out with no thought of ever being so employed. Carried out in lath and plaster, though they are, their works may prove at last no more ephemeral than the Pyramids, for the camera eternalizes them. Moreover, with the film producer as client, the young architect is at last commissioned to design castle after castle in Spain. A delightful task! And now the "sets" for the windows of big modern stores are being given an architectural interest. Window display began in the open market place; it is like to continue in the drawing offices of the A.R.I.B.A.'s. Messrs. Selfridge's have given the lead. Their figures no longer pose between mirrors, but are at ease in their natural surroundings, with a lawn or a handsome carpet for their feet, and the statuary and columns of an Italian garden or the magnificent interior of an Empire drawing-room as part of the scene.

On a Higher Plane

After studying Lord Montagu's recent articles in "The Times" on London traffic, we are a little shocked to find that the writer has a vision of roadways 60 ft. broad and 200 ft. above the ground, supported on colossal piers, some of which would have to be used as lifts to take vehicles up and down, while others, being mere sustainers, could be built in the form of residential flats, earning rents which would contribute to the expenses of the whole undertaking. He has worked his scheme out in some detail, both from the engineering and the financial point of view; and on æsthetic grounds he is enthusiastic over the possibilities. Illustrations which accompany the articles show the sort of structure which he has in mind. The escalator is a superb mass of solidity, and the roadway, for its width and airiness, is the motorists' paradise. The feeling of most people will probably be that there is a limit to which logic may lead, and that they cannot for several reasons afford to try the experiment. It is bound to be costly; and it will cost not only money, but light and sky space; the effect of the overhead roads on the amenities of the streets and sites underneath must be highly problematic; and the structure may be decidedly unpleasant to the eye. However, as a "vision" the scheme is entertaining, but what a nightmare if the noble lord "dreams true."

The Fine Art Commission on St. Paul's Bridge

There are one or two anomalies in the report of the Royal Fine Art Commission which seem to have escaped its critics—or are there no critics? Why, if the danger to St. Paul's is so great, is not the heavy traffic already passing the south transept (much nearer to the great dome than the proposed new road at the east end would run) diverted? And the Commission's own suggestion that another bridge between Blackfriars and London Bridge "could only be justified by overwhelming traffic necessities" is really an admission that an additional bridge will not bring such an increase of traffic as to endanger the structure of St. Paul's. A letter-writer in "The Times" points out, also, that it is surely an inaccuracy to call the proposed bridge "a sixth bridge," seeing that there are now only three between Blackfriars and London Bridge, and two of them are railway bridges. "One would have thought also," he continues, "that a Royal Fine Art Commission would have given due consideration to the great æsthetic improvement to be effected by the opening out of a wide and spacious roadway at the east end of the cathedral, where now it is cramped and confined." However, it is most unwise for the defendant, even on seeing that the plaintiff is about to lose his case, to point out weak points in his own counsel's address to the jury. That there are weaknesses may be admitted—but let us wait until we have got well away from the court!

Masters of Architecture

ALVIN K. ATHABOIS

AMERICAN architects and architecture appear, through the medium of their architectural press, to be very serious and earnest things, and we have not been able to resist the temptation of poking (in all goodwill) a little quiet fun at them. We, the author and the artists, have not been to America, and we fear we may have missed the true quiet forcefulness and sobriety of the American race. We have, however, read O. Henry and Stephen Leacock, nor have we neglected to pay a visit to the animated pictures.

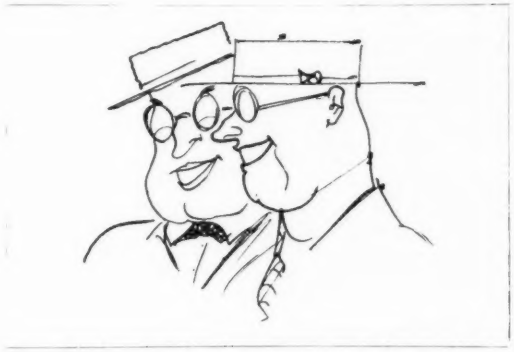
Alvin K. Athabois, unlike Sir Christopher Wren, took to that which we call our "Art" at a very early age. Before he was breeched he erected monuments of distinction upon the sure foundation of the nursery floor, and his practice of annexing the bricks of his younger brother in order to complete his grandiose schemes was an early indication of that predatory habit which can be readily distinguished in his later work.

Athabois passed his youth in the quaint little old-world town of Gophir, Wis., where his father, Alastir Attaboy, was a realtor. It was not until Alvin set up in practice that he changed the spelling of his name, in the hope that the European gusto of the name "Athabois" would attract clients more readily than the orthodox American "Attaboy." That happy thought was probably the making of him, for while others were making meagre incomes with "the expression of construction" and "the building which should express its purpose," Athabois was hard at work turning out buildings which delight the art-loving American by conjuring up memories of his whirlwind pilgrimage to Rome, Stratford-on-Avon, and "L'il old Firenze."

After Athabois had been expelled from school for casting doubts upon the authenticity of the fable of George Washington and the Cherry Tree, he did a course of architecture at Professor Hants P. Bunk's Parisian atelier of architecture on Coney Island, which had for a crest a seven-fingered starfish of infinite subtlety and significance, with the motto "Bonum imaginare, tollere melior." After doing an "Esquisse-Esquisse" every day for three years, he was permitted to do his "Grand Projet d'Honneur," which was "A Pantheon of Memory for the Unsuccessful in Wall Street." His design so much resembled the Pantheon at Rome that the jury, though puzzled at first, eventually gave him full marks for the most courageous plagiarism ever attempted. He was also awarded the Gumph Goblet for discovering a brand of gold passepartout a full inch wider than any that had yet been known.

After leaving the atelier Athabois made the grand tour in company with his friend, Charlemagne P. Sloot, the son of an East-side bar-tender. I need not tell you of their tour, as you will doubtless have read their book, "Two Ginks after the Goods." I cannot, however, refrain from giving you, in their own words, their view of London :—

"We opined to allow London three hours. After giving



"THE TWO GINKS AFTER THE GOODS"

St. Paul's and Madame Tussaud's the lookover we had a quick lunch at the Savoy eating-house on Strand Street. Having gotten our grips we rented an auto to the railroad. On our way we cast an eye on Westminster Abbey and Al. said, 'Wal Chas., that old Abbey seems the goods to me,' and I answered right back and said, 'Say, kid, you sure slobbered a bib-full!'"

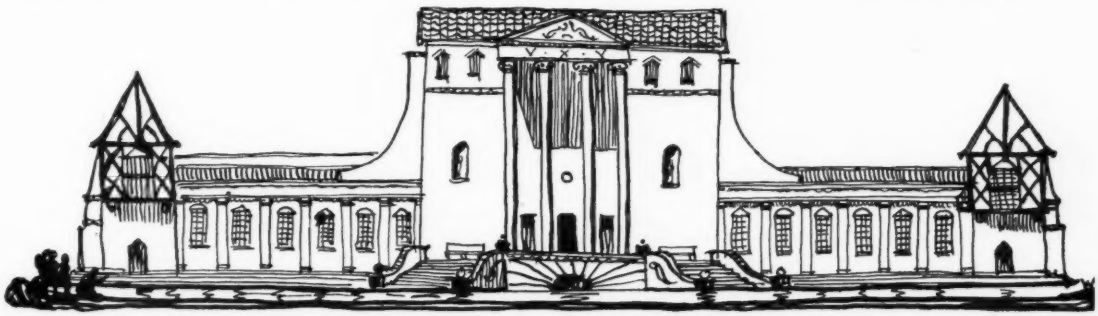
Back in New York Athabois head his notepaper with this nifty slogan, which he leased from the "First National Slogan Corp." :—

"Hell! Folk, listen! Hands across the sea!
For European Mansions, step along to me!"

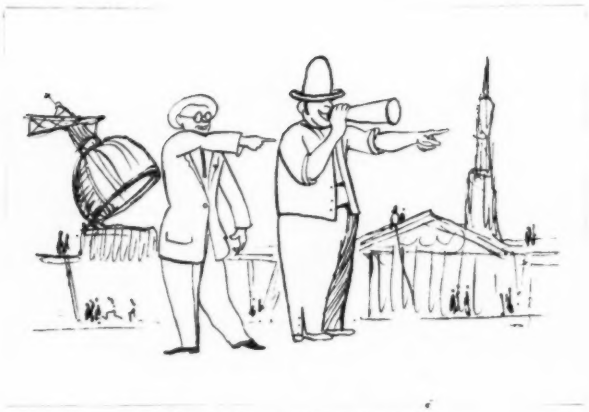
His first big job was the Virgil X. Vokonik residence on Long Island Sound, which included an early English swimming-pool, a toltee sun-parlour, and a venetian garage for seven cars and eleven Fords. On completion, Vokonik was so delighted with the job that he featured Athabois and the house in his powerful New York daily, "The Bowery Budget," under the headline "Architect Athabois puts M. Angelo down for the count!"

Of recent years Athabois has been hired by the "Loeb. R. Louch Film Corp." to commit several super-settings for them. He has superintended the erection of replicas, costing over a million dollars each, of Old London, Old Paris, Pompeii, and Huddersfield. All these replicas are absolutely accurate except where Mr. Louch has elected to sacrifice realism to romance. They will all be used in Louch's next soul-stirrer, "A Pawnbroker's Renaissance," featuring Quinevere d'Esterelle (formerly Sadie Schlehrvin, stenographer to Ole Ostberg, ship-breaker of Brooklyn), and Daredevil Al. Nix, The Strong Guy from The Bad Lands south of Gasolene Creek.

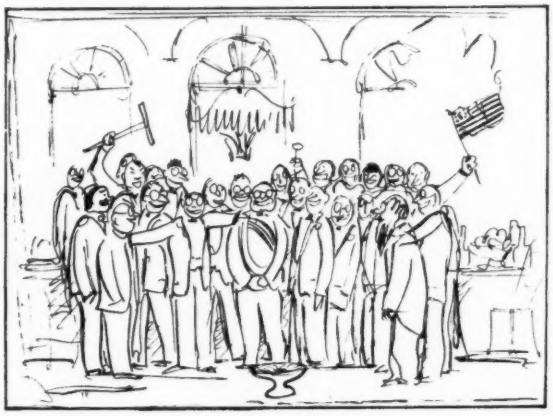
There are many who scoff at Athabois' frank plagiarism, but their scoffs are rebutted by the slender state of their passbooks. Athabois has achieved a magnificent facility



THE VIRGIL X. VOKONIK RESIDENCE.



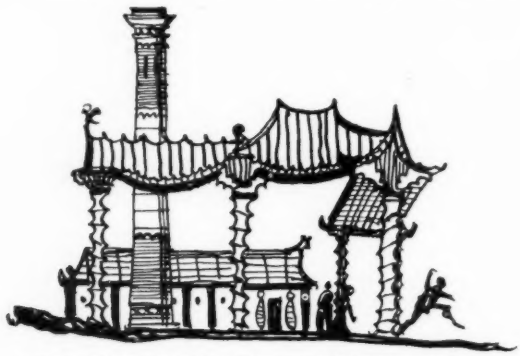
DIRECTING A SUPER-SETTING.



"THE GET-TOGETHER."

and rapidity of turning out work; with the aid of a large card-index and a staff of experts, none of whom is permitted to "draught" in more than one style, the organization can adapt any historic European building to any modern purpose as easily as one can stretch a chew of gum. The relations between Athabois and his staff are of the happiest. Thumb-tacks are never left on stools and harsh words are never heard. A few weeks ago when the firm held a "get-together" to celebrate the twenty-fifth anniversary of its existence, the staff donated Athabois a silver cuspidor, set with Goob's eyes and prairie oysters, rare stones only found south of the Mason-Dixon Line.

If ever you should take ship to New York be sure to see Athabois' Giottesque chimney to a Chinese laundry, the Pitti and Massimi cinemas, the Hallicarnassian tram garage, and the Jacobean brewery which "was closed down at the great drought," but has worked night and day for over a year now as a flask factory. FELIX.



GIOTTESQUE CHIMNEY TO A CHINESE LAUNDRY.

The Alterations to Westminster Hospital, London

ADAMS, HOLDEN, and PEARSON, FF.R.I.B.A., Architects

THE old Westminster Hospital was something of an eyesore. It would prove a bad piece of material, one would have imagined, to mould into anything fine. But in architecture, as in life, there seems to be good in all things; in the worst of buildings there is perhaps just a line wrong here, poor proportion there, and some futile detail; yet get it pinned down upon the drawing-board once more and it is a pencil's thickness between the good and the bad. "A hair perchance divides the false and true," and did not Michelangelo in boyhood give the look of age to the head of a faun by chipping a tooth from its jaw with a single stroke of the hammer? So, too, did he fashion *David* from a piece of marble already considered spoiled by another sculptor. Indeed, indeed, perhaps Oxford Street itself is not so irreclaimable after all!

The original architect of Westminster Hospital was an architect of some note, but in this building he seemed to have failed. There was that rather incongruous battlemented parapet, and the details and mouldings here and there one would have liked to have taken the chisel to and worked at afresh.

The opportunity was given to Messrs. Adams, Holden, and Pearson when the additional storey of new wards was required. On the present site no lateral extensions were possible, and the additions could be made only by increasing the height. This was limited by the Office of Works to 75 ft. But the additions gave the architects the opportunity to demolish the parapet, though the height-limit rendered it difficult to secure an effective cornice above the windows. An undeniably effective solution has however been found.

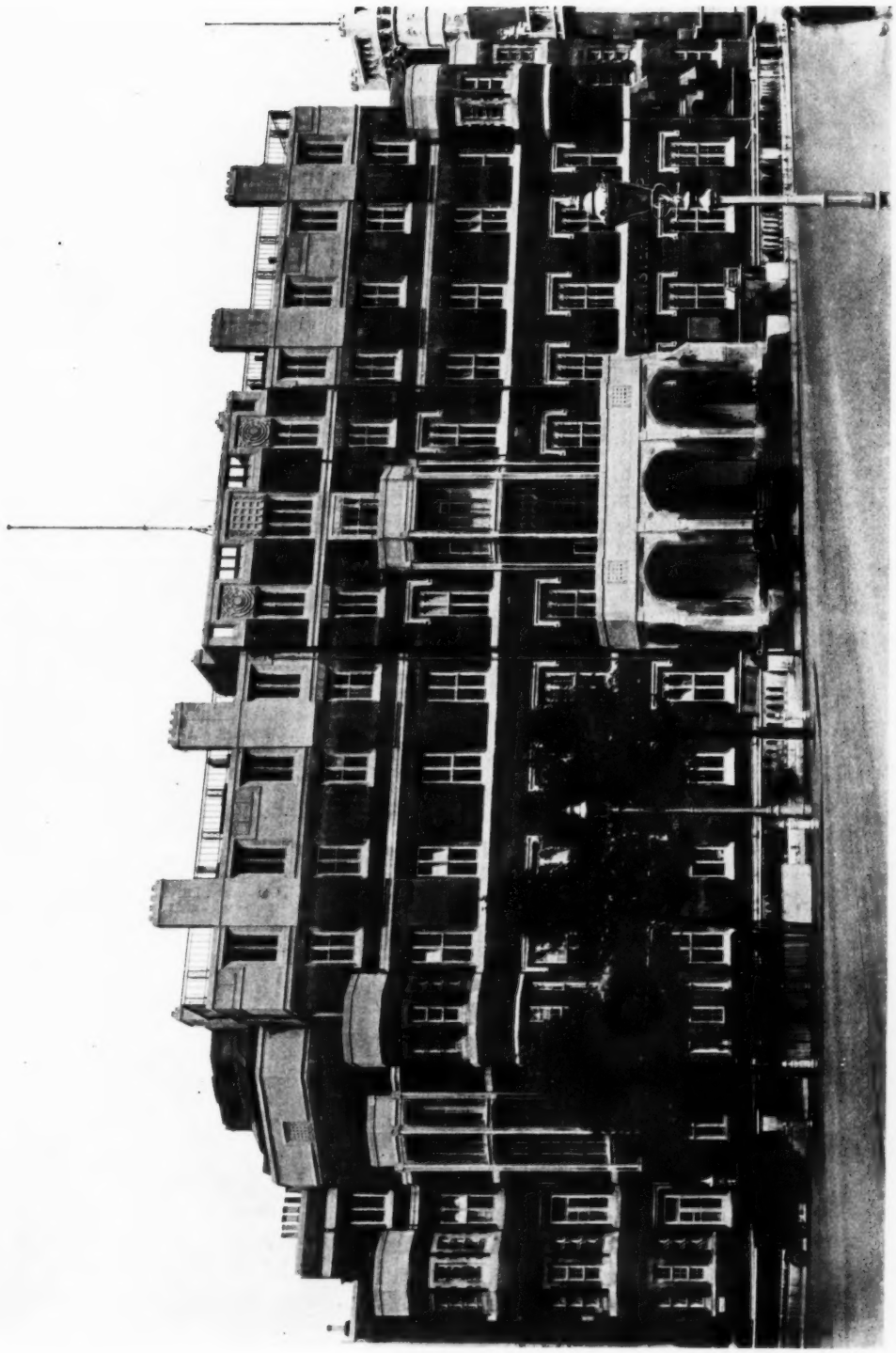
The additions also gave the opportunity for the removal of the pinnacles which had originally surmounted the buttresses —features which (tell it not in Gath!) were dethroned when stands were erected for Abbey ceremonials, and restored when the occasions had passed.

