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FIRST SOUTH AFRICAN ARCHITECTURAL CONGRESS.

MINUTES of meetings of the First South African Architectural Congress, held under the auspices of the Association of Transvaal Architects in the Scientific and Technical Societies Club, 100, Fox Street, Johannesburg, from Monday, 5th September, to Thursday, 8th September, 1921, both days inclusive.

Present: Messrs. E. M. Powers (Association of Transvaal Architects), J. S. Donaldson (Society of Architects (London), South African Branch), Allen Wilson (West Rand), T. Gordon Ellis (Pretoria), D. M. Sinclair (Rhodesia), N. T. Cowin (Pretoria), Walter Reid (Transvaal Institute of Architects), J. F. Beardwood (Society of Architects (London), South African Branch), E. J. Wellman, R. Howden (East Rand Advisory Committee), H. G. Veale (Kimberley), F. L. H. Fleming (Association of Transvaal Architects), F. Parker,

H. Simonsen, D. M. Burton, H. Rowe Rowe, Harold Porter, G. T. Hurst (Cape Institute of Architects), B. V. Bartholomew (Natal Institute of Architects), Leonard K. Walker (East London and Border Towns), W. J. McWilliams (Port Elizabeth Society of Architects), John Waterson (Transvaal Institute of Architects), D. Dakers (South African Institute of Quantity Surveyors), E. B. Farrow (South African Institute of Quantity Surveyors), T. Moore (South African Institute of Quantity Surveyors), F. W. Masey (Bloemfontein), J. E. Fitt (Bloemfontein), H. W. Spicer, and M. K. Carpenter, who acted as Secretary to the Congress.

FIRST SESSION, MONDAY, 5th SEPTEMBER, AT 10 A.M.

SECOND SESSION, MONDAY, 5th SEPTEMBER, AT 2.30 P.M.

THIRD SESSION, TUESDAY, 6th SEPTEMBER, AT 10 A.M.

The President of the Congress, Mr. E. M. Powers, took the Chair at 10 a.m., and called upon His Worship the Mayor to formally open it.

The Mayor, on behalf of the Municipality, extended a hearty welcome to the delegates, and wished them every success with their deliberations.

The President thereupon thanked the Mayor for his welcome, and formally addressed the delegates on the business before them, after which the meeting resolved itself into Committee to consider the various proposals in respect of the new form of Conditions of Contract.

The Congress resolved that two sessions be held daily, and that the hours be from 10 a.m. to 1 p.m. and 2.30 p.m. to 5 p.m.

The delegates thereupon signed the attendance register, and made known the respective Societies they represented. Mr. McWilliams (Port Elizabeth) expressed regret at the absence of representatives from the Cape Institute of Architects.

After the Secretary had advised Congress that a communication received from the President of the Cape Institute of Architects intimated that delegates would attend, Mr. G. T. Hurst, of Durban, stated that his Institute had received a request from the Cape Institute to represent that body at this Congress, and that he wired agreeing to this arrangement and requesting further information.

The Congress thereupon proceeded to consider the clauses of the new Conditions of Contract, which occupied the whole of the two sessions on Monday the 5th, the morning session of Tuesday the 6th, and was completed at 4 p.m. on that date.

After completeion it was decided that the alterations and amendments made should be embodied in a new and complete form of Contract. This was to be prepared and made ready for Thursday, the 8th instant, at 9.30 a.m., for the purpose of a final perusal prior to a meeting with the members of the National Federation of Building Trade Employers in South Africa, having for its object the mutual agreement to the new document, and the Secretary was authorised to ask that body to meet this Conference on the day named.

FOURTH SESSION, TUESDAY, 6th SEPTEMBER, 1921, AT 4 P.M.

Following the completion of the Conditions of Contract, the President drew attention to the fact that the next item on the Agenda was The Union Registration Act, which would take a considerable length of time to discuss. He therefore suggested that this item be put forward to the following morning, and that other items of lesser importance be taken. This was unanimously agreed to.

On the question of having a verbatim report of the proceedings in connection with the Union Registration Act, delegates were of the opinion that if resolutions were submitted in written form, and duly recorded, it would be unnecessary for a detailed report to be made.

Mr. N. T. Cowin formally proposed that no verbatim report on the proceedings was necessary. This was seconded by Mr. R. Howden, and unanimously agreed to.

COMPETITIONS.

On the subject of Competitions submitted by the Natal Institute of Architects, Mr. B. V. Bartholomew stated with regret that there was a growing tendency in some parts of the Union to conserve Architectural Competitions to local practitioners, a proceeding which was not in the best interests of the profession, and which should therefore be discouraged.

He was of the opinion that all Competitions should be open to practising architects within the Union, and that to prevent the issue of governing conditions which were either unsuitable or not in

accordance with professional requirements, a central authority should be established to which all conditions should be submitted, for approval, prior to issue.

Further discussion on this matter by Mr. G. T. Hurst pointed to the impossibility of giving effect to this proposal by the appointment of a central authority until such time as the various Societies had become unified.

It was therefore decided to allow the matter to stand over until some future date on the understanding that the various Societies would see to it that the Conditions of Competitions promoted in their respective territories were suitable, and if not to duly advise the other bodies.

REINFORCED CONCRETE CONSTRUCTION.

The question of the registration of artisans working in Concrete Construction was introduced by the Association of Transvaal Architects who drew attention to the fact that this was a highly specialised trade, and that persons working in it should have a knowledge of the principles of its construction, as it was found that on occasions workers had misplaced the reinforcement, which, failing detection, would have had disastrous results.

Mr. W. J. McWilliams concurred that a knowledge was imperative, and that knowledge should be demonstrated by examination and successful persons registered in the like manner in vogue for plumbers and electricians.

Mr. N. T. Cowin proposed the following motion :

> "In view of the grave danger to life and limb from defective work in Reinforced Concrete Construction, it is imperative that Foremen Artisans working in this material should be registered and licensed."

This was seconded by Mr. D. M. Sinclair and carried nem con.

The Conference thereupon adjourned until the following day.

FIFTH SESSION, WEDNESDAY, SEPTEMBER 7th, AT 10 A.M.

Present : Mr. E. M. Powers (in the Chair), Messrs. F. L. H. Fleming, J. F. Beardwood, R. Howden, H. Simonsen, J. E. Fitt, Allen Wilson, H. G. Veale, Walter Reid, Leonard K. Walker, B. V. Bartholomew, G. T. Hurst, W. J. McWilliams, T. Moore, E. B. Farrow, H. Rowe Rowe, D. Dakers, D. M. Burton, D. M. Sinclair, N. T. Cowin, J. S. Donaldson, F. W. Masey, Harold Porter, in the absence of the Secretary on other duties, Mr. D. M. Sinclair kindly acted in this capacity.

UNION REGISTRATION ACT.

The President, in opening the session, referred to a revised Draft Act for the Union provided by the Association of Transvaal Architects in 1913, the main points of which were submitted to a Conference of practising and salaried architects of the Cape Province and the Orange Free State and representatives from the Association of Transvaal Architects, at Capetown, in January, 1919, all of which, with the exception of the chapter providing for the registration of Quantity Surveyors, were agreed to.

Subsequently the same draft and Agenda were considered by a General Meeting of the members of the Natal Institute of Architects held in Durban in May, 1919, without the above exception, and unanimously agreed to.