Also, the existing masonry had suffered much surface decay. Complete restoration would have been expensive, but a saw-cut profile was taken of the stone, and new mouldings were cut in the good stone that remained.

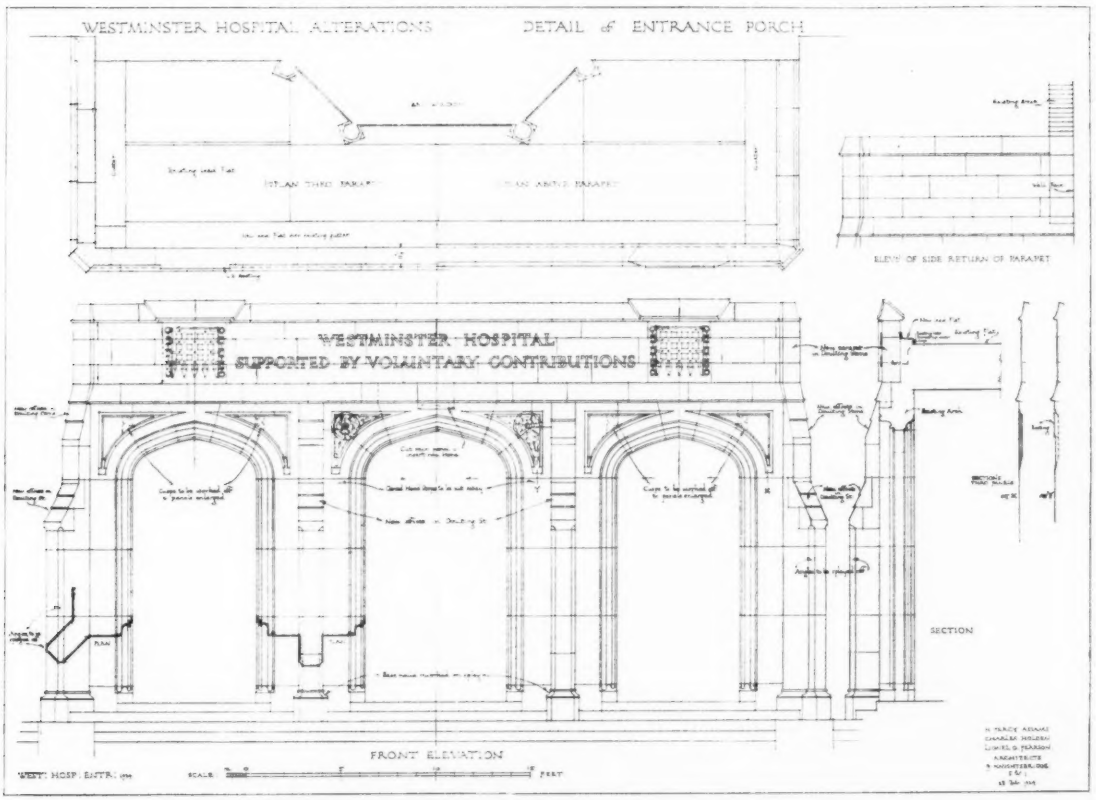
Without any attempt at re-composing, the whole elevation now has dignity and purpose. It is a striking illustration of how the most unpromising material may be made to serve the end of the clever architect. H. J.

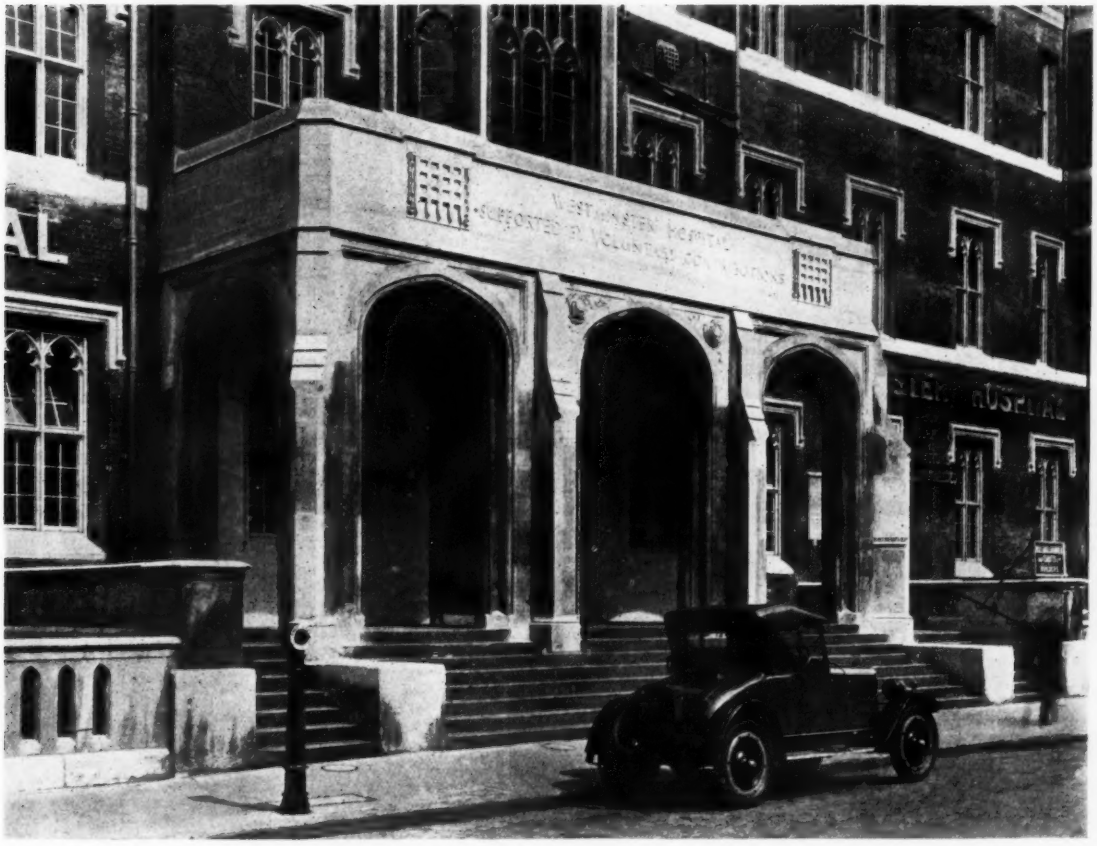
Current Architecture. 242.—Alterations to Westminster Hospital, London

Adams, Holden and Pearson, FF.R.I.B.A., Architects

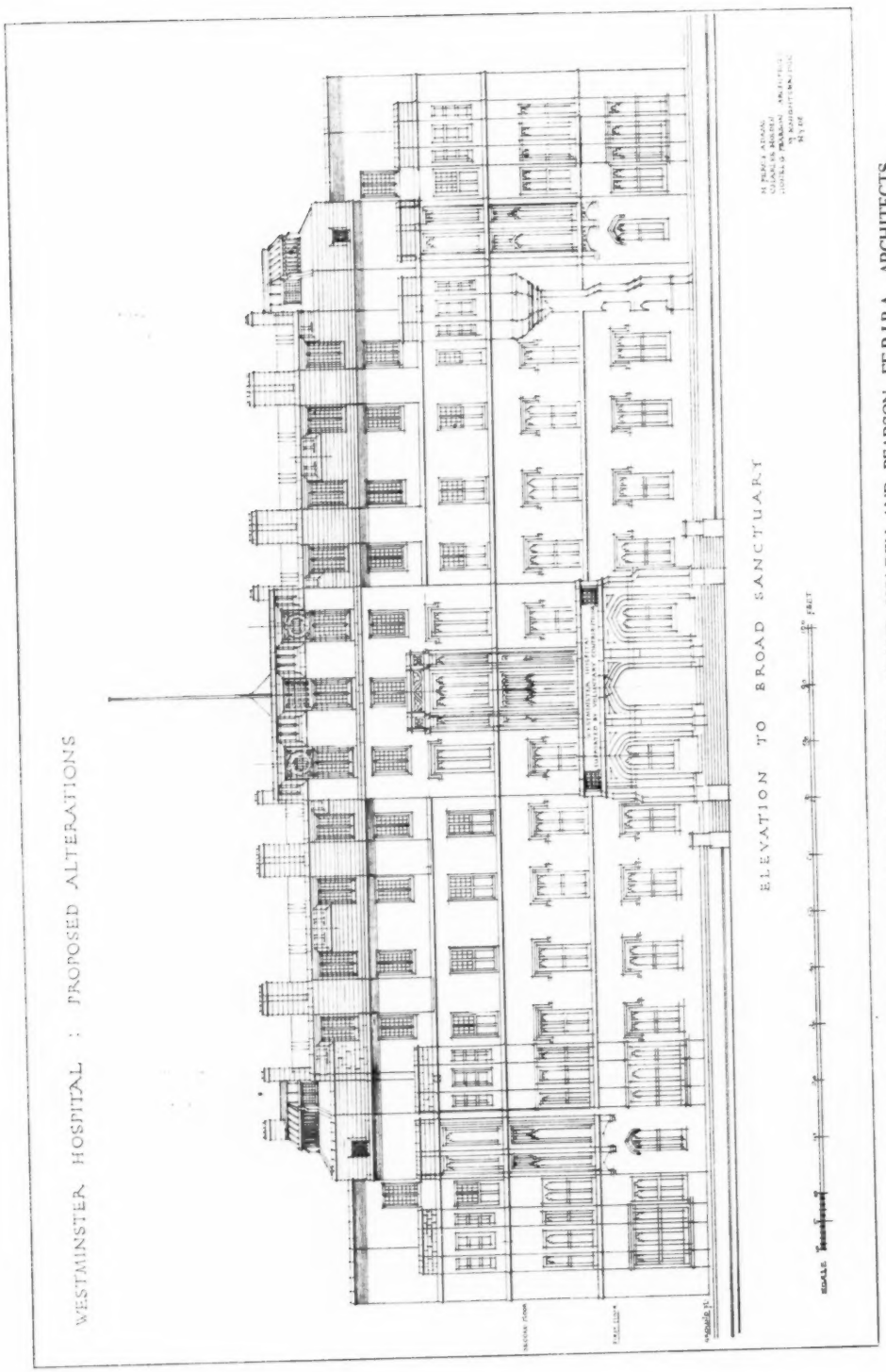


The View shows the Main Elevation in Broad Sanctuary.

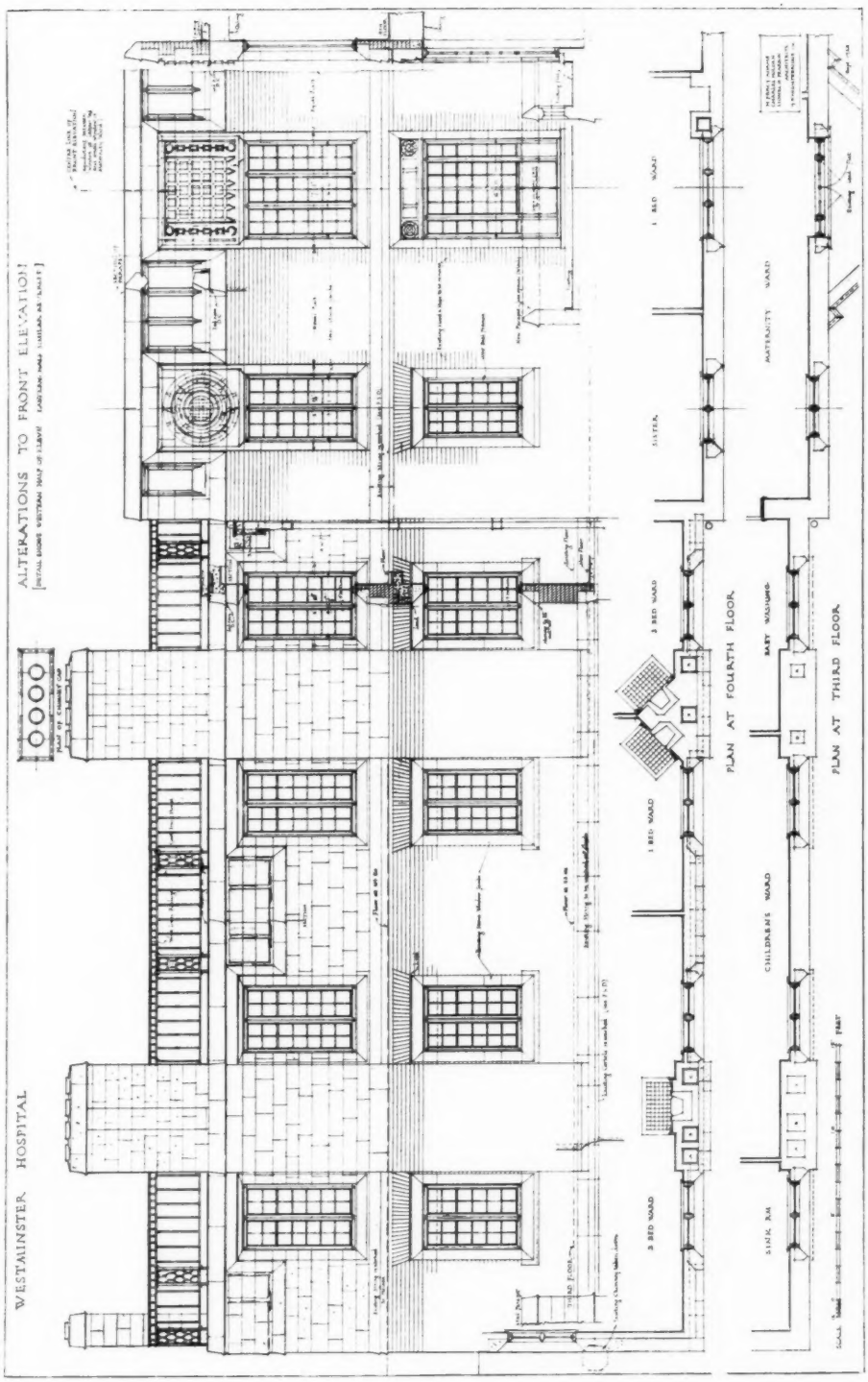




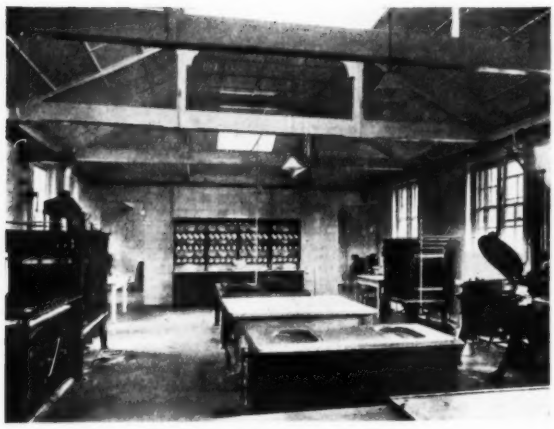
ALTERATIONS TO WESTMINSTER HOSPITAL, LONDON: DETAILS OF THE ENTRANCE PORCH.
ADAMS, HOLDEN AND PEARSON, FF.R.I.B.A., ARCHITECTS.



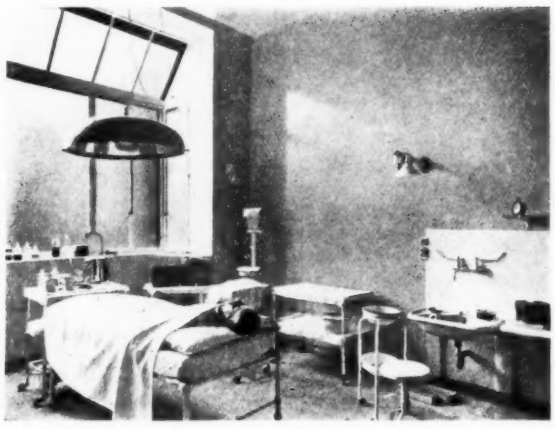
ALTERATIONS TO WESTMINSTER HOSPITAL, LONDON. ADAMS, HOLDEN AND PEARSON, FF.R.I.B.A., ARCHITECTS.



ALTERATIONS TO WESTMINSTER HOSPITAL, LONDON. ADAMS, HOLDEN AND PEARSON, FF.R.I.B.A., ARCHITECTS.



THE NEW KITCHEN.



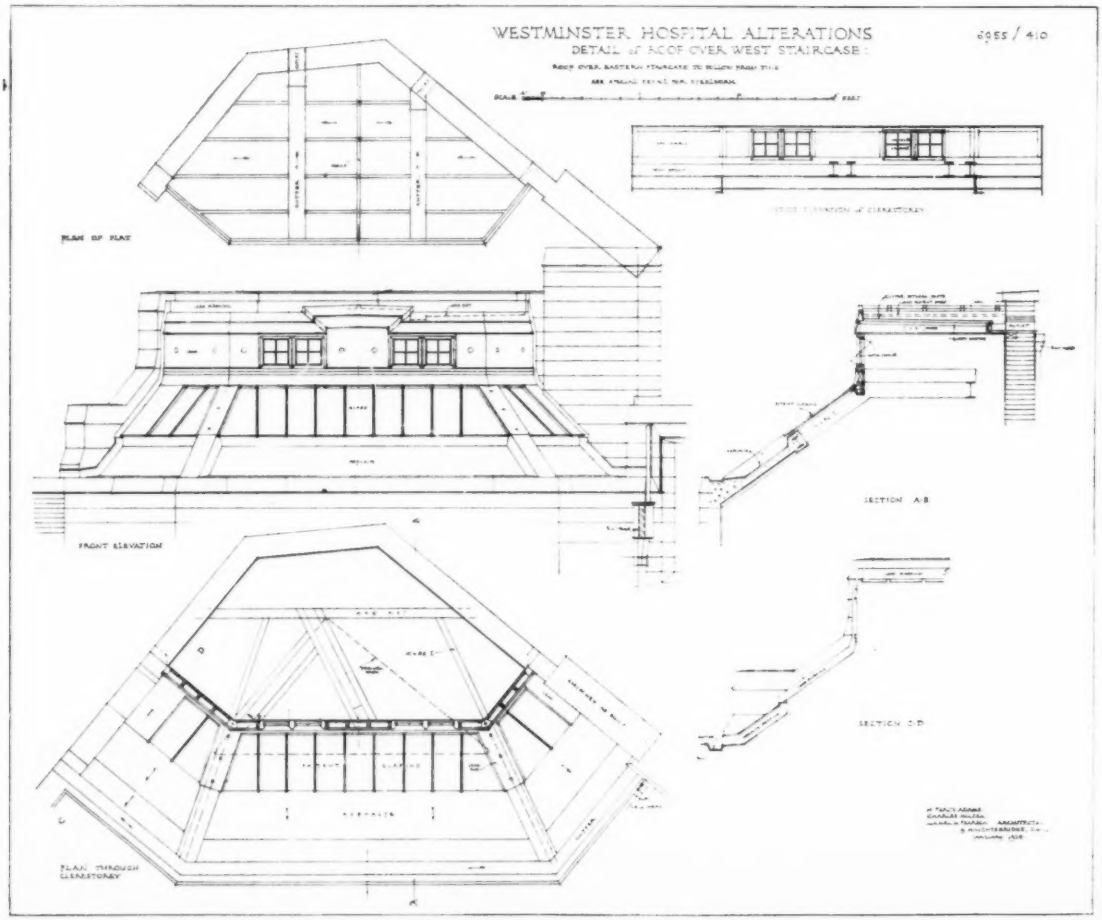
THE NEW OPERATING THEATRE.

(*Concluded from page* 304.)

The additional accommodation consists of new wards, operating theatre, kitchen department, extension of out-patients' department, etc.

When the building dispute started, early in July, the alterations were nearing completion. It was realized by all interested parties that completion being so near (arrangements for admitting patients on a certain date had already been fixed) it would be a calamity if any delay should, at so late an hour, take place. Negotiations between the employers and the operatives were opened up with happy results. By mutual agreement the work proceeded with scarcely any delay, and the hospital was re-opened within a few days of the promised date.

The general contractors were Holland and Hannen and Cubitts, Ltd., and sub-contractors who carried out the work were: Ham Hill and Doulting Co. (stone); Homan and Rodgers, London (steel work, fireproof floors, partitions); W. B. Simpson and Sons (tiles); Henry Hope and Sons, Ltd., Crittall Manufacturing Co. (casements and casement fittings); Doulton & Co. (plumbing and sanitary work, sanitary ware and fittings); Acme Flooring Co., Ltd., and Howard and Sons (wood block and parquet flooring); Gas Light and Coke Co. (gasfitting); V. G. Middleton & Co., Ltd. (electric wiring and bells); J. P. White and Sons, Bedford (special doors); Davis Gas Stove Co., Ltd. (gas stoves); A. E. Davis (Holborn), Ltd. (door furniture, locks, electric bell plates, etc.); Marryatt and Scott, Ltd. (lifts and cranes); Slater and Sons (heating and ventilating); Relay Automatic Telephone Co. (telephones); Slater and Sons (boilers); Slater (cooking plant); Baird and Tatlock, Ltd. (laboratory fittings).



ALTERATIONS TO WESTMINSTER HOSPITAL, LONDON. ADAMS, HOLDEN AND PEARSON, FF.R.I.B.A., ARCHITECTS.

The Terms of Modern Art

By KINETON PARKES

IT often happens that when principles in art are called by names, and the names develop into catchwords, that trouble arises in the human breast and in the general body politic. Man is, curiously enough, more often stirred by a label than by the principle which it is intended to display. He is often inclined to like a pre-Raphaelite picture in spite of its essential particularity of statement if only it could be called impressionistic, which it cannot because it is only concerned with colour and not light; and conversely to like an impressionist painting with its analysis of light if told it is by one of the pre-Raphaelites, in spite of its obvious preoccupation with light as light. If only man would realize the truth that Shakespeare gave us, that there is good in everything, we should have peace instead of war even in the region of æsthetics.

Evolution and Revolution

Evolution and revolution in the arts are equally valuable factors. The latter can renew the splendours which the former has produced throughout the ages by giving fresh life-blood. The romantics and the pre-Raphaelites could do no more, and the impressionists and the neo-impressionists and the abstractionists can do no less. The honesty of all lies in their desire that beauty shall not die, as much as in the desire to create new beauty. The honesty of the critic lies in his desire to interpret the desires which lead to these movements.

Impressionism and realism, classicalism and futurism, representation and abstraction, formalism and romanticism —all have something to offer; no one of them is to be despised. Long after Turner had come into his own, some of his greatest works were for the first time dubbed impressionistic. The label came from France, but it did not mean indistinctness of drawing (or some of Whistler's finest works would have to be ruled out) as was generally thought here, and is largely so thought of still. Ignorance only calls indistinctness of drawing impressionism, and impressionism is the principle of the action of light; it might be called luminism. Manet and Monet, and those that came after them, saw the possibility of a more drastic analysis of light than even the *plein-airists* had done, and so they proceeded, not to make indistinct paintings or drawings, but to record as truthfully as they could "the moment's monument," referred to by the Italian sculptor, Medardo Rosso; that is, the action of colour on any scene determined upon by the artist: he was to give the impression of the moment, not the continuing one.

Impressionism is, therefore, the antithesis of realism, the latter consisting in relating consistently the colour of every leaf as conceived after a prolonged study; in recording a state of colour and form that should apply as it were, to all weathers. It is to be true to the conformation of a static object, and in principle therefore impossible of recording a dynamic momentary appearance. It is to be true to life, but in being so it is untrue in time. But realism means more than this, for it is the principle of photographic reproduction of form, and conveys no more than a physiological survey of its subject. It is a study from life, but not of life; it is the honest principle in the arts, and it is the easiest of achievement, because it is copying from nature with no other motive.

A work made in this way may have a name given to it, but if it is purely realistic that will not redeem it. Rodin was at his worst in his purely realistic studies; at his most sensual, for they were done merely from the artist's savage joy in form; in all form. No matter how arbitrary; no matter how gross; to him form was worth while all the time. No sculptor nor painter is inspired at every effort in his study of nature, and so there are degrees in realism which no other principle offers. Not even Meunier could rise superior to human nature and idealize his subject at all times; Holman Hunt fell into the error of relying upon nature too much; Rossetti made the opposite error and idealized too much; Millais fell between the two stools. So it is just as well to realize that impressionism and realism are diametrically opposed principles: the first is primarily a study of light and its effect on objects; the second is the study of pure form as unaffected by light—form seen the same in electric as in sun light, and it follows, therefore, in appraising a drawing that its excellence depends solely on the principle which actuated the artist in making it.

There is little discussion nowadays as to the significance of classicism in art; it means the Greek ideal at its highest manifestation and certain declensions from it; it means its redevelopment in certain parts of Africa, and later in Rome; later still, more or less all over Europe at the Renaissance. The neo-classicism of the eighteenth and beginning of the nineteenth centuries lapsed into an appalling formalism, in which the real tradition was lost, and this has only been regained during the last half century, which has seen the rise, especially in the arts of sculpture and architecture, of a flourishing neo-classical convention of some freshness and considerable beauty.

These movements of impressionism, classicism, and realism have run side by side, the one trying to outdo the other. Every now and then a burst of the later romantic spirit has caused a diversion which has had progressive results, but the real rivalry has always been between neo-classicism running rankly into mere pictorialism, and impressionism leading to the extravagances of neo-impressionism and post-impressionism. Extravagances, however, are not so deadly when their object is reform as when concerned with the maintenance of the *status quo*, or with a backsliding into formalism. The pretensions of the camp-followers are always more extravagant than those of the officers of the army, but they can be ignored, and what may be regarded as the real essences concentrated. Then it appears that they are not extravagances at all; they are, indeed, useful factors in the processes, both of evolution and revolution. The extravagances of romanticism, as seen in some of the pre-Raphaelite designs, were useful as countering the inanities of the works they superseded; the extravagances of Rodin's realism were useful in counteracting the futilities of the highly-decorative sculptural works fashionable at the time. Extravagances are useful in stirring up feeling; in disturbing the conventions, and after all, the roots of which they are the rank growths, are sound.

Post-Impressionism

So impressionism and realism led the way to what is conveniently, if vaguely, called post-impressionism, which partakes of the nature of both. It takes the bare bones of realism and arrays them in garments of the colours analysed by impressionism. In Belgium, de Vlaminck; in Spain, Pablo Picasso; in France, Seurat, de Segonzac, Derain, Utrillo, and Henri Rousseau, all love nature and life, and present them in form realized by colour. They are the offspring of the impressionist-realists—Rodin, Van Gogh, Gauguin, and the true impressionists—Manet, Monet, Renoir and Rosso.

In England and America there are small followings of these men; post-impressionists who, like John and Paul Nash, Alfred Wolmark, William Roberts, and Edward Wadsworth, are thinking out things on lines similar to the French forerunners. In Germany, too—Oskar Moll, Max

Unold, Erich Waske, Josef Eberz, Hugo Krayn, Franz Heckendorf, Paula Modersohn, and Max Pechstein—have profited, while others have accepted only the extravagances and made them more extravagant still. There are also Lodewijk Schelfhout, of Holland; Kisling, the Pole; and Paul Klee, the Swiss, of the younger school, indulging in part in what is regarded as the cult of the ugly, but which may well resolve itself into a cult of the beautiful. They were all born somewhere about the 'eighties, so that they have ample time, now that they have found themselves, to vindicate the new principles they are practising.

Futurism

Apart from neo- or post-impressionism there is a further and more advanced movement still. Futurism it is called in Italy by Marinetti and Boccioni, its high priests, vorticism in England by Wyndham Lewis; cubism in France, invented by Cézanne, but developed by Marchand, Braque, Lhote, and others; in England brought to a further stage of pictorialism by Nevinson, and in sculpture by Frank Dobson and Epstein; in Germany, in sculpture, too, by Belling, Herzog, and Willie Wauer among others; in America by John Storrs and William Zorach; in France by Laurens, and in Switzerland by Allmann and August Heng. The early practitioners of cubism, however, were the Russians, at the head of whom is Archipenko, both painter and sculptor; the Pole, Eli Nadelmann, and Brancusi, the Roumanian; these three are the true enthusiasts and the purest exponents of the principle of the third, or solid, dimension which, in its essence, is cubism, and of which vorticism is a variation, and futurism a wider expansion with the additional demand for the destruction of all existing art; the art of the past and the art of the present that is not in accordance with the tenets, and it may be added, of a good deal also that is!

In cubism and vorticism there is a cognizance of earlier forms, and of developments in painting and sculpture, but in futurism that is all ruled out and absolute non-representation is demanded, which goes beyond the principle of abstraction as set forth in the work of Lawrence Atkinson, which it would seem is going quite far enough. Cubism and vorticism are the expression of form, but the leaders of futurism and the abstract, which are practically identical, and only different in degree, deny all form in favour of spirit, which is metaphysic; in favour of a formula which is science. As art happens to be the expression of form and is neither metaphysic nor science, certain difficulties arise. In any case the exponents of the theory are reduced to providing illustrations of it which are in themselves dimensional, in either two or three degrees; the fourth degree having been attempted but not yet realized, but if it had been, then it could but be an addition to three-dimensional expression, and therefore an extension of expressional facilities.

There is another variety of expressionism developed by Gaston Lachaise in America. It also is opposed to absolute representation, yet it uses modified or exaggerated natural form for the expression of ideas.

The latest demand on the artistic impulse, then, is not for a manifestation of physical form, but an exposition of spirit; not an appeal to the senses, but to the intellect. This is contrary to Cézanne's demand for a subtler expression of form in painting than his predecessors had been in the habit of providing; he wanted painting to be as three-dimensional as sculpture. The futurist wants to cut out the three dimensions altogether and rely entirely on the as yet undiscovered fourth.

Cézanne and the subsequent practitioners of cubism do indeed provide a pictorialism which must be at least partly in the tradition, and Archipenko gives a representation of objects, if even he invents the objects for the purpose; he provides a design, and so he, too, remains, like Cézanne, in the tradition; in his case the tradition of ornament; they are still representational, though not realists. They are realists to the extent that they see in reality, however, the structure of the forms, geometrical or otherwise, with which they clothe their compositions. This is amusingly proved by the very extravagances which I have intimated are the features of some of their followers, and of which they have not always been free themselves; the pieces of printed paper, the matchsticks, and the firewood. These things, and the more outrageous abortion of nature of some of the German cubists, show how necessary a new valuation of art has become in view of the complexity of modern conditions, the vagueness of modern thought, and the cacophony of modern discussion.

No movement in art or in politics has been free from the diversions of its clowns, and I am not sure if these very diversions have not attracted an attention which in the end has been for the good. The pre-Raphaelite movement resulted in the æsthetic movement, which resulted in "The Colonel" and "Patience," and so achieved a vast and interesting publicity. The Socialist movement was accompanied by the antics of Hyde Park orators, but it achieved an extension of liberty even if it, at the same time, secured for the nation the strangle-grip of bureaucracy. Art has to face its dangers; it is not a hot-house plant, and need not be treated as such. It is the oldest thing in the civilized world, for while nations have perished, their sculpture and metalwork have survived. Art has nothing to fear from research; it can go on confidently as always, seeking and finding; searching and realizing, but its austerity as well as its grace must be allowed.