Mr. B. V. Bartholomew, President of the Natal Institute of Architects, stated that his Institute agreed with all the principles passed at the Conference referred to, and were desirous of getting registration under an Act at the earliest possible moment ; from information he had received it was impossible to get the Natal Provincial Council to pass a similar measure to that in force in the Transvaal, and therefore other measures would have to be adopted. Any proposals to further this end would receive the unanimous support of his Institute.

The President stated that in view of the fact that registration was to be the subject of discussion at this Conference of Architects, the Association Council had sent delegates to Pretoria to interview the Minister of the Interior with a view to finding out just what the procedure would have to be, should it be decided to go forward with registration.

The net result of that interview had been that the Minister had given a definite statement that Parliamentary procedure would not admit of the Government introducing a Bill which affected one section of the community only, neither was it possible for the Government to undertake the passing

of an extension of the Transvaal Act, with or without amendments, and the only course open was the introduction of a new Private Bill for the Union.

The Minister had further stated that he saw no objection to the Preamble as suggested in the Draft Act as proposed by the Association of Transvaal Architects in 1913, but definitely stated that a Preamble as per our present Transvaal Act of 1909 would not receive sanction of Parliament to-day.

The Minister further stated at that interview, the Chairman pointed out, that the Provincial Councils of the Union had no power to pass a similar Act to that passed by the Transvaal Parliament before Union, and that it could only be done by the Union Parliament, so that any attempt at Provincial Legislation would be abortive.

At this stage Mr. G. T. Hurst, of Durban, as representing the Cape Institute of Architects, stated that on the previous day he had wired to the Cape with a view to getting a clear mandate from them on the question of Registration, and in particular reference to the chapter on Quantity Surveyors, and handed to the Chairman the following wire, which was read:

> "Cape Institute support Federation Professional Bodies anyhow idea uniformity procedure to attain Registration. Headquarters most accessible Majority membership. Quantity Surveyors defined in Cape or those solely operating building figures apart from Architects measuring own work."

Mr. B. V. Bartholomew (Natal) proposed the following motion:

> "That in view of the opinion expressed by the Minister concerned we recommend to the several Provinces here represented that a Union Bill be proceeded with and the draft proposed Architects Act, 1913, prepared by the Association of Transvaal Architects be accepted as the basis of discussion for the new Bill."

This was seconded by Mr. G. T. Hurst (representing the Cape Institute of Architects) and strongly supported by Mr. W. J. McWilliams (Port Elizabeth Society of Architects). Mr. T. Moore (South African Institute of Quantity Surveyors) also supported the motion, and stated that the delegates appointed by his Institute to the 1919 Conference in Capetown had, contrary to instructions, voted against the inclusion of the chapter governing Quantity Surveyors, and that he wished to re-affirm that his Institute desired the inclusion in the proposed Union Act of a chapter including the Quantity Surveyors.

On being put to the vote the motion was carried unanimously.

Mr. F. L. H. Fleming (Association of Transvaal Architects) proposed the following motion:

> "This Conference appoints an Executive Committee with full power to act in terms of the preceding resolution moved by Mr. B. V. Bartholomew (Natal Institute of Architects) and seconded by Mr. G. T. Hurst (representing the Cape Institute of Architects), such Executive to be as follows:
>
> One member with one vote from each of the following bodies—
>
> The Association of Transvaal Architects.
>
> The Cape Institute of Architects.
>
> The Natal Institute of Architects.
>
> The Society of Architects (London), South African Branch.
>
> The South African Institute of Quantity Surveyors.
>
> The Transvaal Institute of Architects.
>
> The Architects of East London and Border Towns.
>
> The Architects of the Orange Free State.
>
> The Architects of Kimberley and District.
>
> The Port Elizabeth Society of Architects.
>
> The permanent Chairman to be Mr. E. M. Powers, of Johannesburg, with deliberative and casting vote, or in his absence or inability to hold office, the person elected by the majority of the Executive.
>
> The Conference accepts the following nominations made by the several bodies represented, that is to say:
>
> Association of Transvaal Architects: Nominee, M. J. Harris.
>
> Transvaal Institute of Architects: Nominee, Walter Reid.
>
> Cape Institute of Architects: Nominee, W. J. Delbridge; Local Representative, D. M. Burton.
>
> Natal Institute of Architects: Nominee, B. V. Bartholomew; Local Representative, H. G. Veale.
>
> Port Elizabeth Society of Architects: Nominee, W. J. McWilliams; Local Representative, F. L. H. Fleming.

Architects of the O.F.S.: Nominee, F. W. Masey; Local Representative, Allen Wilson.

Architects of East London and Border Districts: Nominee, Leonard K. Walker; Local Representative to be appointed.

Architects of Kimberley and District: Nominee, W. A. Timlin; Local Representative, J. S. Donaldson.

S.A. Institute of Quantity Surveyors: Nominee, T. Moore.

Society of Architects (London), South African Branch: Nominee, R. Howden.

This was seconded by Mr. W. J. McWilliams (Port Elizabeth Society of Architects), and unanimously agreed to.

Mr. W. J. McWilliams (Port Elizabeth Society of Architects) proposed and Mr. G. T. Hurst (Cape Institute of Architects) seconded that the headquarters of the Executive be Johannesburg, which was unanimously agreed to.

Mr. D. M. Burton moved that the Executive Committee be empowered to make any alterations they may deem necessary to the Draft Act of 1913, especially embodying a clause referring to applications for registration from students who, having passed all examinations in the department of Architecture, University College, Johannesburg, should not be called upon to put in more than two years' professional and practical experience as assistants to an Architect, prior to registration.

This matter was referred to the Executive Committee.

On the question of financing the proposed Bill through Parliament it was found to be impossible to forecast the money required for this purpose, because the greater part of the expense would be incurred after the Bill had been referred to a Select Committee of the House.

It was considered equitable that the members of each of the bodies represented in Conference should contribute equally to the cost of promoting the Bill.

Mr. D. M. Burton (Association of Transvaal Architects) moved that in the first place each body make a levy of two guineas for each of their members towards the preliminary expenses of the proposed Act.

This was seconded by Mr. G. T. Hurst (representing the Cape Institute of Architects) and carried unanimously.

It was agreed that the representatives of unattached members of the profession should endeavour to obtain a similar amount from the architects in their respective districts.

The Conference then adjourned until the following morning.

SEVENTH SESSION, THURSDAY, 8th SEPTEMBER, 1921, at 10 p.m.

JOINT MEETING.

Present: On behalf of the Architectural Congress, Messrs. E. M. Powers, D. M. Sinclair, W. J. McWilliams, T. Moore, H. G. Veale, L. K. Walker, J. E. Fitt, J. S. Donaldson, B. V. Bartholomew, H. Porter, A. Wilson, G. T. Hurst, R. Howden, F. W. Masey, Walter Reid, J. F. Beardwood, F. L. H. Fleming, H. Simonsen, E. B. Farrow, D. Dakers, H. Rowe Rowe.

On behalf of the National Federation of Building Trade Employers in South Africa: Messrs. D. F. Corlett (President), P. H. Hittinger, R. W. Kelly, J. B. D. Clarke, A. Barrow, R. Forbes, and J. Moore.

In attendance: Mr. P. C. Chivers (Solicitor to the Association of Transvaal Architects), and M. K. Carpenter, Secretary.