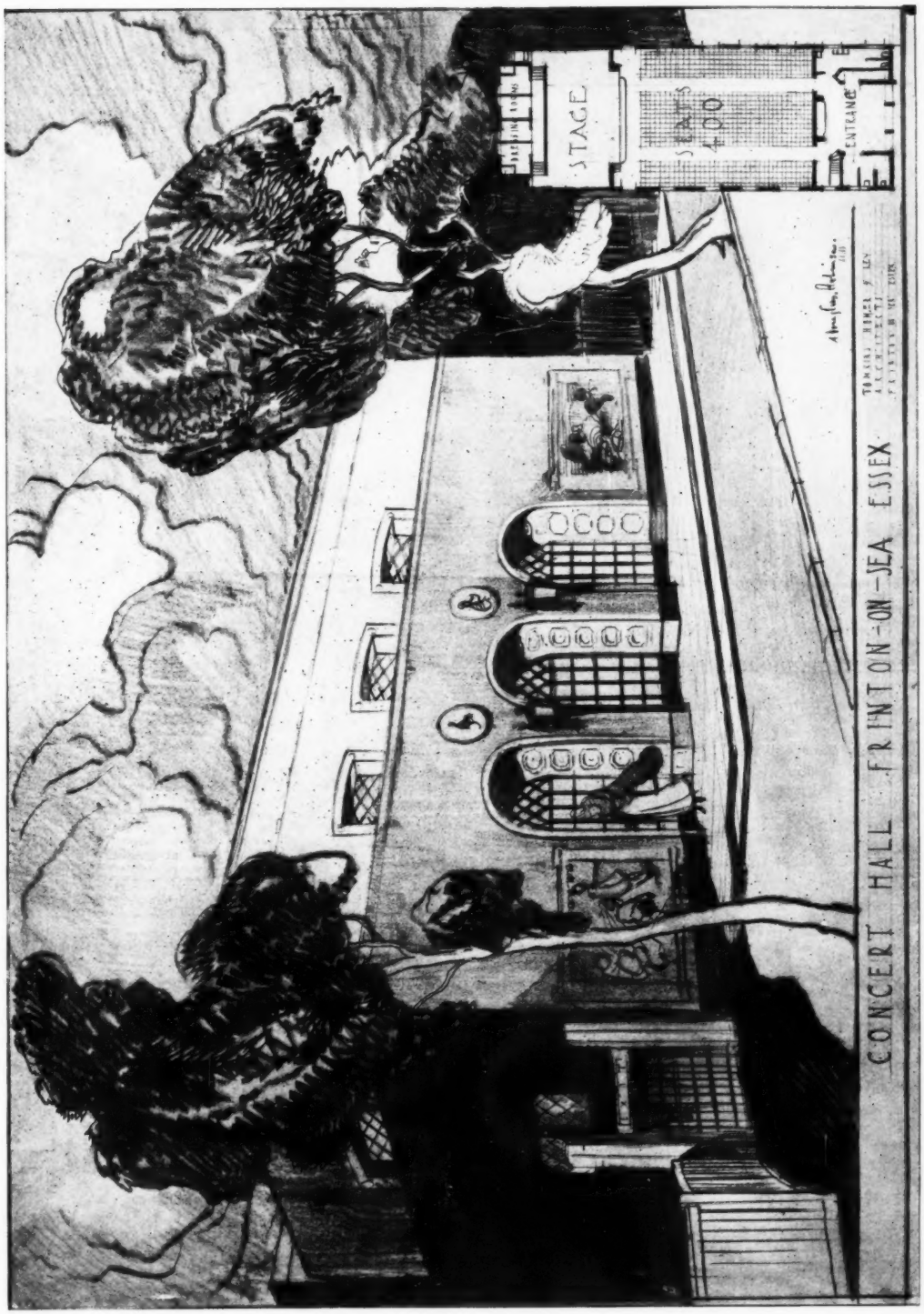
Spoiling the View of St. Paul's

The London correspondent of "The Manchester Guardian" writes: It is generally agreed that the view of St. Paul's, with the tall, dark lead spire of St. Martin's, Ludgate Hill, designed so delicately by Wren to increase the scale of the great peristyle and dome of St. Paul's, is the finest view of the cathedral, and so the most majestic sight in London. Last spring an enormous poster appeared on the gable of a building just behind St. Martin's, horribly affecting the famous view. Happily the advertiser (a London newspaper) had its attention drawn to the matter and withdrew the placard, and was rewarded by the thanks of all decent people. Unhappily the outrage has been repeated, and an enormous yellow placard with black lettering draws the eye so that it is impossible to enjoy a view that has been a heritage to London for 200 years. It has been there for a month or so, and American advertising men who came over for the conference have been genuinely shocked to see that London permits such a thing to be done. It could not be done, they say, in Washington, and after all they had heard about our English sense of propriety they were shocked or amused, as the case may be, to find that we permit what is in essence a placard on St. Paul's, for the value of the advertisement is that you cannot see St. Paul's from the best view-point without seeing this enormous placard.

It seems absurd that there should be laws to protect scenes of landscape beauty—and landscape beauty is common in England—and that the most noble sight in London should be unprotected. No doubt the advertising firm themselves are unaware of the horrible thing which has been done and which might prejudice very many people against their wares. Advertising by eyesores cannot really be profitable. I hope the Scapa Society will use its influence in this matter.

Architectural Designs. 22.—Proposed Concert Hall at Frinton-on-Sea

A. Douglas Robinson, A.R.I.B.A., Architect



This hall will be erected in the town. It will accommodate 400 people and can be adapted for use for public meetings, concerts, and theatrical performances, or for a cinema theatre. The exterior is an endeavour to produce an attractive elevation as cheaply as possible.

Dutch Architecture*

MR. YERBURY must surely be the "Admirable Crichton" of the architectural world. His energy is amazing, and his fe tility without end. We have known him for many years as one of our leading architectural photographers. A photographer, be it said, who presents more than the mere technique of his subject. He has, in addition, a gift for fine rendering.

It would be impossible to imagine a better opportunity for the display of his talent than this beautiful book affords. Not only has he been happy in his choice of subjects, which he has selected with a rare felicity, but his presentment of them is extraordinarily fascinating. Even with a poorer presentment the volume would be noteworthy—for the subject must in itself have an immediate appeal to all who are in any way interested in our domestic architecture. Our links with Holland, from the times of Dutch William and his English queen, are many and binding. Our own architecture, both civic and domestic, owes much to the little country of canals and windmills across the other side of the North Sea.

Clay is the natural building material of the Dutch, and they are, as their buildings, both modern and ancient, testify, masters of brickwork.

Dr. Slothouwer in his extremely interesting introduction, the only complaint with which we have is that it is all too short, sets out, in delightful English, the history of these intriguing houses. The size of the Dutch brick which was probably conditioned by the peculiar quality of the clay and the characteristics of the native workmen is, as Dr. Slothouwer points out, an extremely important factor in the quality of the architecture.

WINDMILL AT ZAANDYK.

Sir Edwin Lutyens and other architects in this country have shown us what it is possible to achieve in the way of building by the use of these bricks, either by themselves or in conjunction with stone. Stone is a rarity in Holland, and is an imported luxury, with the consequence that these modest dwellings, for the most part, depend entirely for their charm on the unadorned brickwork of their façades.

Our own industrial era has furnished us with so many examples of the way in which not to use bricks, that this volume can but enhance and drive home the lesson of simplicity and straightforwardness that the study of our own Georgian work has initiated.

The most casual observer who turns the leaves of this book must at once be struck with the similarity and points of contact between the designs of our own houses, from the seventeenth century onwards, and those of their Dutch prototypes. Dr. Slothouwer has traced out the foreign influence, both Spanish and Baroque, which so largely determined the architecture of his country.

To the Spanish we have not had much to say, but the Dutch Baroque was in the immediate line of our own inheritance from far-off Italy, and one has only to have the slightest acquaintance with the work of Sir Christopher Wren and his followers to realize at once how striking is the relationship.

The book is divided into a short (again I repeat an all too short) introduction by Dr. Slothouwer, then a series of photographs by Mr. Yerbury, followed by a most useful set of measured drawings by Mr. E. R. Jarrett. All this preceded by a most attractive frontispiece in colour of a Dutch interior by P. de Hoogh.

Amongst so much that is good it is difficult, and even unfair, to discriminate. Everyone that sees this book will at once make a selection of his or her own particular favourites.

For myself I must confess that I am completely fascinated by the series of interior views. Surely here is the quintessence of domesticity!

Who would not wish to live in a room such as the one illustrated on plate 69 from the Museum van Meerten, Delft?

Or take again the kitchen at Volendam (plate 75), what could be more charming than this simple but so satisfying interior?

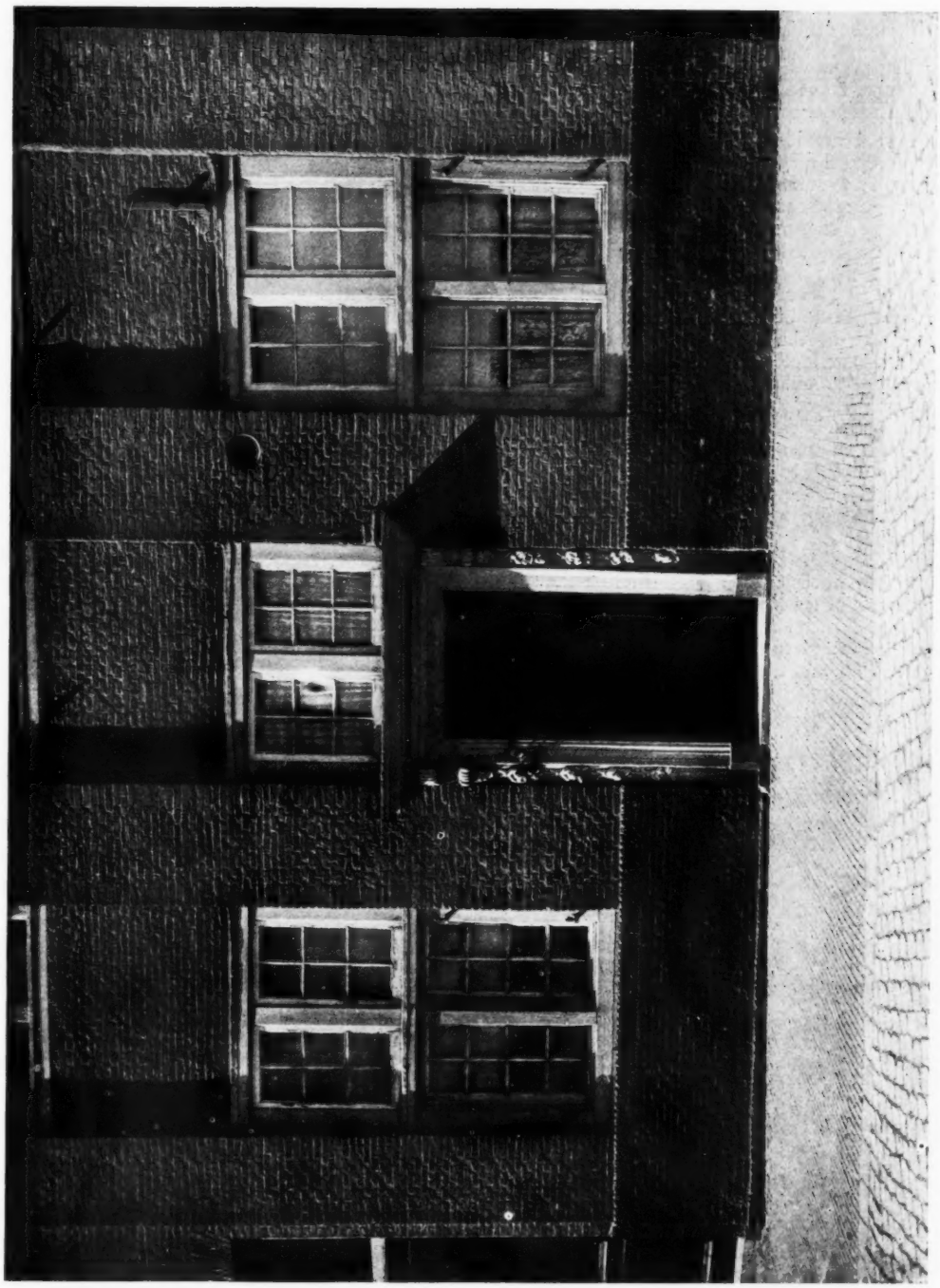
One can imagine the literary high-brow greeting this volume with the comment of "picture-book!"—as if at this period of photographic reproduction we are to be denied the use of our eyes in the study of architecture, and must be limited to receiving our architectural impressions through the very inadequate medium of words.

Best of all is it to see the actual buildings themselves, but the next best is a series of good photographs. It is time that the bad legacy of Ruskin, who made literary perverts of architect and layman alike, should be met with a stern refusal to be drowned in a sea of printers' ink! S. C. R.

* "Old Domestic Architecture of Holland." Price 25s. net. London: The Architectural Press, 27–29 Tothill Street, Westminster.

A ROOM IN THE MUSEUM VAN MEERTEN, DELFT.

(From "Old Domestic Architecture of Holland." See Review on previous page.)



LEIDEN, PIETERSKERKHOF.
(*From "Old Domestic Architecture of Holland."*)

Selby War Memorial Hospital Competition

The Winning Design

ON this and the following pages we illustrate the design of Mr. Leslie T. Moore, of Messrs. Temple Moore and Moore, which has been placed first in the Selby War Memorial Hospital Competition. The assessors were Mr. H. L. Hicks, A.R.I.B.A., of Hicks and Charlewood, of Newcastle-upon-Tyne, architects; Dr. Gough, of Leeds; and Dr. Hill, the medical officer of health for Selby. Five architects were invited to submit designs in the competition.

In their report the assessors state many of the competitors base their prices on 1s. 3d. or 1s. 2d. per foot cube for the more important portions, and on 10½d. and even 10d. for the minor portions such as corridors, verandahs, lodge, garage, etc., in order to bring their total figures down. If it were possible to build for these figures we think that it could only be at the expense of sound building construction and a satisfactory finish. We are of the opinion that all designs would exceed to a greater or less extent the total amount of £12,000, but not to such an extent as to justify us in withholding the award.

With regard to the winning design (No. 2), the assessors state: The building in this case is well placed on the site, utilizing only the southern portion, so enabling the remainder of the land to be used for other purposes if desired, without restricting sunshine and air round the hospital itself.

The planning of the wards and their position on the site ensures the maximum of sunshine on all sides. The main entrance is well placed in relation to Doncaster Road. It is proposed to leave a complete balancing wing on the south side for future extension, and utilize two wards in the meanwhile on the south-east angle for the male and female wards. Later, when the extension is made, the sexes would each occupy one wing. While this has the great advantage that one duty room overlooks both wards, it has the drawback of bringing the sexes closer together than is desirable in the meanwhile, in fact, from some windows they would be within sight and hearing of each other. This constitutes a grave defect.

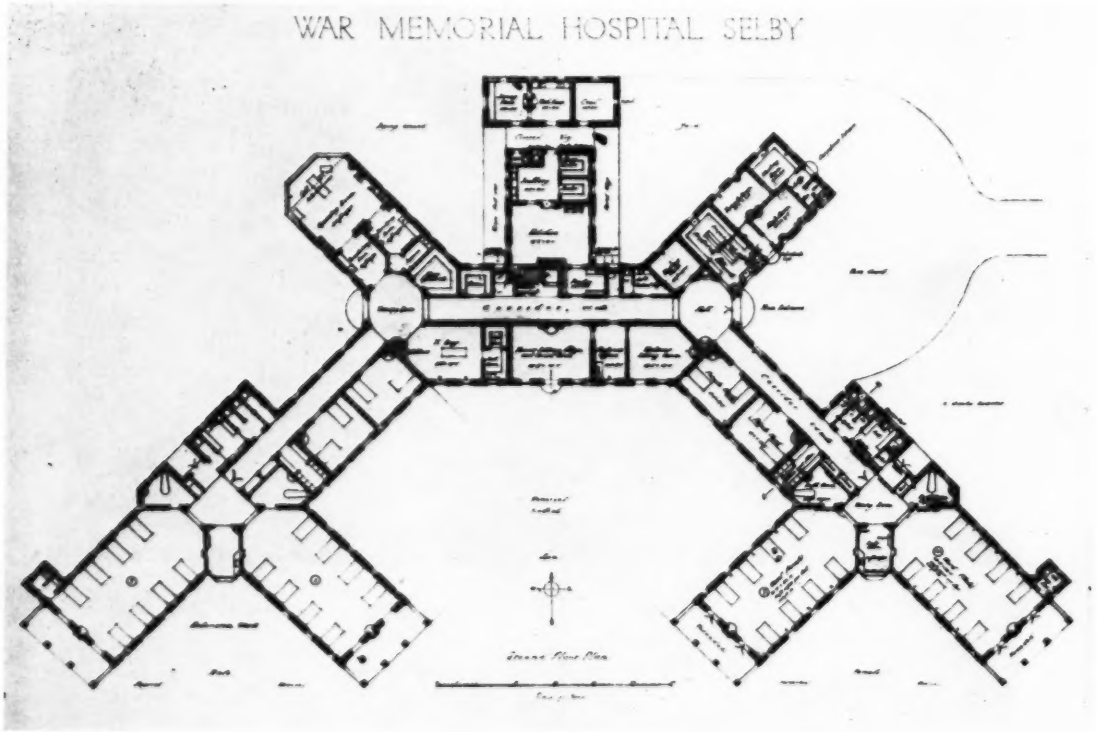
The position of the water closets for the female wards and two private wards is not entirely satisfactory. In the out-patients' department there is only one lavatory and water closet for both sexes, which is insufficient.

In the operating theatre, the surgeons' room is too small, and the X-ray room not very convenient for ready access from the theatre.

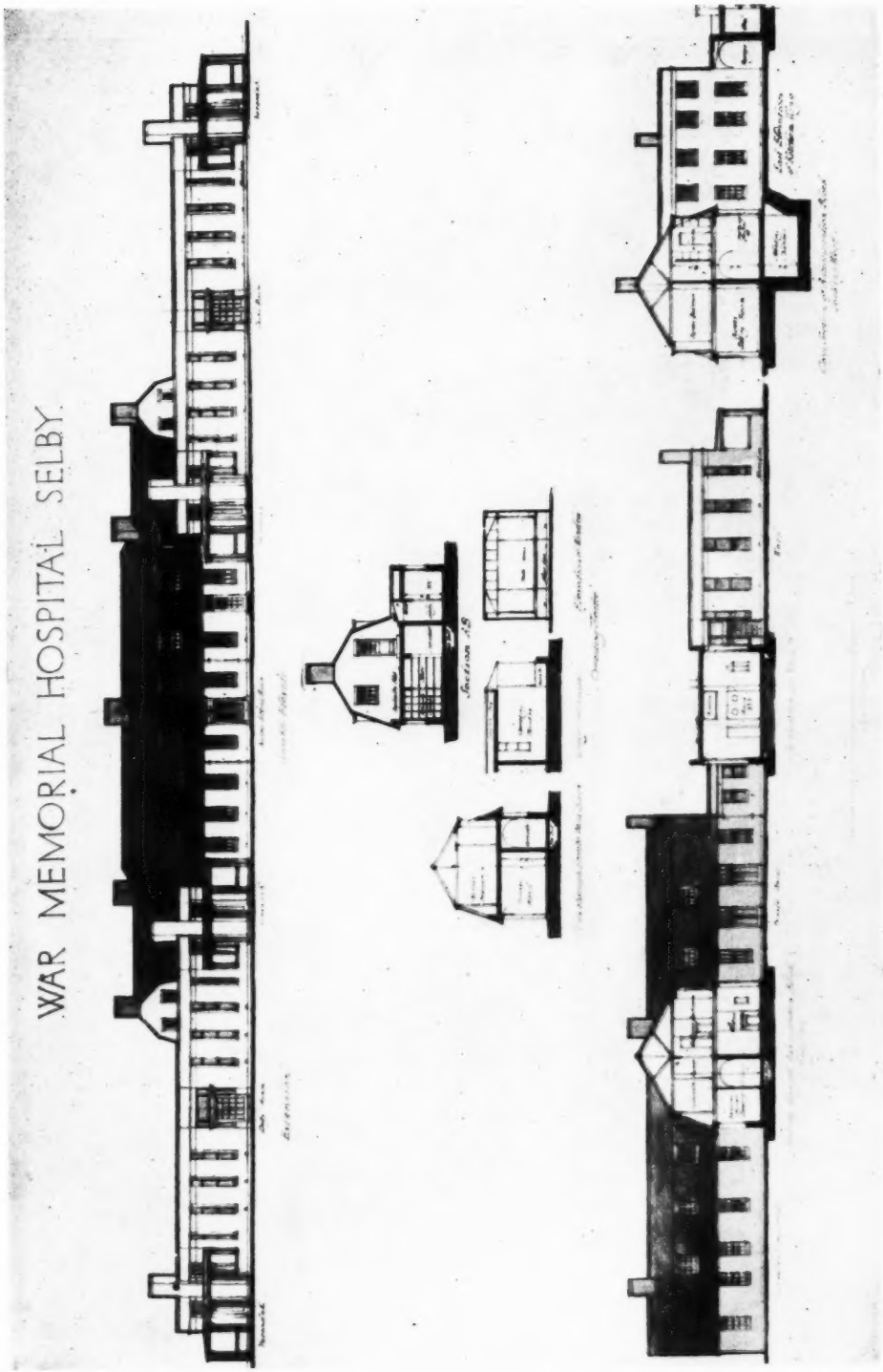
One large room instead of two small ones would, in our opinion, have fulfilled the purpose better of the small hand laundry asked for.

The bedrooms for nurses and maids on the first floor are not kept as distinct as seems to us desirable. This competitor has read the conditions differently from the others. His completed building would have four private wards. In many respects the planning is most ingenious, and the architectural treatment admirable. We think it a matter for regret that the competitor did not leave wards 1 and 4 for future extension, omitting a private ward in each wing, and so have had a symmetrical building from the start. We consider that he has somewhat understated the cubical contents of the building.

We are of opinion, after taking everything into consideration, that design No. 2 remains, in spite of our criticisms, the best in general conception and architectural treatment, and we hereby make our award to that effect.



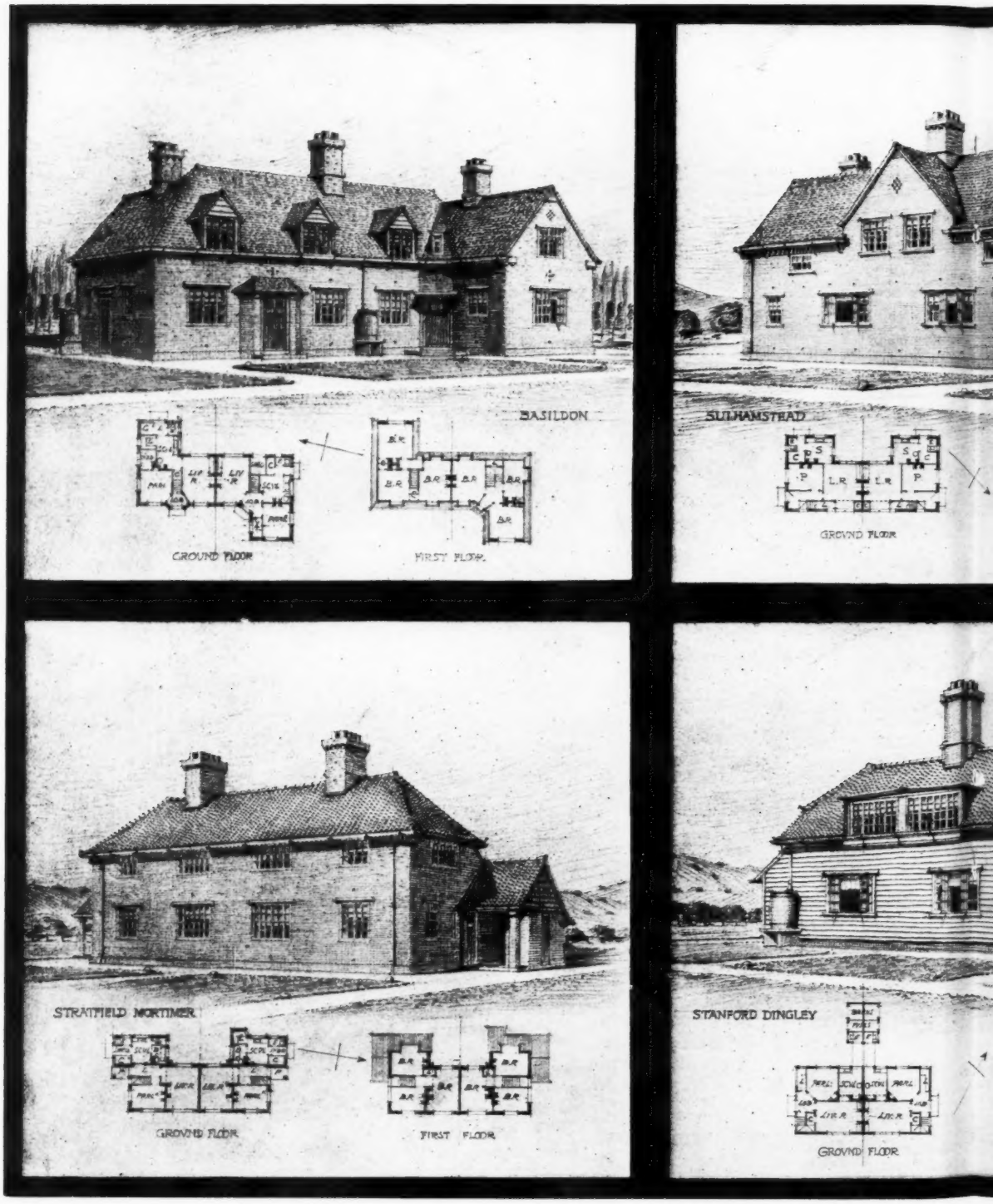
GROUND FLOOR PLAN. LESLIE T. MOORE, M.C., F.R.I.B.A., ARCHITECT



SELBY WAR MEMORIAL HOSPITAL COMPETITION: THE WINNING DESIGN. LESLIE T. MOORE, M.C., F.R.I.B.A., ARCHITECT

Modern Domestic Architecture. 90.—Cottages

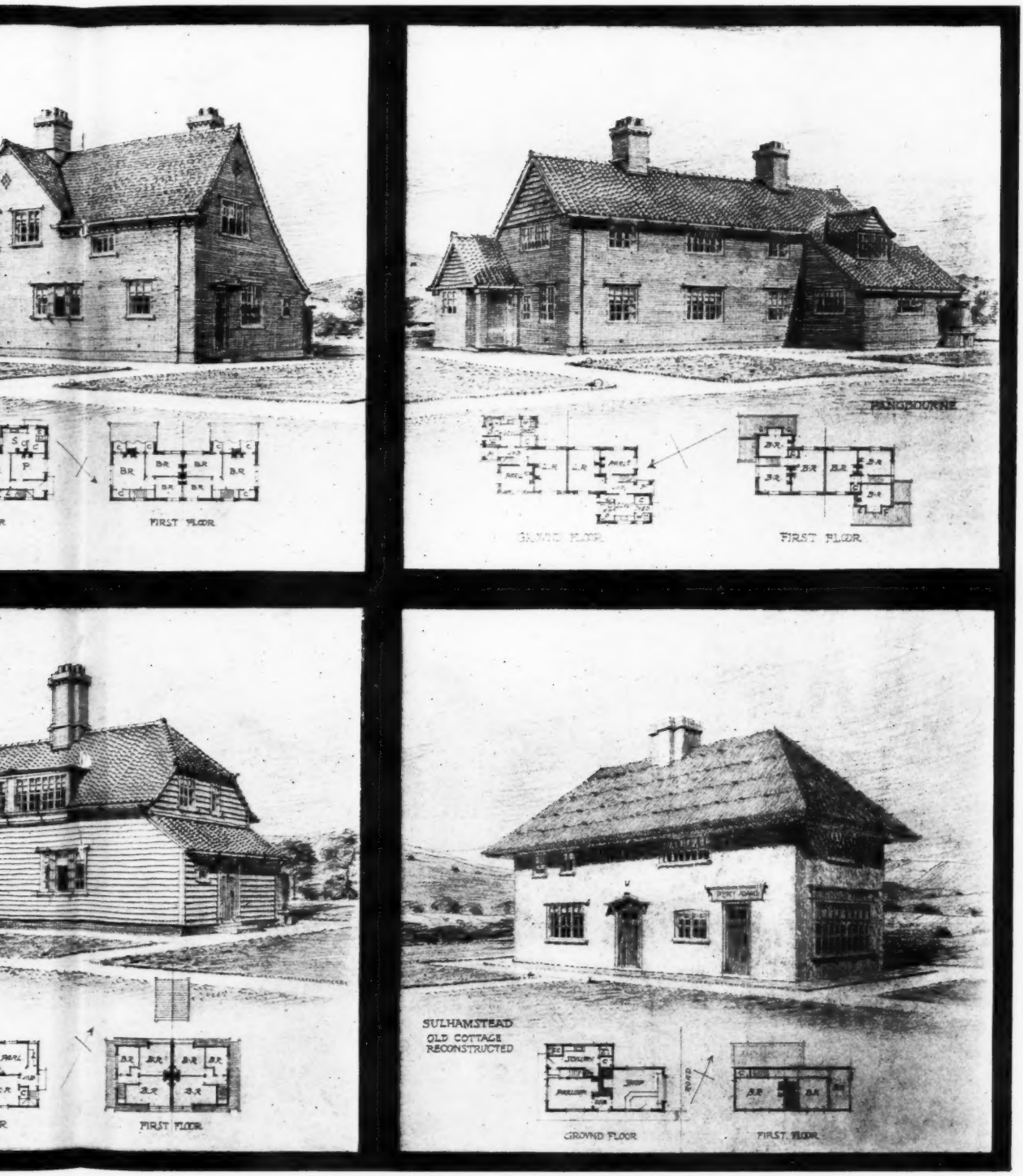
C. Harrold Norton, F.R



These cottages have been carried out for the Bradfield Rural District Council. At Basildon, Sulhampstead, Pangbourne, and Stratfield M
outside with 1 in. rough boarding, and covered with wea

—Cottages in the Bradfield Rural District, Berkshire

Norton, F.R.I.B.A., Architect

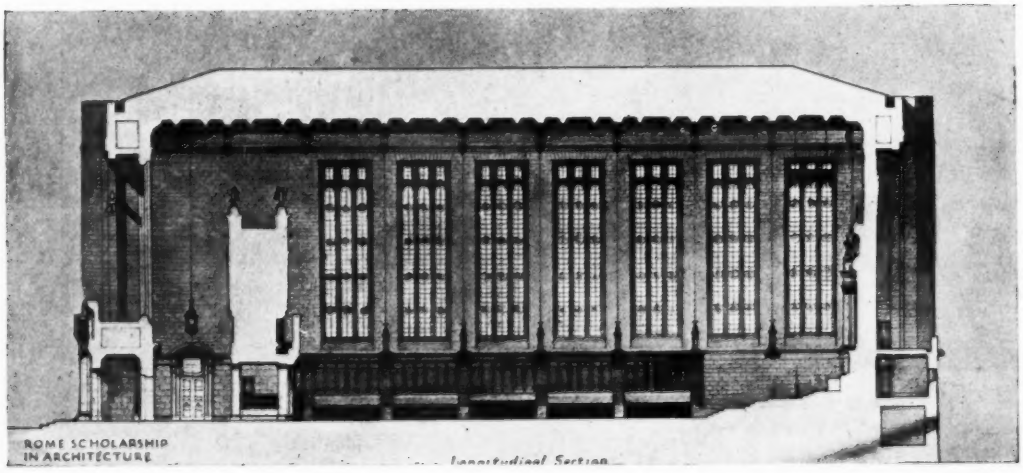


, and Stratfield Mortimer, the walls of the new cottages are of 11 in. hollow bricks, and at Stanford Dingley they are of timber studding, lined overed with weather boarding. The roofs are covered with tiles.