Mr. E. M. Powers, in opening the proceedings, extended a hearty welcome to the Federation delegates, pointing out that the Congress had carefully considered all the points of the new form of Conditions of Contract, and had come to the conclusion that certain of the clauses would require modification, in order to make them acceptable to every part of the Union, owing to the difference in the conditions existing at the coast towns.

Mr. D. F. Corlett, in reply, appreciated the welcome extended to the members of his Federation, and pointed out that for the first time in the history of the Union accredited representatives of Architects and Builders were met together to discuss a common cause, and he trusted that the deliberations would result in arriving at a mutual understanding which would be for the benefit of all parties concerned throughout South Africa.

The Joint Meeting then proceeded to consider the suggested additions, alterations and amendments to the new form of Conditions of Contract, and after protracted deliberation, greatly aided by the legal advice tendered by Mr. P. C. Chivers, a finality was arrived at and an amended form produced and mutually agreed to by all the members

of Congress and the National Federation, on behalf of the respective bodies represented by them.

In view of the Cape Institute of Architects being represented by a member of the Natal Institute of Architects, Mr. D. F. Corlett asked if the decisions arrived at would be agreed to by and binding upon the Cape Institute, Mr. G. T. Hurst (representing the Cape Institute of Architects) stated that the telegraphic instructions received by him, from that Institute, gave him full power to act on their behalf, and that he did not expect any difficulty would arise with that body in respect of acceptance and use of the new form of Conditions to which he had agreed on their behalf.

Respecting the printing and issue of this new form of Conditions of Contract, it was unanimously agreed that this be left in the hands of the Registrar of the Association of Transvaal Architects to ascertain through the Secretary to the Federation the number of copies required by his various centres, and to provide for the requirements of the architectural profession in the respective centres throughout the Union, and to have the number printed and issued as required, at cost price.

Mr. D. F. Corlett, in expressing his pleasure at the amicable manner in which the decisions had been arrived, thanked the Cape Institute representative for the assurance given.

WAGES SLIPS ON TENDERS.

Mr. P. J. Hittinger, in introducing this subject, stated that there appeared to be a mistaken idea regarding the omissios of these slips from the tender forms, and that his Federation were prepared to order them to be restored if so required by the Congress.

The consensus of opinion was that the Employer and not the Contractor should have the advantage of any fall in wages, and that it appeared advisable to have this slip restored.

The President stated that tenders should be submitted according to the wish of the building owner, i.e., if the slip be omitted from the tender form than the tender submitted is a firm one and not subject to any variation, whereas if the slip is used, then the tender is subject to the sliding scale of wages ruling during the period of the Contract, and whichever basis the tender was made upon should be embodied in the Bills of Quantities.

This was mutually agreed to, and on the recommendation of Mr. F. L. H. Fleming it was decided to circularise all architects on this matter.

TENDERING AGAINST NON-MEMBERS.

On the question of tendering against non-members of the Federation, Mr. Hittinger asked for the protection of his members against builders who are not bound by any standard on the grounds that such non-members constituted a danger to the building employer and the architect which should not be tolerated.

It was pointed out that Architects would not bind their clients to call for tenders from only members of the Master Builders' Associations, but as far as possible, providing the special tender envelope was used, tenders from members of the Master Builers' Association would not be opened in competition with other tenderers from non-members.

Mr. Hittinger undertook to issue a special letter from his Federation requiring all members to use the official envelope and thus minimise the possibility of receipt of mixed tenders.

POSTING RESULTS OF TENDERS.

Mr. P. J. Hittinger asked that members of Conference would use their best endeavours to have tender results posted in their offices as early as possible after the closing date, in so doing he suggested that 24 hours was ample time to give effect to this request.

General support was received from members of Congress to this request, and it was further considered only reasonable that such tenders should be opened in public and that interested contractors should attend.

It was agreed to recommend accordingly.

RE-TENDERING.

On the question of re-tendering the Federation were of the opinion that such should not be allowed under a period of 12 months except in very special cases, and that the practice of asking the three lowest tenderers to submit their schedules was one which should be done away with.

Ultimately it was decided that the best way to deal with tenders exceeding the amount to be spent by the Client would be for the lowest tenderer only to submit his schedule, and it was decided to recommend accordingly to each of the architectural bodies of the Union.

The members of the National Federation, after expressing thanks for the hearing given to the several subjects introduced, then withdrew.

ART AND EDUCATION.

Mr. F. L. H. Fleming (Johannesburg) in introducing this subject, stated that this was an occasion when a resume of the work done under this heading by the Association of Transvaal Architects would not be out of place, followed with a detailed account of the establishment of evening classes at the School of Mines, Johannesburg, which were kept together by Honorary Lecturers from the Association, culminating in the establishment of the first Chair of Architecture in South Africa. He further dealt with the establishment of the South African Academy by Mr. D. M. Burton and the two exhibitions held under its auspices, and submitted the two following proposals as unopposed motions.

1. This Congress of Architects, representative of all Architects' Associations and unassociated architects of the Union of South Africa and Rhodesia, affirm:

   That the fostering of Art and artistic expression and appreciation is a prime function and duty of governing and educational bodies, and cannot be neglected or delegated entirely to private effort without detriment to the orderly advancement of the State.

2. The members attending this Conference pledge the bodies they represent and themselves individually to initiate and support as far as possible organised effort to advance the public appreciation of Art.

Mr. B. V. Bartholomew (Natal Institute of Architects) in supporting these resolutions, stated that a determined attempt had been made in Durban, by amalgamating the four bodies of Artists in that town, with a view to regular intercourse by monthly lectures, exhibitions, etc., and as honorary Secretary of the Natal Society of Artists, who would hold their Annual Exhibition at an early date, he would welcome exhibits from South African practitioners in order to establish an architectural section.

Mr. W. J. McWilliams stated that a Society of Arts and Crafts established in Port Elizabeth was doing excellent work in the direction indicated and given more publicity the subject would be more discussed by the general public with advantageous results.

Mr. F. W. Masey (Bloemfontein) stated that the visit to the Department of Architecture, University College, Johannesburg, on the previous day had been quite an eye-opener in respect of the artistic education of the students, and it was his intention on his return to Bloemfontein to recommend to two applicants that they immediately enrol at that Institution in preference to remaining in Bloemfontein.

PUBLIC HEALTH ACT.

Mr. L. K. Walker (East London) drew attention to the provisions made in the Public Health Act No. 36 of 1919, in respect of cross ventilation, and severely criticised the administration of this portion of the Act by local Authorities suggesting that Clause 4 of the Act, which provided for the establishment of a body of seven persons to be called the "Council of Public Health" should be taken advantage of in order that the profession might be represented thereon. He therefore proposed the following motion:

> "That representations be made to the Minister of Public Health for the appointment on the body styled the 'Council of Public Health' under Act 36 of 1919, of one or more architects who are wholly in private practice, to be members of that Council."

Mr. W. J. McWilliams (Port Elizabeth) in seconding the motion, stated that such representation would undoubtedly facilitate matters greatly, and do away with several anomalies which were giving great trouble at the present time.

The motion was unanimously agreed to.

MUNICIPAL BUILDING BY-LAWS.

The President informed members that the revision of the Johannesburg Municipal Building By-laws had been under consideration of a Joint Committee consisting of the Municipal officials and members of the Association of Transvaal Architects, and that a final amended draft had been prepared, and further recommended to members that it was advisable to endeavour to obtain a standard set of Municipal Building By-laws throughout the Union.

With this end in view he suggested that members should recommend to their local Town Council or Works Committee whenever those bodies are likely to deal with Building By-laws, that a copy of these new Johannesburg provisions be obtained from the Town Clerk with a view to forming

a basis for any alterations and additions to such laws in other Municipalities.

TOWN PLANNING.

Mr. Harold Porter, Executive member of the Town Planning Association (Transvaal) detailed particulars of the inception and growth of this Association and the work it had done, he strongly recommended to all members that attempts be made in their Provinces for the establishment of an Association on similar lines with the ultimate endeavour to amalgamate and form a South African Town Planning Association.

This closed the business before Conference, and Mr. W. J. McWilliams (Port Elizabeth) proposed a hearty vote of thanks to Mr. Powers for the admirable way, as President of the Conference, he had conducted the deliberations. He felt that the great success achieved was due in a large measure to the latitude given to delegates to express their opinion and the admirable conduct of the Conference throughout, and it was a source of congratulation to all that the proceedings had been marked with such unanimity of purpose.

All the other delegates spoke in support of this vote, which was carried with acclamation.

A vote of thanks to Mr. P. C. Chivers (Solicitor) and to the Secretary completed the business, and the Conference terminated at 6 p.m.

The social side of the Conference was a feature thoroughly appreciated by the delegates and members attending. On the evening of Monday, 5th September, 1921, the usual quarterly dinner and meeting of the Association was held in the Scientific Club at which upwards of 40 sat down to dinner. Afterwards an adjournment was made to the Lecture Hall, where Professor G. E. Pearse, A.R.I.B.A., lectured to nearly 500 people on "Ancient Babylonian Architecture." This lecture was illustrated by lantern slides, and judging from the questions and remarks from the delegates which followed, the lecture was unusually interesting and thoroughly appreciated.

At the close of the morning session on Wednesday, September 7th, Messrs. D. F. Corlett, A. Barrow, F. Allwright, Allen Wilson, and H. Holmes kindly transported the delegates, in their cars, to the Country Club, where luncheon was partaken of on the broad verandah, and afterwards a most enjoyable time was spent in the delightful grounds of the Club, which were looking their best in Springtime freshness and blossoms.

Mr. Frank Emley, the host, conducted the party over the new additions to the Club buildings, the new dining room and treatment of the "bar" calling for special admiration.

After luncheon a visit was made to the site of the new University at Milner Park. The delegates were conducted over the new Hostels and the new University Buildings in course of erection by Messrs. Emley, Cowin and Powers, an item of special interest being the modelling and casting of the concrete blocks used in the construction.

The new Medical School was next visited, where Mr. Walter Reid and Mr. B. Barrow conducted the delegates, and proved of great interest; the party had an opportunity of seeing the Students at work in the dissecting room, where somebody facetiously remarked the subjects were victims of the poll tax.

Returning to town, Professor G. E. Pearse received the delegates at the new Atelier of the Architectural School, and much interest was shown in the students' work, models and plaster casts.

A brief visit to the new Chamber of Mines Building concluded a most enjoyable and instructive afternoon.

In the evening the delegates and friends were entertained at a banquet given in their honour by the Association of Transvaal Architects, the Transvaal Institute of Architects, and the Society of Architects (London) South African Branch, at the Scientific Club.

Mr. E. M. Powers, F.R.I.B.A., President of the Association of Transvaal Architects and of the first South African Architectural Congress, acted as Chairman, and amongst the company present were the Administrator of the Transvaal Province (the Hon. A. G. Robertson), the Mayor and Mayoress of Johannesburg (Mr. J. Christie, M.L.A., and Mrs. Christie), Dr. and Mrs. A. J. Orenstein, Professors J. H. Hofmeyr and G. E. Pearse, Mr. and Mrs. G. S. Burt Andrews, Dr. and Mrs. Chas. Porter, Mr. and Mrs. F. L. H. Fleming, Mr. and Mrs. J. S. Donaldson, Mr. and Mrs. H. G. Veale, Mr. and Mrs. D. M. Sinclair, Mr. and Mrs. E. H. Waugh, Mr. and Mrs. Corlett, Mr. and Mrs. Barrow, Messrs. D. M. Burton, R. Howden, P. C. Chivers, Gordon Leith, H. W. Spicer, M. K. Carpenter, Secretary to the Conference, and all the delegates.

Altogether upwards of 60 attended the banquet, which was accompanied by a delightful pro-

gramme of music. Afterwards the burdens of the songs of the architect speakers were rejoicing over the harmony displayed at the first South African Congress, mutual congratulations on the degree of union achieved, and unanimous hope in the promise of the future.

The Chairman was responsible for opening the floodgates of post-prandial eloquence by proposing the toast of "The Transvaal Province," and spoke of the achievements of architects in the Transvaal, and their strivings to attain a national style of architecture and of the creation of a chair of architecture in the Transvaal University, the first such chair in the Union. He then passed on to the subject of taxation, on which he had a few words to say in jocular fashion for the benefit of the Administrator. Proceeding, he quaintly described, amid laughter, the profession to which he belonged as among other professional bodies "the gold in the reef," and, pursuing the analogy further, he described the treatment meted out to architects by the authorities as "crushing and refining."

HIS HONOUR IN HAPPY VEIN.

The Administrator was in happy vein in acknowledging the toast. He said he found that he, an innocent little lamb, had come among the lions. (Laughter.) His Honour then became reminiscent. He said that the Transvaal had in the past done him well. He came to the Transvaal when he was two years of age, and there had been some big changes since then. In the days when the little house was built in which he first lived in the Transvaal there were no architects. The house was built of green bricks and grass, but he was very happy in it. His Honour next talked of the future. Some day, he supposed, they would be told there was no more gold and no more diamonds, but then they would have their wonderful coal and iron deposits to look forward to. More than that, however, there was the wonderful agricultural wealth of the country, which would remain for all time. They were going to have the greatest prosperity so far as the agricultural wealth was concerned. They must, however, get away from the idea of making fortunes quickly out of agriculture. It could not be done. They had to work hard, and for a long time, to make money out of agriculture. If they wanted to become industrially a great country the first thing they had to do was to produce food for the industrial population, and to produce that food they must have a big population of farmers. As Administrator he could tell them something about the increase of population so far as children were concerned. There was not a school in the country that was not chock-a-block full of children, and they (the children) seemed to be increasing at an alarming rate, so that he could not keep pace with them. (Laughter.) When they thought of their huge country and its possibilities, they wanted people to come in faster than the children were coming in. It was a large number of small farmers they needed, not a small number of large farmers, to help to bring about the industrial expansion they all hoped for. He had the greatest hope in the future of the Transvaal, and not only of the Transvaal, but of the Union. (Applause.) In spite of the difficulties they were going through at present—which were world difficulties—very shortly they would have touched the bottom of the depression. They would start again, and there would be an enormous expansion and development. (Applause.)

DON'T WORRY ABOUT TAXES.

His Honour dealt wittily with the matter of the employment of architects. The Provincial Administrator, he said, had not been able to employ them to the extent he personally would have liked. But he was the victim of circumstances, and he would tell them the reason. The reason was that the P.W.D. did the work for nothing. (Laughter.) He did not believe in beating about the bush. They as a Provincial Administration had it done for them by the Union Government for nothing. (Laughter.) Moreover he was a bit of a Scotchman and jolly hard up. (Laughter.) He advised his hearers to stop criticising the Provincial Council and to leave politics alone. What they suffered from most was politics and worrying about taxes. They should just pay them. (Applause.) As to the poll tax, he wanted money, and he hoped they would pay it cheerfully, and that there would be no worry and trouble about it, and no court cases.