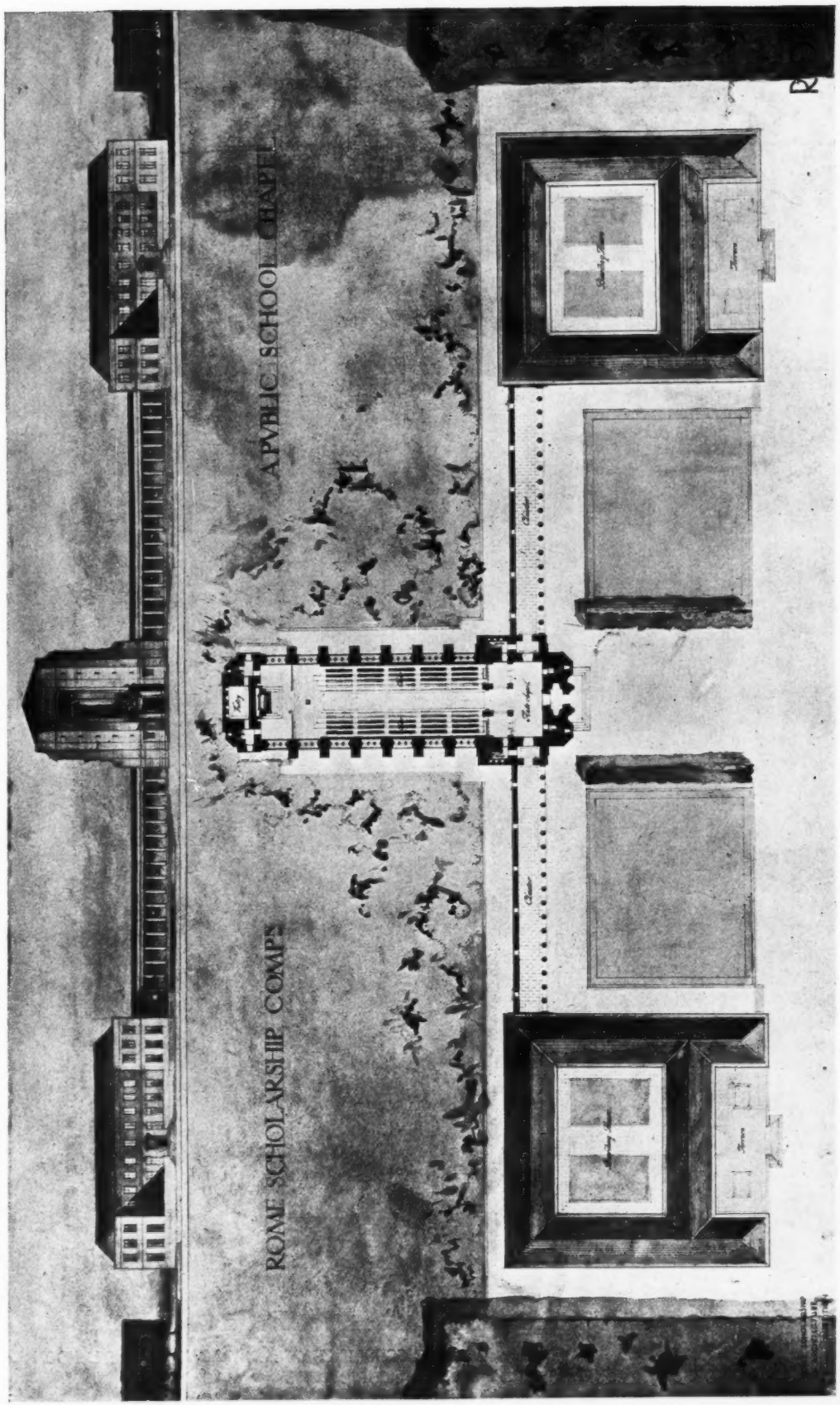
The Jarvis Studentship Accepted Design

A Public School Chapel, by M. A. Sisson

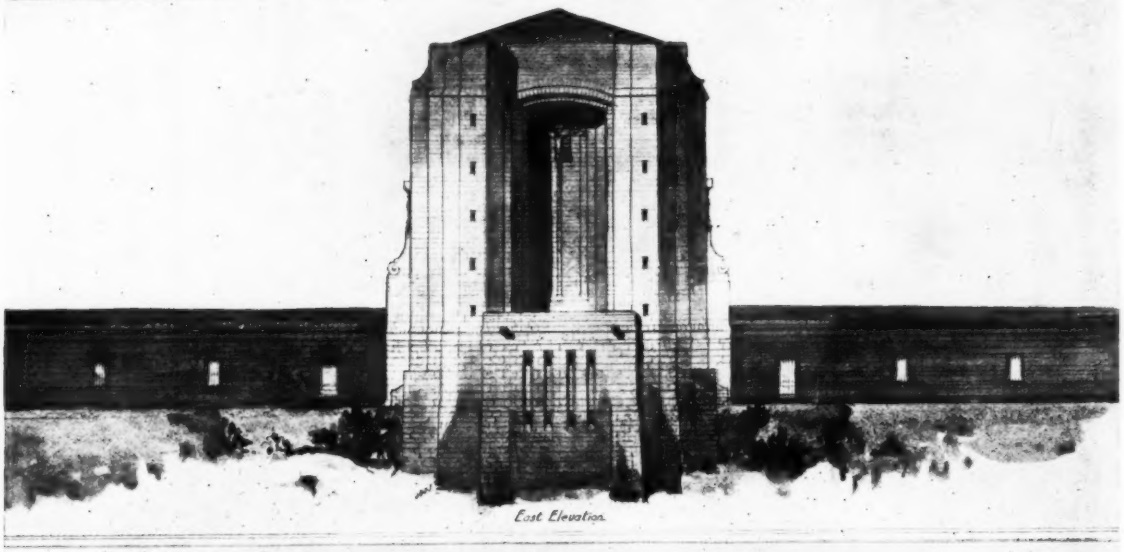
TRANSVERSE SECTION, LOOKING EAST

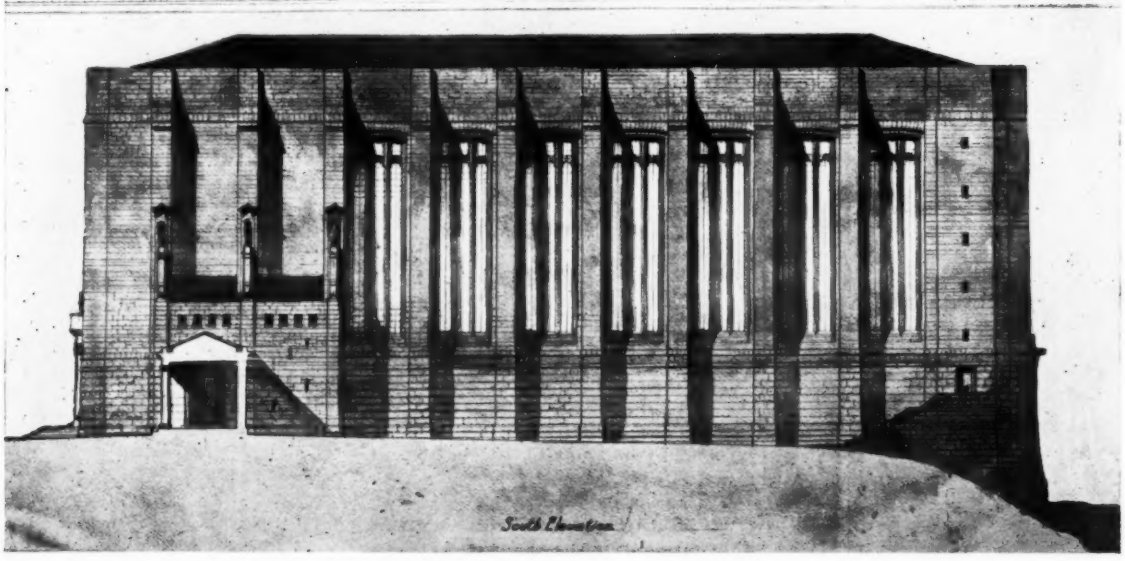


LONGITUDINAL SECTION



THE JARVIS STUDENTSHIP ACCEPTED DESIGN: A PUBLIC SCHOOL CHAPEL. BY M. A. SISSON, LONDON UNIVERSITY SCHOOL OF ARCHITECTURE.
(*Rome Scholarship in Architecture: Final competition*, 1924.)





THE JARVIS STUDENTSHIP ACCEPTED DESIGN: A PUBLIC SCHOOL CHAPEL. BY M. A. SISSON, LONDON UNIVERSITY SCHOOL OF ARCHITECTURE.

(*Rome Scholarship in Architecture: Final competition*, 1924.)

The Practical Design of Steel Beams and Pillars in Buildings

8.—Equilibrium and Reactions

By W. BASIL SCOTT, M.I.Struct.E.

THE primary object of a design of steelwork is that its parts will remain in equilibrium or "stay put" to use an expressive Americanism.

The primary object of the loads is to upset the equilibrium of the steelwork by their efforts to gravitate earthwards.

Equilibrium is of two kinds : equilibrium of position, and equilibrium of shape.

Equilibrium of position is maintained by the opposition of the external forces (the loads and reactions) acting contrary to each other, as W1, W2, W3, RL, and RR in Fig. 1.

The reactions are the upward pressures at the supports of a beam.

For equilibrium, the sum of the reactions must equal the sum of the loads and their directions must be opposite. (A.)

If this statement requires proof, its truth may be demonstrated experimentally by supporting the beam on spring balances; or it may be proved by reducing any other supposition to an absurdity, in this way : If the reactions were less than the loads, then beam and loads would sink downwards; if they were greater than the loads then beam and loads would rise upwards; therefore, the reactions must equal the loads.

Reactions, as the name implies, may only be thought of correctly as upward forces; the reaction at each support is equal in amount and opposite in direction to the proportion of the load transmitted by the beam to that support.

From the general statement (A), we know the total value of the reactions when we know the total value of the loads, but it does not enable us to ascertain the individual value of each reaction, and we require to know this also, for more than one reason, as will be seen shortly.

Equilibrium of shape is maintained, within definite limits, by the opposition of the internal forces (tensile, compressive, and shear stresses) and the external forces (loads and reactions) acting contrary to each other. The external forces try to alter the shape of the beam (or strain it) by bending and shearing it. The internal forces developed in the beam resist the strain.

The measure of the effort of the external forces to shear through the beam at a transverse section is the "vertical shear." (B.)

The measure of the effort of the external forces to bend the beam at a transverse section is the "bending moment." (C.)

The measure of the opposition of the internal forces to shear is the beam's "shearing value." (D.)

The measure of the opposition of the internal forces to bending is the beam's "moment of resistance." (E.)

Before we can fix the shearing value and moment of resistance required for equilibrium, we must be able to calculate the efforts of the external forces.

It is because the reactions unite with the loads to cause shearing and bending that we must know the value of each reaction.

The values of the reactions and bending moments are ascertained by the application of the principle of the lever or the principle of moments, as it is termed in statics. (Shear will be dealt with in due course.)

The Principle of Moments.

A beam may be considered as a lever; any point in its length, as F in Fig. 2, may be considered as a fulcrum; and any combination of reaction and load, as RL and W1, acting between one end of the beam and the fulcrum, may be considered as forces, with leverage, trying to bend or turn the beam about the fulcrum. (Fig. 2.)

A force is a quantity, such as a load, a pressure or a stress, and it is measured by our units of weight : tons, pounds, etc. A force, as W in Fig. 3, is defined fully when we know : (1) its magnitude or amount; (2) its direction; (3) its point of application; (4) its sense, i.e., whether it is pulling or pushing. Further, as a matter of convenience, a force tending to bend or turn a beam "clockwise," as RL in Fig. 4, about a fulcrum, F, is positive; a force, as W, acting "anti-clockwise," is negative. The algebraic sum of a number of forces acting on a beam is the difference of the total values of the positive and negative forces. (Figs. 3 and 4.)

Forces, such as the weights and reactions, W1, W2, W3, RL and RR in Fig. 5, acting parallel to each other, have leverage with respect to each other. Also a force, as RL, W1, W2, or W3, has leverage with respect to a fulcrum, F, not directly in its line of action, but it has no leverage about a fulcrum or point that is directly in its line of action, as RR about F. When we consider the leverage of a force or forces with respect to a fulcrum or point, we are said to "take moments about that point." The distances or lengths, as l, $l1$, $l2$, and $l3$, perpendicular to the directions of the forces and to a parallel line passing through the fulcrum, are the "arms of the moments" of the forces. When the magnitude of a force is multiplied by its moment arm, the product is its "moment." The moment of a force, therefore, is a compound term expressed in units of weight and units of length, as ton-feet or pound-inches. If W1 is 10 tons, and its moment arm, $l1$, is 8 ft., the moment of W1 about F is 10 tons $\times$ 8 ft.=80 ton-feet. The reaction RR has "no moment" with respect to F because the length of its moment arm is nothing or zero; it is immaterial whether RR is 5 or 500 tons, for the product of any number multiplied by nothing is nothing. Hence the colloquialism that a thing of no importance "is of no moment." The moment of any unknown force, therefore, may be eliminated by choosing the fulcrum at its point of application. (Fig. 5.)

The moments of positive and negative forces are positive and negative respectively.

Calculation of Reactions.

The rule for finding the values of the reactions at each support for any combination of loading on a beam, may now be stated.

For equilibrium the sum of the moments of the reactions must equal the sum of the moments of the loads. (F.)

Example 1. Fig. 6.

Take the case of a beam supporting a single concentrated load, not at the centre of the span. We have one known force or weight, W=10 tons, and two unknown forces, the reactions, RL and RR. Eliminate RR, one of the unknowns, by taking moments about it.

Then, by rule F :—

$RL.l = W.l1$. $\therefore RL = W.l1 \div l$.

Let W=12 tons; $l1$=10 ft., and l=15 ft.

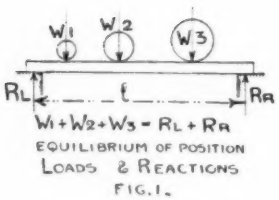
Then, 15RL=12 tons $\times$ 10 ft. = 120 ton.ft. $\div$ 15 ft.

$\therefore$ RL=8 tons.

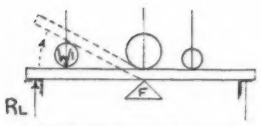
By rule A we know that RL+RR=W.

$\therefore$ RR=W−RL. $\therefore$ RR=12 tons−8 tons = 4 tons.

It is convenient to form the habit of always eliminating the same reaction. If the right-hand reaction, RR, is chosen for elimination, as in the example, then RL is positive and W is negative. This method is followed in the other examples to be given, but meantime, I will show that



EQUILIBRIUM OF POSITION
LOADS & REACTIONS
FIG. 1.



EQUILIBRIUM OF SHAPE
BENDING
FIG. 2.

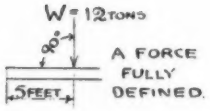
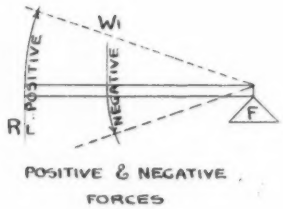
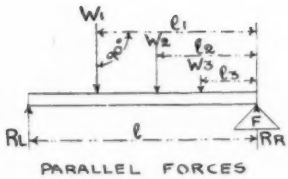


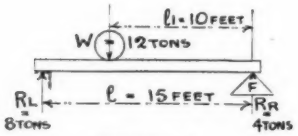
FIG. 3.



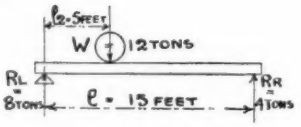
POSITIVE & NEGATIVE
FORCES
FIG. 4.



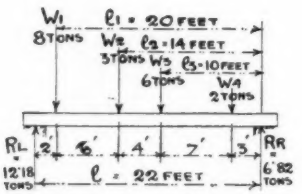
PARALLEL FORCES
AND MOMENTS
FIG. 5.



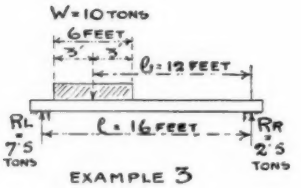
EXAMPLE 1
FIG. 6.



EXAMPLE 1
FIG. 7.

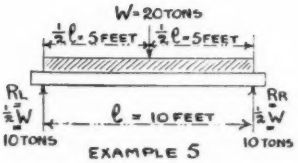


EXAMPLE 2
FIG. 8.

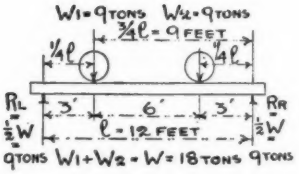


EXAMPLE 3
FIG. 9.

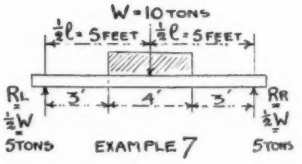
EXAMPLE 4
FIG. 10.