Mr. F. L. H. Fleming proposed "The Johannesburg Municipality." He said they occasionally heard remarks that Johannesburg was not all it was cracked up to be. If, however, they put that to the average Johannesburger he thought he would say, "If you know of a better 'ole, go to it." (Laughter.) Mr. Fleming concluded a thoughtful

speech by saying that architects wanted the sympathy and assistance of the Municipal Council in their efforts towards obtaining ultimately what they most desired, a representative school of art in this greatest town of South Africa.

The Mayor, in responding, expressed his belief that Johannesburg was going to be even a greater city than it was at present. As the gold mines dwindled and agriculture developed Johannesburg would still continue the chief centre of the country. The recent livestock show was significant in this respect. Speaking of architects, his Worship said the Municipal Council would give them their help because they needed that of the architects. The Council could, however, only get their help if the architects were a combined body, if they had union in their own ranks, if they came forward as a solid body. The Mayor showed how the Association could support the Municipality in regard to by-laws relating to plans.

"THE DELEGATES."

Professor G. E. Pearse, in proposing "The Delegates," remarked that the Chair of Architecture, to which he had the honour to be appointed, was made possible by private donations from members of the Association of Transvaal Architects, by means of which it was established and endowed.

Mr. B. V. Bartholomew, President of the Natal Institute of Architects, eloquently replied. He spoke of the unity of the delegates at the Conference, and said they were now going to get an Act and put it through Parliament and lock the door against the quack. (Hear, hear.)

Mr. W. J. McWilliams, of Port Elizabeth, also responded, and in the course of an interesting speech said that one of the greatest events in the architectural history of South Africa was due to the efforts of the late Cecil Rhodes. His foresight saw the necessity for something to be done in the way of a national style of architecture. He thought they owed him a very great debt in that he selected a man like Mr. Herbert Baker and sent him to the northern shores of the Mediterranean to study architecture. He (the speaker) considered that action laid the foundation of a national spirit of architecture of this country. (Applause.)

"Our Guests" was proposed by Mr. D. M. Burton, and replied to by Professor J. H. Hofmeyr in speeches which were not tedious, though the hour was late.

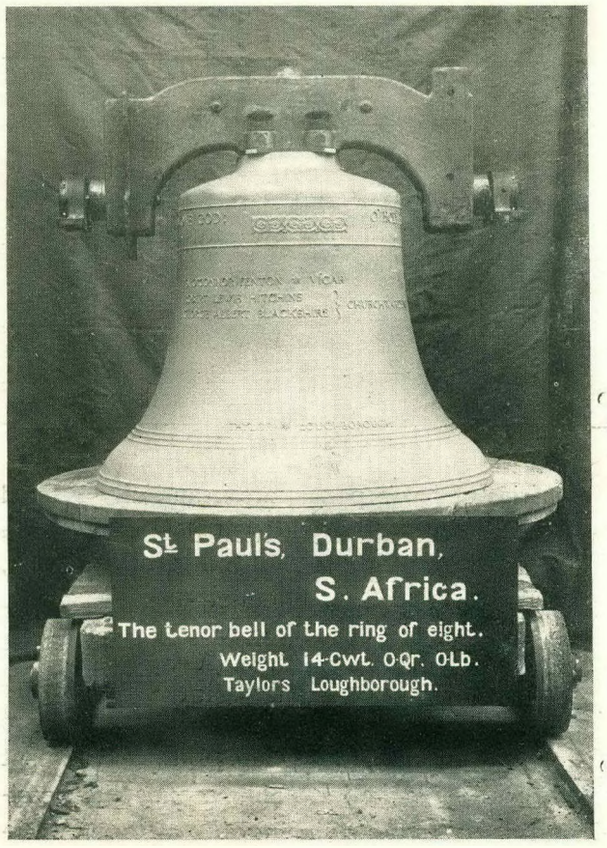
Then a general move homewards was made.

Through the kindness of the Editor of the South African Pictorial we are able to reproduce a photograph of a number of the delegates who inspected the New Medical School in Johannesburg, reading from left to right they are Messrs. G. T. Hurst, B. V. Bartholomew, H. G. Veale, H. Porter, N. T. Cowin, Allen Wilson, E. M. Powers, Walter Reid, J. E. Fitt, D. M. Sinclair, F. W. Masey, I. K. Walker, A. Barrow, Frank Emley, D. F. Corlett, H. Simonsen, F. Allwright.

Two Notable Achievements

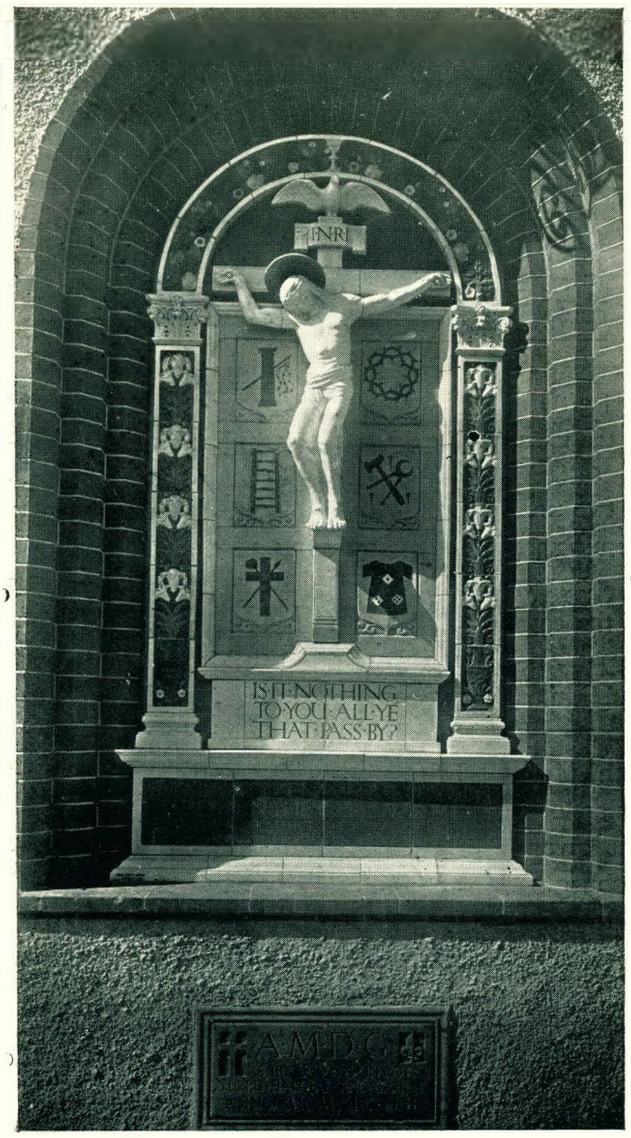
At Durban recently there were successfully completed two undertakings which may be considered as not without significance in a country emerging from the condition of complete dependence upon the outer world for certain highly technical products.

The first was of a mechanical nature, namely, the production of the frames and accessory parts, and their erection, for carrying two complete sets of ringing church bells. The peals have been hung in the churches of St. Paul and St. Mary, Greyville, and are of eight and ten bells respectively. The total weights are 6,160 lbs. with tenor of 1,568 lbs. and 3ft. 4in. diameter at St. Paul's, and rather over 9,000 lbs. with tenor of 2,041 lbs. and 3ft. 10½in. diameter at St. Mary's. The peal of ten is said to be unique hitherto in Africa. Both are full ringing peals and are accommodated each in two tiers, and the whole of the complicated steel framing was made, supplied and erected along with the hanging and fitting of the bells by local firms: in the case of St. Paul's the steelwork was by Messrs. Wade and Dorman, with Messrs. Midgley and Son as contractors, and at St. Mary's the engineers were the Cambrian Iron and Steel Works, with Mr. A. Fryer contractor. Expert supervision of the arrangements and erection in detail was given by the Rev. Canon Ridout, of Johannesburg. The actual bells were cast and supplied by the well-known firm of Taylors, Loughborough, England, and the quality of tone and tune is representative of their good work.

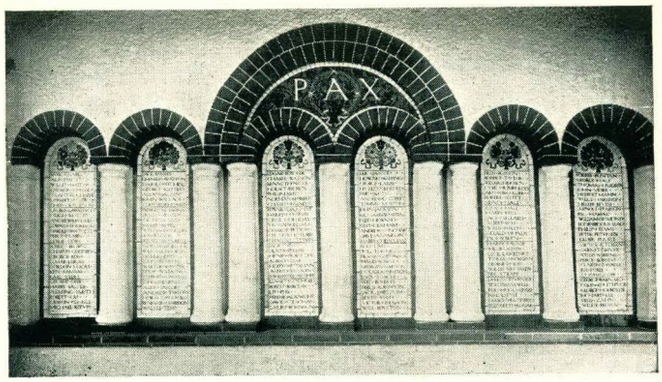


The second undertaking was of far greater technical difficulty. When the tower of St. Mary's Church, Greyville, was undertaken as a War Me-

morial, provision was made for an external central figure of the Crucifixion, to be flanked on either side by a series of arcaded panels to receive 300-400 names. The medium for these, which should at once and forever be bright, clean, worthy, distinct, imperishable, was not immediately obvious; until an examination of the work being done in glazed pottery at the Durban School of Art under Mr. John Adams gave rise to the idea that the medium should be glazed modelled majolica after the manner of Della Robbia. Mr. Adams took up the idea with enthusiasm and set to work. No one will ever know the labours of experiment and the bitterness of failure and disappointment which were endured to produce at last a perfect work. With a home-made kiln built for the purpose and under every kind of disability, the various available clays of South Africa were tried in turn and in combination. Ultimately, by dint of the greatest perseverance and determined courage complete success was attained in a work which is quite unique as a South African production, and with qualities which could be obtained from very few indeed of the workshops of the world.



The illustration is of the central shrine, and the dimensions are 8ft. by 4ft. The colour values are not reproduced in the photograph: the prevailing note is blue and white, but the lily-panels are in greens, browns, and purples, and the arch of the canopy is full of rich and varied colourings.



The series of name panels are beautifully lettered in blue on white, and the head of each panel is filled with a floral design of many colours variably disposed. The complete work is highly suggestive of the possibility of applying this medium to decorative use in South Africa, where brilliant sunshine enhances and justifies the bold clean nature of it. It will be most regrettable if the experiment should end here; the immediate commercial possibilities may not be convincing, but of the ultimate artistic value to South Africa of an established industry and tradition in decorative tiles and glazed wares there can be little doubt.

The detail and execution of the design are by

Mr. John Adams, who was greatly assisted in his labours by Mrs. Adams. The modelling of the Figure is the work of Mr. Martin, and the lettering throughout is the work of Mr. O. J. P. Oxley,

all of the School of Art, Durban.

The architect responsible for the designs of the bell frames, tower, shrine and tablets is Mr. F. L. H. Fleming, of Johannesburg.

Party Walls.

Mr. Gordon Leith's article on Party Walls in the last issue of "Building" has raised a most important subject, and his plea for a model party wall agreement is very commendable and desirable in view of the difficulty so often experienced under existing conditions in this country in providing satisfactory foundations.

As the whole stability of a building so largely depends upon its foundations, it is an imperative matter for our authorities to provide regulations whereby this result may be obtained.

It may possibly assist matters to outline the procedure practised in London, and to state briefly the rights of the respective Building and Adjoining Owners under the London Building Act.

There are two forms used under the London Building Act, viz.: (a) "Party Structure Notice" and (b) "Intention to Erection within 10 feet, and at a Lower Level," known as "Form B." The architects' duties in conforming with the Act are as follows:

The site of the proposed new building is first of all surveyed, and full particulars taken of heights and thicknesses, as far as possible, of the party walls of the immediate adjoining owners. Diagram drawings are then prepared showing the proposed new work in relation to the existing party wall. The "Party Structure Notice," signed by the Building Owner, with drawing attached, is then served by registered letter to all Adjoining Owners and Occupiers on behalf of the Building Owner, mentioning the work proposed to be done to the Party Wall under the London Building Act. In the space provided on the form the wording may be as follows: "To excavate for the concrete footings and extra new brickwork under old Party Walls to a depth necessary and required under the London Building Act. To excavate ground to depth as shown on attached plans, sections and elevations for new building. To bond into repair, etc., the Party Walls as may be required for the purpose of the new building. To carefully shore up such walls as may be required during the progress of the works. To pull down, rebuild or cut into as may be found necessary, to raise upon, strengthen and thicken out in accordance with the requirements of such Act. Remove all timbering and perform all other work which may upon survey be found to be necessary or desirable."

In the event of the proposed new building going down to a lower level than the adjoining building, then "Form B" is also used, and the nature of the work may be stated after this fashion: "To excavate at a lower level, to underpin and excavate for new foundations, to execute in concrete and brickwork in underpinning and such other work

as may be desirable, and all more particularly as shown on drawing attached."

The Adjoining Owner, on receipt of such notices, notifies the Building Owner of the name of his architect, and then a meeting is arranged between the two respective architects. The scheme is then explained, and the appointment of a third surveyor is at once agreed upon to act in the event of any disagreement.

A draft "Party Wall Award" is then drawn up, and when finally agreed upon by the two parties, is prepared in duplicate, signed by the two architects, stamped at Somerset House, and the agreed fees paid. The form a typical "Award" takes is as follows:

UNDER THE LONDON BUILDING ACT.

In the matter of a Party Wall separating No. ——— Street in the County of London from the adjoining building No. ——— Street.

TO ALL TO WHOM these presents may come. We the undersigned (name of B.O.'s architect and address) and (name of A.O.'s architect and address) send Greeting.

NOW WHEREAS (name of B.O. and address) is the Building Owner within the meaning of the above Act of the premises known as ——— aforesaid. AND WHEREAS (name of A.O. and address) being the Adjoining Building Owner within the meaning of the said Act of the premises known as ———. AND WHEREAS the Building Owner on the —— day of ——— now past served on the Adjoining Owner a Party Wall Notice according to his right under the said Act, and did in such Notice duly appoint (name of B.O.'s architect) as his surveyor. AND WHEREAS the Adjoining Owners did duly appoint (name of A.O.'s architect) aforesaid as his surveyor. AND WHEREAS the said two Surveyors have appointed (name of third Surveyor) as the Third Surveyor under the said Act. AND WHEREAS a difference is presumed to have arisen between the said Building Owner and the said Adjoining Owner. NOW WE two of the said Surveyors so duly appointed having surveyed the walls aforesaid, do hereby determine and Award as follows:

1. That the wall herein before referred to is a Party Wall built of bricks and mortar and that such wall is in parts not of sufficient depth, thickness and strength for the purpose of the new building proposed to be erected by the Building Owner, but is in all respects sound and sufficient for the purposes of the Adjoining Owner.