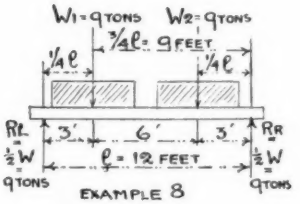
EXAMPLE 5
FIG. 11.



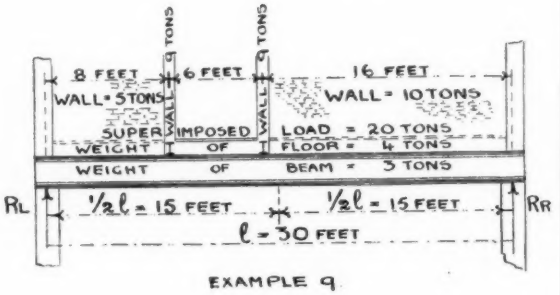
EXAMPLE 6
FIG. 12.



EXAMPLE 7
FIG. 13.



EXAMPLE 8
FIG. 14.



EXAMPLE 9
FIG. 15

THE PRACTICAL DESIGN OF STEEL BEAMS AND PILLARS IN BUILDINGS: DIAGRAMS.

the same result is obtained, irrespective of the reaction about which moments are taken.

Example 1. Fig. 7.

Take moments about RL.

Then $15RR = 12 \text{ tons} \times 5 \text{ ft.} = 60 \text{ ton.ft.} \div 15 \text{ ft.}$

$\therefore RR = 4$ tons, as above.

The method is the same for any number of concentrated loads. (*Note.*—In these examples and except where described otherwise, the weight of the beam itself is not taken into account, and the ends of the beam are simply supported, not fixed.)

Example 2. Fig. 8.

Four concentrated weights, W1, W2, W3, and W4, of unequal values disposed unsymmetrically along the beam. W1=8 tons; W2=3 tons; W3=6 tons; and W4=2 tons.

Required RL and RR.

Take moments about RR.

Then, $l1 = 6+4+7+3 = 20$ ft.; $l2 = 4+7+3 = 14$ ft.; $l3 = 7+3 = 10$ ft.; $l4 = 3$ ft.; $l = 22$ ft.

$RL.l = W1.l1 + W2.l2 + W3.l3 + W4.l4$.

$$\therefore RL = \frac{8\times20+3\times14+6\times10+2\times3}{22}$$

$$= \frac{160+42+60+6}{22} = \frac{268}{22} = 12{\cdot}18 \text{ tons.}$$

$RR = W1+W2+W3+W4-RL$

$\therefore RR = 8+3+6+2-12{\cdot}18 = 6{\cdot}82$ tons.

Example 3. Fig. 9.

A weight, W, of 10 tons distributed over 6 ft. of the 16 ft. length of the beam. The point to be noted is that any distributed load may be assumed to act as if it were concentrated at its centre of gravity, otherwise the method is the same as before.

So in this case, $RL = \frac{10\times12}{16} = 7{\cdot}5$ tons.

and $RR = 10-7{\cdot}5 = 2{\cdot}5$ tons.

If the loading on a beam is distributed uniformly over its entire length, or if any combination of distributed and concentrated loading is disposed symmetrically about the centre of the beam, then if W is the total value of the load, RL and RR are each equal to $\frac{1}{2}$W.

This conclusion is practically obvious, but its arithmetical proof may be given for some common cases.

Example 4. Fig. 10.

A single concentrated central load.

W=10 tons. l=10 ft.

Take moments about RR.

Then, $R.l = W.\frac{l}{2} = \frac{W.l}{2}$ $\therefore R = \frac{W.l}{2l} = \frac{W}{2} = \frac{1}{2}W$.

Or substituting the above values:—

$10R = 10 \text{ tons} \times 5 \text{ ft.}$ $\therefore R = 5 \text{ tons} = \frac{1}{2}W$.

Example 5. Fig. 11.

A load distributed uniformly over the entire length.

W=20 tons. l=10 ft.

W may be considered as a load concentrated at the centre.

Take moments about RR.

Then, as above, $R = \frac{W.l}{2l} = \frac{W}{2} = \frac{1}{2}W$,

and substituting:—

$20R = 20 \text{ tons} \times 5 \text{ ft.}$ $\therefore R = 10 \text{ tons} = \frac{1}{2}W$.

Example 6. Fig. 12.

Two equal concentrated loads at equal distances from the centre.

W1=9 tons; W2=9 tons; W1+W2=18 tons=W.

$\because$ W1 and W2 each equal $\frac{W}{2}$

l=12 ft.

Take moments about RR.

Then, $R.l = W1.\frac{3}{4}l + W2.\frac{1}{4}l$

$$= \frac{W}{2}\times\frac{3l}{4} + \frac{W}{2}\times\frac{l}{4}$$

$$= \frac{3W.l}{8} + \frac{W.l}{8} = \frac{4W.l}{8} = \frac{W.l}{2}$$

$$R = \frac{W.l}{2l} = \frac{W}{2} = \frac{1}{2}W.$$

Substituting:—

$12R = 9 \text{ tons} \times 9 \text{ ft.} + 9 \text{ tons} \times 3 \text{ ft.}$

$$R = \frac{9 \text{ tons}\times9 \text{ ft.} + 9 \text{ tons}\times3 \text{ ft.}}{12 \text{ ft.}}$$

$$= \frac{81 \text{ ton·ft.} + 27 \text{ ton·ft.}}{12 \text{ ft.}} = \frac{108 \text{ ton·ft.}}{12 \text{ ft.}}$$

$= 9 \text{ tons} = \frac{1}{2}W$.

Example 7. Fig. 13.

A load distributed uniformly over an equal part of the length on each side of the centre.

Consider the load as acting at its centre of gravity and the case becomes the same as that of a single concentrated central load, as in Fig. 10.

Example 8. Fig. 14.

Two equal loads each distributed uniformly over equal lengths at equal distances from the centre.

Consider each load as acting at its centre of gravity and the case becomes the same as that of the two concentrated loads in Fig. 12.

When the weight of the beam has to be taken into account it acts as a uniformly distributed load, i.e., for ordinary beams of the same section from end to end. The weight of the beam, therefore, is considered as a central concentrated load.

Example 9. Fig. 15.

This is given as a final example illustrating the general application of rule F.

The effective length (l) of the beam is 30 ft.

Weight of floor and ceiling @ 20 pounds per superficial foot	4 tons.
Weight of live load @ 100 pounds per superficial foot	20 ,,
Allow for weight of beam, say	3 ,,
Total uniformly distributed load to be considered as a single concentrated load acting at the centre of the beam	27 tons.
A load distributed over 8 ft. by a partition weighing	5 tons.
A load distributed over 15 ft. by a partition weighing	10 ,,
Each of these two loads is to be considered as acting at its middle point.	
Two concentrated loads by two partitions, each weighing 9 tons	18 ,,
The total weight of all the loads is	60 tons.

Take moments about RR:—

$$\text{Then, } R = \frac{5\times26+9\times22+9\times16+27\times15+10\times8}{30}$$

$$= \frac{130+198+144+405+80}{30} = 31{\cdot}9 \text{ tons.}$$

And $RR = 27+5+9+9+10-31{\cdot}9 = 28{\cdot}1$ tons.

NOTES.—The names of the units of weight and length are included purposely in the calculations, as in Figure 12, to show how the names cancel out and the correct remainder is left.

The use of symbols implies algebra, and to some temperaments algebra is anathema. May I suggest that these symbols are merely abbreviations of the names of the things dealt with, such as W for weight, R for reaction, and so on. When the numbers of tons, etc., are substituted for them, the simplicity of the arithmetic is so apparent that I hope even the artistic temperament may be encouraged to pursue the subject to that of "bending moments" in the next article.

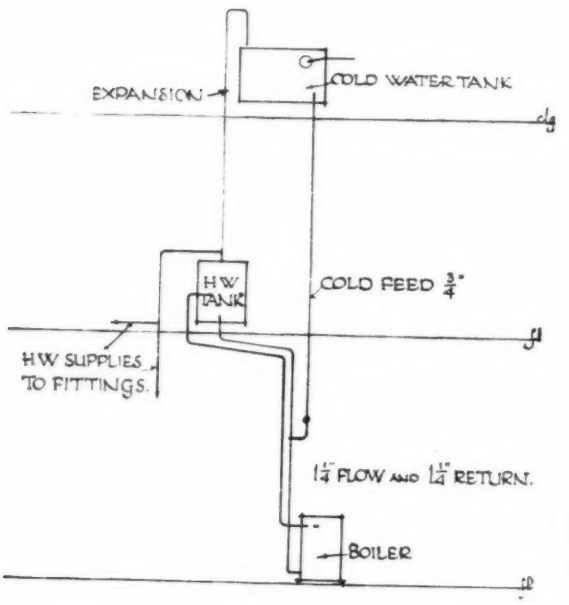
[The previous articles in this series appeared in our issues for September 5, October 17, November 14, 1923; and January 26, March 12, May 7, and July 9.]

Enquiries Answered

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

HOT WATER CIRCULATION.

"R" writes: "A hot-water supply system in a small house is arranged as shown on the accompanying diagram, the cold feed being connected to the return pipe of primary circulation, some 6 ft. from boiler connection, instead of to h.w. tank as is more usual. The system works most efficiently. Is there any danger in having the cold water enter at this point? There is no secondary circulation, the fittings being near enough to the h.w. tank to make this unnecessary."



—The arrangement shown on the sketch is perfectly satisfactory. No ill effects can possibly arise from connecting the cold supply to the return pipe as shown, so long as this connection is not unduly close to the boiler—which is unlikely to be the case. H. C. C.

OPEN FIREPLACES.

"D. H. D." writes: "I should be glad to know what are the governing factors in the designing of open fireplaces and ingles. The fireplace is to burn either coal or wood logs in a room 22 ft. by 13 ft. by 8 ft. high. The room has a bay window on one long wall, with the fire on the short outside wall. Is a raised hearth essential, and how can the marks of smoke be avoided? The method of treatment together with any general dimensions would be much appreciated."

—The open fireplace is a relic from an age when men, not being used to more refined heating appliances, accepted a certain amount of smoke in the house as the inevitable accompaniment of artificially produced warmth, and if the householder is not prepared to use the dryest of logs and suitable coal, and also to endure a little smoke in the process of coaxing the fire, he would be well advised to try some form of slow combustion grate.

Where genuine open fireplaces are still in use they are frequently supplied with screens of plate glass to diminish the opening, or with metal canopies to concentrate and direct the flow of smoke from the fire-basket or the hearth. Failing these devices, which obscure the interest of the open fire, a little smoke must be expected. The bellows, tongs, and prickers of the old hearth-craft indicate that some pains must be taken in building an open fire, and the knack is not acquired by anybody in a moment—an open hearth is not foolproof.

To bring the open hearth more up to date, air inlet openings are sometimes formed beneath its surface, which supply air from the sides of the hearth, if raised, or from the outside of the building if desired. The inlets communicate with the sides of a central depression, either made in firebrick and actually containing the nucleus of the fire, or containing an ashpan under a grating upon which the fire can be built. The ashpan should fit the whole space under the grid so that all ashes that may fall or be swept through the grating can be removed in a single operation without soiling the hands. Where the air inlets are made in the external walls of the building they are provided with inlet-flaps, and are exposed to the heat of the rising smoke before discharging the warmed air into the ashpan and the fire. This device has very materially reduced the amount of back-draught in chimneys where the householder has been averse to fresh air and has attempted to burn an open hearth fire without adequate ventilation. Where open windows are the rule, air inlets through the hearth supplying air to the fire from the warm air of the room should suffice. The dimensions of open fireplaces are very much a matter of discretion. Some width must be allowed to avoid the necessity of cutting the logs into billets, and a minimum of 3 ft. wide by 2 ft. 9 in. high might be suggested. The larger and higher the opening the more the fire approaches the character of a bonfire and the more erratic its flow of smoke. Architectural style has to be considered, and where period decorations are involved, the dimensions no less than the pattern of the fireplace assume importance.

The gathering of the flue for an open fire should be gradual and funnel-shaped, for the rule that "the smaller the flue the better the draught," does not apply where a large space intervenes between the fire and the opening of the flue. If a canopy is used at a low level the flue can be parallel-sided, however, for the funnel-shaped gathering is made in the metal of the canopy, and there is no purpose in having it done twice over.

An old-fashioned ingle was frequently a gigantic chimney or open hearth without other ceiling than the funnel-shaped flue. It was sometimes provided with a small door for the pushing in of "back logs" from the woodyard or woodshed outside, and with windows or peep-holes to let in light for the cooking operations. Around the sides and back of the fireplace were brick-built recesses or ovens, which were heated by having shovelfuls of glowing fuel placed inside them and raked out again before the food was inserted. The use of the ingle as a sitting place was made possible by drawing up settles with high backs to exclude the draught. These were generally made portable, so that the hearth was not impeded during cooking times.

For a room 22 ft. by 13 ft. by 8 ft., an opening about 4 ft. wide and 3 ft. 6 in. high might be made. A raised hearth with air inlets and ashpan would do away with the use of the bellows and of the shovel for scooping up ashes. The air inlets are particularly valuable, as this form of ventilation has become normal and is generally understood.

Dark, well-burnt bricks, with a variegated surface and colour, hardly show smoke stains; those that are capable of being washed without damage should be selected. Tiles or Hopton Wood stone are also suitable for facings. W. H.

Correspondence

The Building Dispute and the Masters' Organizations

To the Editor of THE ARCHITECTS' JOURNAL.

SIR,—I was much impressed with your recent leader on the building dispute, which I read with the keenest appreciation. I should not, however, have ventured to write to you on the subject but for the frenzied reply which it has called forth from the Press Committee to the National Allied Building Trades Employers.

This reply is written most strikingly in the spirit which your leader denounces, and, apart from the awful reproach that extracts from your leader have appeared in "The Daily Herald," is without further point.

It is an imperative duty now to cast off old prejudices—always a most difficult thing to do; and it is inspiring to find broad-minded and far-seeing views expressed in a conservative and professional paper such as your own. The outlook of all must be widened in every possible way, to bring about better conditions and understanding between what are called "The Classes." Right thinking and the expression of enlightened views will serve more and more to educate the common will to work for this end.

I am not connected in any way with architecture, beyond my admiration for beautiful buildings, but I write as a Tory and a member of the outside public, to whom your leader has greatly appealed.

G. H.

To the Editor of THE ARCHITECTS' JOURNAL.

SIR,—The leading article in your issue for August 13 calls forth, very naturally, a forcible rejoinder from the secretary to the building trades employers; one can quite well imagine the article written with equal justice from a different standpoint, and provoking an equally forcible answer from a representative of the operatives, for the position of affairs in the building trade becomes constantly more absurd and outrageous and more open to criticism.

Employment is precarious and intermittent in spite of the fact of shortage of labour. A man who is prevented by wet weather or frost from working at his own trade may not turn for a time to some other work for which he has, or might well have, if things were otherwise, an aptitude. Builders are blamed for turning a man off as soon as he has finished his job, although no one in his senses would advocate the man being paid to stand still and do nothing. Absurd rules made in the supposed interest of men in one trade operate to injure those in another trade, and keep them out of work. Skill and industry are treated as if they were vices, and the clumsy and stupid, if employed, must be paid at the same rate as the clever and intelligent. And still the accepted method of dealing with the whole matter is the strike or the lock-out. It would be comic if it were not so tragic, and if it did not appear to be so inevitable.

It is unfortunate, but inevitable, that as undertakings become more and more vast, the master tends to become more an administrator and less a head builder; the man tends to become part of a mere machine; the personal touch is lost; negotiation is carried on by specialists who, quite properly, of course, are paid a salary for what they do; combination for mutual support becomes general and, in fact, necessary. With the increase of facilities for communication the whole problem grows more complex, and all effects more far-reaching.