2. That the Building Owner on completion of this Award shall have the right to pull down such portions of the wall that may be found necessary, excavate the ground for the purpose of the new Basement, insert concrete foundations and brick footings, underpin bond into and execute all other work that may be necessary for the erection of the new building and to bring the wall into conformity with the requirements of the London Building Act, and to the approval of the County Council's Surveyor.

3. That the underpinning as shown on drawing attached hereto shall be erected in short lengths with Portland cement concrete and good sound stock brickwork in cement and wedged up with hard slates in cement.

4. That the brickwork built on or against the Party Wall shall be built in sound hard bricks in cement mortar, and that all brickwork built against the Party Wall shall be well toothed and bonded into same.

5. That the Building Owner shall at his own cost execute all such shoring, strutting and needling as may be necessary to maintain and support the Party Wall and Building of the Adjoining Owner from time to time during the execution of the works.

6. That the Building Owner shall provide and maintain during the progress of the works proper and sufficient dust-proof screens and fans as required for the protection of the premises of the Adjoining Owner, and clean away at completion and make good any damage caused thereby.

7. That the Building Owner shall carefully protect the property of the Adjoining Owner during the execution of the works, and shall at his own expense make good all and every damage arising thereto through the carrying out of the proposed works, to the reasonable satisfaction of the Surveyor of the Adjoining Owner.

8. That the Building Owner shall be allowed to shore up and make secure on the side of the Adjoining Owner, but shall not unduly interfere with the convenience of anyone using the Adjoining Owner's premises.

9. That the whole of the foregoing works shall be executed at the sole expense of the Building Owner.

10. We award and determine that the works shall be commenced forthwith on the signing of the Award, and shall be proceeded with, with all reasonable speed from the date of this Award, the said work being carried out in such manner as to interfere as little as possible with the Adjoining Owner in the using of the premises, and that in the event of any difference or dispute arising between us with regard to this Award or to the works the dispute shall be referred to the decision of the three Surveyors herein mentioned or any two of them.

11. This Award shall not prejudice the Adjoining Owner in any question that may arise as to damage to or interference with any right of light possessed by his premises ——— and shall not be construed as in any way agreeing to such damage or interference (if any) as may be caused by the works authorised hereby.

12. That the Building Owner shall pay the costs of the Adjoining Owner's Surveyor which we hereby assess at the sum of ——— which sum to include any visits that may be necessary during the progress of the works or at the completion thereof, and the Building Owner is to pay the costs of engrossing this Award, and the duplicate thereof and the legal stamping that may be necessary.

SIGNED BY us two of the said Surveyors in the presence of each other this —— day of ———

NOTE.—In the event of the Adjoining Owner making use of the wall raised on a Party Wall, or of the underpinning, a clause should be incorporated in the Award, to the effect that he will pay his share of expenses in proportion to the uses he may make thereof.

Finally, the rights of the respective Building and Adjoining Owners may be roughly summarised as follows:

RIGHTS OF BUILDING OWNER.

To do any work to wall required in his new building, such as removing floors, breasts, cross walls, piers, cutting into and toothing in new cross walls, piers, chases, thickening for raising, etc., and putting down such portions of the Party Wall that are found necessary.

Also to underpin the wall for new or deeper baseemnt and to execute all work that may be found necessary thereto.

Also, to bring the wall into conformity with the Act, and to the approval of the District Surveyor, he has a right to repair and restore bad brickwork: to remove improper materials and rebuilt the brickwork and thicken out if wall be too thin.

The Building Owner is to be allowed to shore up and make secure the Party Wall on the Adjoining Owner's side.

RIGHTS OF ADJOINING OWNER.

All Surveyors' fees and expenses to be paid by the Building Owner entirely.

The Building Owner must provide and maintain proper dust-proof screens and fans as may be required during the progress of the works to protect his property, and cleared away at completion, and if negligence can be shown any damage done is to be made good by the Building Owner.

The Building Owner must protect his property during the execution of the works, and shall at his own expense make good any and every damage caused through carrying out the works which show themselves within six months after completion.

The Building Owner must not interfere with the convenience of anyone using his property.

The work shall not be commenced until the Party Wall Award has been signed by his Surveyor and the Building Owner's Surveyor, and in no case without permission within two months.

The work shall be carried out in such a manner as to interfere as little as possible with his convenience.

The Building Owner pays all fees and expenses unless it has been discovered that the wall is against the provisions of the Act.

It should be noted that in the event of a Building Owner failing through his architect to serve a Party Wall Notice, the Act provides a penalty in the shape of a Police Court Summons and consequent fine!

T. GORDON ELLIS, A.R.I.B.A.,
48, Tudor Chambers,
Pretoria.

Government House Pretoria.

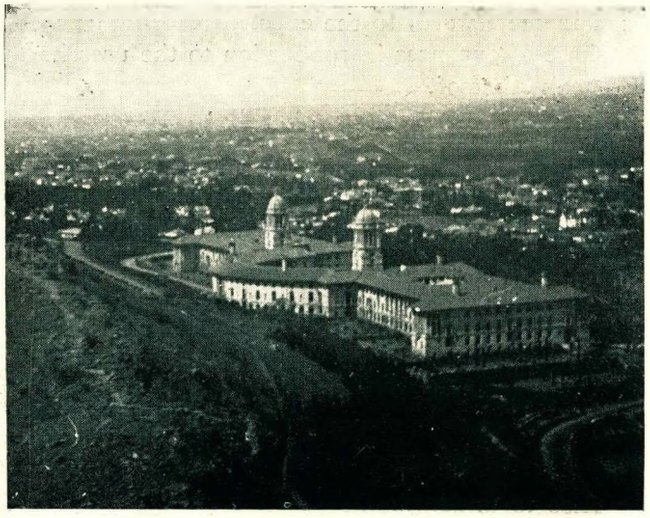
A particularly fine series of photographs, the work of Mr. Alan Yates, of Pretoria, some of which we reproduce, illustrates with peculiar features and effects employed by Mr. Herbert Baker in the design of Government House, Pretoria, the official residence in the Northern Capital of His Excellency the Governor-General. The general design and commanding situation and beautiful surroundings of this building are so well known as to need no further description. Designed originally in the time of Sir Arthur Lawley, the building, which was begun early in 1905 and finished two years later, was first occupied officially by the Earl of Selborne, who with Lady Selborne took great interest in many details of the desig and especially of the gardens. Since that time the house has been occupied successively by Lord Gladstone, Lord Buxton, and at the present time by H.R.H. Prince Arthur ol Connaught. The series includes a good view (not reproduced) ol the South or Entrance Front, which is approached through a fine forecourt; other elevational views are difficult to obtain owing to the falling ground. The detail of the South Gables and Main Entrance with Porte Cochere is well brought out in a nearer view, the subject of our frontispiece. Within the entrance is found a pillared stairway of Red Warmbaths stone with white columns and groined ceiling. This stirway leads immediately to the main corridor, upon which all the principal rooms are set. Of these the chief is the Great Hall, which is well shown. There is a dignity and repose about this room, arising from proportion and a sure restrained touch, which has seldom been surpassed in Mr. Baker's work. Of much interest too, is the furniture, largely the work of South African craftsmen working in South African timbers. The Hall opens upon a very large pillared and groined Atrium, and the means by which this is relieved of monotony; and sunshine is admitted to the Hall without detraction from the line of the tall bay window of the Hall, by placing a court within the Atr m, are well worthy of study. Other details of the Atrium appear in an impressive view taken looking north-west out over the stone paved terrace to a magnificent and typical South African landscape. The sundial of carved slate standing on a column of stone bears the motto, " Pereunt et imputantur." delicately reminiscent, it must be supposed, of the fleetng hours and momentous decisions of successive Pro-consuls.