Everyone can see things that want to be set right; nobody has sufficient authority or a wide enough grasp to deal with them; but surely we all know that, whatever else may be useful or otherwise, fighting will not help. The writer of your leading article speaks quite truly when he says that individuals on both sides are anxious to meet the case fairly. To one who knows builders and their men personally in considerable numbers it seems very strange that there should be such lack of confidence and goodwill between them, and anyone who could bring them together to discuss, not their personal ends, but the ultimate well-being and prosperity of the whole trade might find his task more easy and more productive than he expected. It is nonsense to pretend that the interests of both sides are opposed, and equally nonsense to pretend that there is a certain limited amount of work to be done; quite wrong economically to prevent anyone earning all that his skill, strength, intelligence, and industry can bring him. One is tired of the old argument against payment by results—that the men are always beaten at it by the masters. It is an argument that had some weight thirty years ago, but it no longer applies or need apply. Other trades, and well-organized ones, go on piecework, and if it is possible in their case it is possible in the building trade. If piecework is objected to, then let the operatives be graded according to skill and capacity—anything to secure interest and incentive and get rid of the deadly dullness and equality that have set in and are killing one of the best and most interesting trades we have.

Efforts are being made on all sides to do away with skilled building work, and in very great measure they are successful; cast stone, machine-made casements, stamped steel cornices, concrete slabs—they all illustrate what is happening, and the definite policy in works where the design and execution are in the same hands is to arrange everything in such a way as to dispense with skilled work because of the bother and worry of it. These are things that cannot be looked at lightly; they are serious, and they point to errors in policy that call for reasonable discussion and sound decision.

ARTHUR KEEN.

To the Editor of THE ARCHITECTS' JOURNAL.

SIR,—As one of the "rank-and-file" I protest against the unfounded and unsupported charges made in the leading article in your issue for August 13, against the Employers' organization, and suggest that the writer displays a deplorable lack of knowledge in respect to the constitution and machinery of the Federation as well as to its aims and methods, both under normal conditions and in the present dispute; a lack of knowledge which, in my opinion, renders him totally unfit for the task he has undertaken.

The suggestion that our organization suffers from an excess of officialdom will bring a smile to the face of every builder who reads the article, and will, at least, afford a little comic relief to many who are feeling the strain of the present serious position.

The Employers' Federation is one of builders, for builders, by builders—I use the word "builders" in its full sense, including all employers of building trade labour—and with the exception of secretaries and a very few organizers, many of whom are also builders or part-timers, the "permanent officials" referred to exist only in the imagination of the writer of the article.

Excepting purely secretarial, and in a small degree, propaganda work, the whole of the business of the local associations, regional, and national federations is carried on by the members themselves, and it redounds to the credit of one of the largest trades in the country that so much public spirit is displayed by the many who so ungrudgingly give their time, thought, and energy for the benefit of the industry, often at the expense of their own individual business, and I regret to say in many instances at the permanent expense of their health.

In passing and comparing the employers' constitution and methods with those of the operatives, it is interesting

to note that at the great meeting of employers in London on August 14, at which some forty or fifty speeches were delivered by the members themselves, not a word was spoken by an official; also, when at the recent request of the Ministry the employers sent a deputation of eight members and one secretary, the operatives were represented by four times that number, all of whom were whole-time paid officials.

The suggestion that a change in the personnel of the committees would induce a better spirit between employers and employed, is another indication of the writer's lack of knowledge of the machinery of the Federation. The National Administrative Committee is the body on which falls the responsibility of dealing with the greater problems and intricate questions connected with the building trade, and this committee is composed of the pick of the various regional and local councils and committees, who are annually elected to those positions of honour and responsibility by reason of their being possessed of the very qualifications enumerated by the writer of the article.

The writer concedes that individually the employers are imbued with a spirit of good feeling for and sympathy with the operatives, but suggests that the moment they band themselves together they become so dehumanized as to desire a return to pre-war conditions; implying, also, that such conditions entail a lack of recognition of admitted grievances and hardships.

Remembering that the sole object of the individual in joining with his fellow employers is to be enabled, collectively, to attain the ideals which are his, and which he cannot reach by individual effort, the first suggestion is too illogical to pursue.

With the second, which implies the existence of a great gulf between the pre-war and the present-day spirit, I entirely disagree.

The members of the National Federation of Employers, almost to a man, have always had—both before and during the war—and still have, an earnest desire to maintain the spirit of co-operation and goodwill with the operatives to which reference is made, and to improve as far as the industry will allow, their status of living and the conditions under which they work.

Whilst disclaiming any selfish motive the employers are fully alive to the fact that they cannot expect the best results from workmen who are labouring under a feeling of dissatisfaction and resentment, or working under bad conditions which might easily be improved.

In spite of the statement to the contrary, much has been done in these directions, as history and statistics will prove, during the last twenty or thirty years, and it is abundantly clear to those who take the trouble to go thoroughly into facts and figures, that the status of the building trade operative, *apart from the increased cost of living*, has been raised since 1914 by about 25 per cent., and that in this respect, as well as regards present-day wages and hours of work, the building trade stands easily first in comparison with the engineering and kindred industries of the country.

It is very easy for your writer to dispose of admitted difficulties by simply saying they should be effectively dealt with, but it is another matter to find a satisfactory solution.

Many conferences have been held, and much consideration has been given to the specific problem referred to—loss of work through bad weather—but at present neither side has been able to put forward any tangible scheme; at the same time it must be borne in mind that the high wages paid to building operatives in comparison with other trades, have been largely to meet, to some extent at least, this unavoidable handicap to a guarantee of an unbroken week. It is obvious that if the employer is to take the risk of having to pay for an unknown period of time during which his operatives are idle, the death-knell of the present system of contracting is sounded, and a position arrived at which, I feel sure, will not commend itself to your architectural readers.

Unfortunately, a scheme of insurance, which has had much consideration given to it by both sides, by no means deals with the problem in its entirety; take, for example, the single instance which was brought under my observation recently, where, working for the same employer, the men on one job knocked off because of the rain, and on another job, under exactly similar conditions, they continued at work!

Whilst it has little or no bearing on the matter, the suggestion that because the trade can support certain charges it should be able to bear another, sounds as reasonable as telling a labourer that as he can carry ten bricks in his hod, he ought to be able to carry eleven—and merits the reply which the latter suggestion would probably evoke.

Your writer's reference to "unreasonably high profits" makes my mouth water. The contractor who for the last two or three years has been able to avoid making losses, let alone make a profit (without the adjectives), is in the distinct minority, and considers himself very lucky.

Human nature being what it is, the suggestion that the already complaining public would willingly pay more for their building work if they knew the additional cost was going to the operatives is altogether too altruistic.

Readers of your article who are conversant with the many ramifications of the present dispute and the manner in which it is being contested by the parties, will be constrained to ask what the "spirit of the times" really is. Is it the spirit displayed by the employers in their endeavour to obtain an agreement which will stabilize the industry for some years with their willingness to submit their differences to an impartial arbitrator and to abide by his award, or is it that of the leaders of the operatives who, ignoring the crying need of their fellow workers for houses to live in, refusing to allow their members to work as many hours as in other trades, demanding such rates of pay and conditions of employment as would increase the already high cost of building by at least 40 per cent. (*vide* the Liverpool Operatives' Counter Notices), and by every means in their power are endeavouring to carry out their publicly-proclaimed intention of exploiting the position to their own advantage?

Your readers must decide this question for themselves, but I feel sure the majority will be with me when I say that in his attack upon the "officials" of the Masters' organizations, your contributor would have done better to have diverted a little more of the "wind of plain speaking" to another direction.

GEO. ELVINS.

[NOTE.—Since the receipt of the letters published above the building dispute has been settled. Briefly, the terms which have been accepted by the men's executives are: The wages of all craftsmen and labourers are to be immediately increased by ½d. per hour, with the exception that workers in those towns which have received 1d. and upwards since September 26, 1923, will receive the ½d. advance as and from October 1 next. The increased rate is stabilized until February 1, 1926. The summer working hours—other than in those localities that have agreed to vary the hours by mutual consent under the terms of the constitution—shall be forty-six and a half hours per week, as and from the commencement of official summer time, 1925. (The men had previously stood firm for a forty-four hour week.) The Liverpool operatives agree that the local agreement shall be binding until December 1, 1925, after which date all national rules and conditions (other than wages) shall be operative in Liverpool.]

The Speculative Builder

To the Editor of THE ARCHITECTS' JOURNAL.

SIR,—Your article, in last week's issue, on my letter in "The Times," states that I chant enthusiastically the praises of the speculating builder and deplore the passing of "Jerry," and his replacement by the local authority. My intention was to do neither of those things, but merely to enlighten the public as to the real cause of the rise in price of housing.

I, a dweller in what used to be a quiet and beautiful suburb, have no reason to be laudatory of the methods of the land speculator or the speculating builder.

J. E. DROWER.

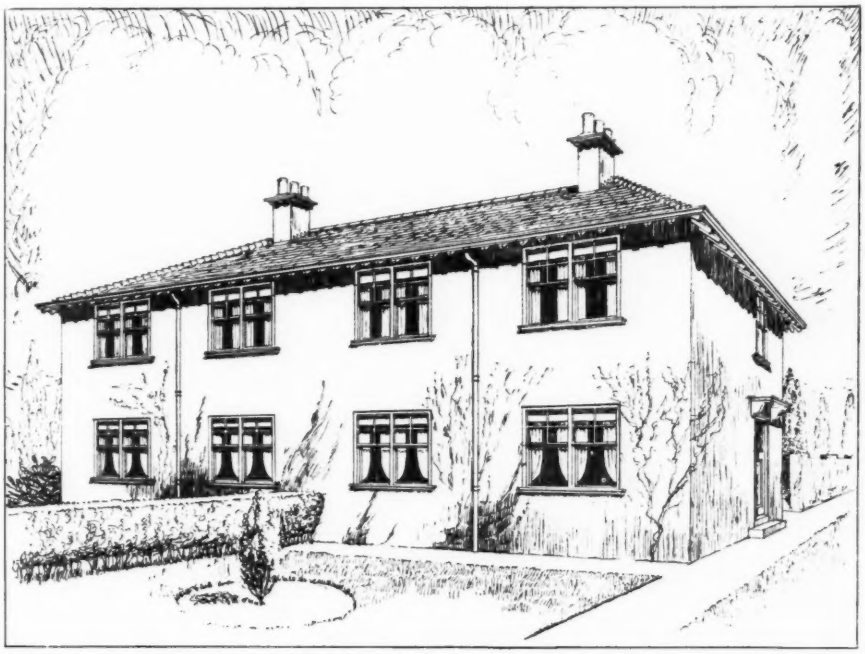
Housing with Unskilled Labour at Wakefield

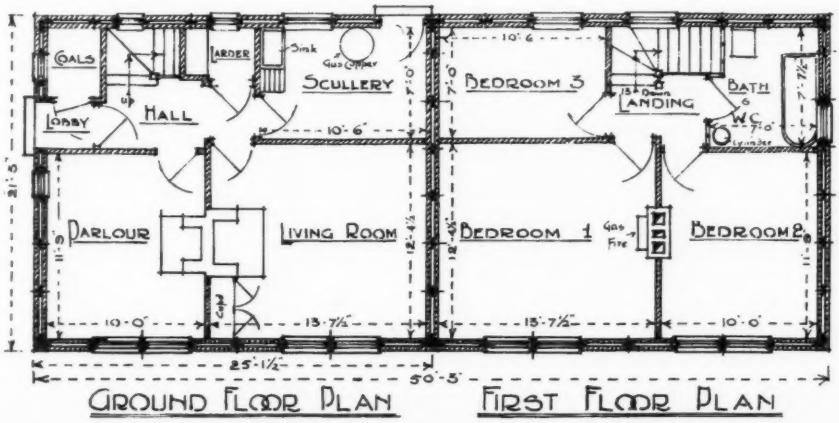
LORD WEIR hit the nail on the head when he said in the House of Lords the other day that the only known principle under which the most acute and important part of the national housing problem could be secured without skilled labour was by standardization. He suggested the combination of timber and steel plate as the most suitable materials for this purpose, but as Lord Haldane said in reply, while he trusted that many new methods would be found, "the Government cannot rest on possibility."

So many new and untried systems serve only to conflict the issue and overlook the fact that houses are actually being built by standardization with materials which are known and proved to be sound, and with skilled labour reduced to the absolute minimum. Two hundred "Winget" houses are now being erected for the Wakefield Corporation with a system of concrete blocks and slabs which does away almost entirely with the skilled bricklayer and plasterer. Concrete is still having to fight against the prejudice created by its abuse in the past before blocks and slabs of repute had proved what could be done with this material in the way of building houses. It would be just as illogical to condemn bricks as a building material because of the jerry-built houses which disgrace every industrial town in the kingdom.

The concrete houses at Wakefield were recently inspected by Mr. Arthur Henderson, M.P., Parliamentary Secretary to the Ministry of Health, during his visit to the city's housing scheme at Lupsett, and approval was expressed of the simplicity and strength of the system. Mr. Henderson was accompanied by Mr. Raymond Unwin, chief architect to the Ministry of Health for housing schemes, and the Mayor, Alderman J. Tennant, J.P., Mr. Percy Morris, the city housing architect, who has designed the houses, and members of the Corporation were also present at the inspection, which was conducted under the supervision of Alderman G. H. Sherwood, M.P., chairman of the Housing Committee. One of the distinctive features of this concrete "pier and panel" system is that "shuttering" is entirely done away with, the slabs themselves forming the shuttering for the piers, which are filled in with wet concrete as the slabs go up every two or three courses high. It will readily be seen that this feature represents a big saving both in cost and time.

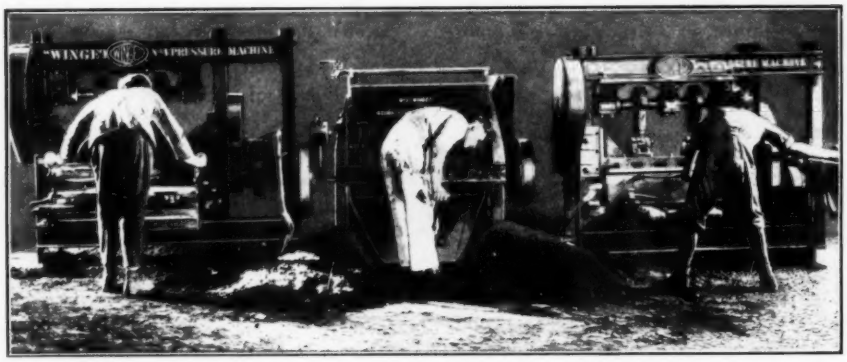
The number of standardized "units" necessary for building the houses has been reduced to a minimum, namely, (1) 36×9×3 in. slabs for the outer walls; (2) quoins; (3) three-way or





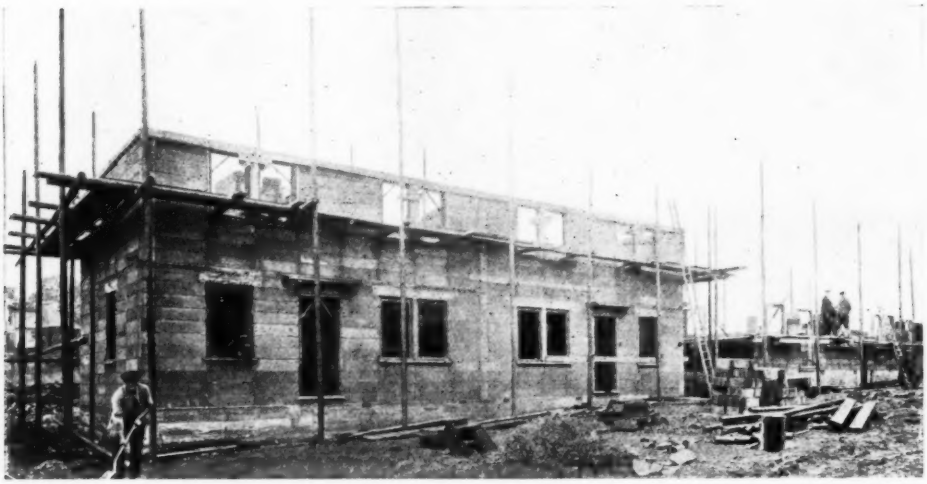
GROUND FLOOR PLAN FIRST FLOOR PLAN

PLANS AND PERSPECTIVE OF A TYPE B3 CONCRETE HOUSE.



A MODERN CONCRETE BLOCK-MAKING UNIT IN ACTION. TWO POWER PRESSES AT WORK FED BY ONE CHAIN SPADE CONCRETE MIXER.

A PAIR OF COTTAGES AFTER THREE DAYS' WORK.



THE SAME COTTAGES AFTER FIVE DAYS' WORK.

HOUSING WITH UNSKILLED LABOUR AT WAKEFIELD.