Not less aptly, perhaps, may the allusion be applied to the Architect, who, as he passes, reveals and records by his works what manner of man he is.

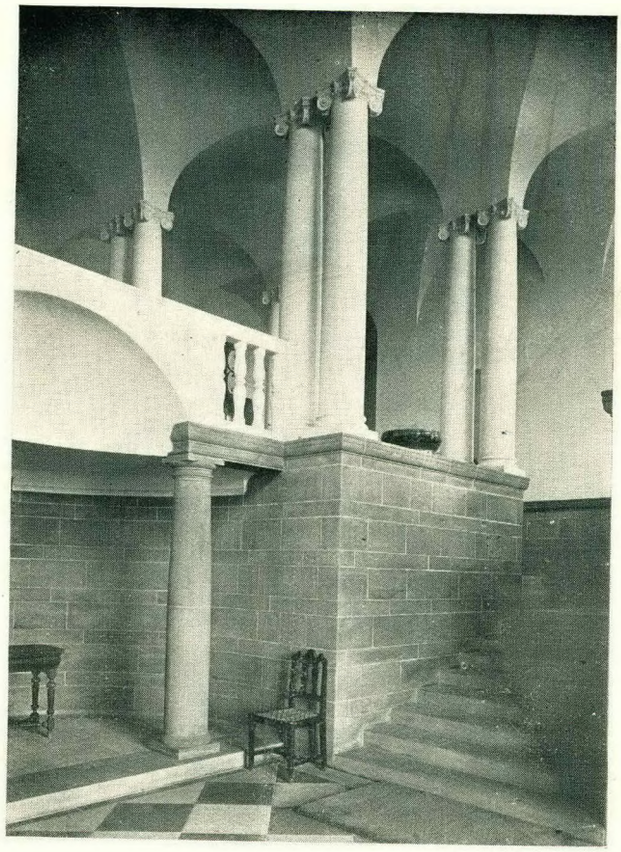
Errata.

Page 490. Second column, line one of second paragraph read "could" for "would."

Union Buildings, Pretoria.



Latest photograph from the air.



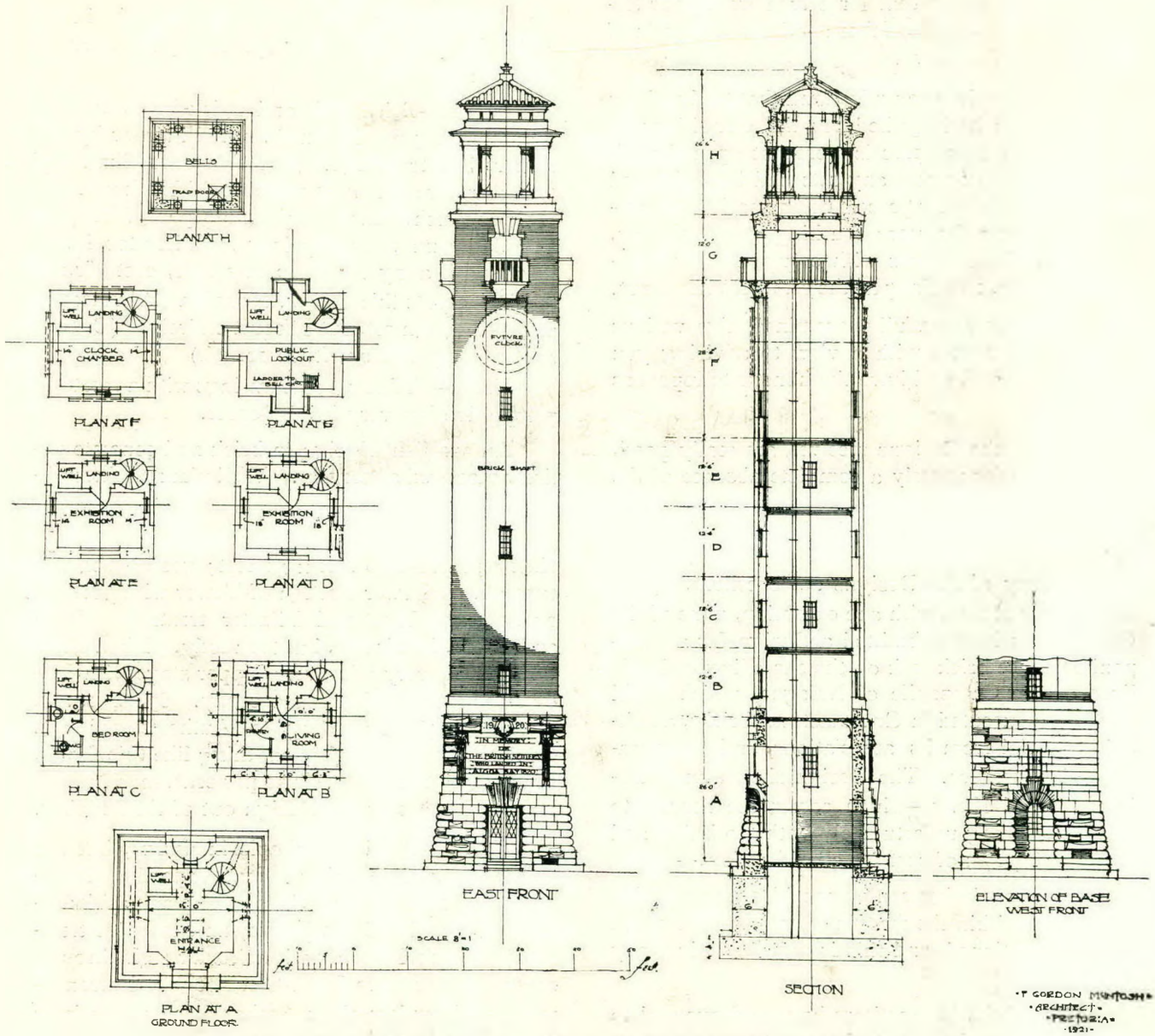
Pillared Stairway.

The Great Hall, Government House, Pretoria.

Pillared and groined Atrium, Government House, Pretoria.

A view from the Atrium, Government House, Pretoria.

: THE : BRITISH : SETTLERS MEMORIAL.
: PORT : ELIZABETH :



First Premiated Design—F. Gordon McIntosh, Pretoria.

1820 Settlers' Memorial.

COMPETITION FOR CAMPANILE.

7th January, 1921.

To the Port Elizabeth Committee
of the 1820 Settlers
Centenary Memorial.

Gentlemen,

I beg to report that I received from your Secretary's office on December 22nd seven parcels of Designs for the above.

As I was given to understand that twelve firms of Architects had applied for the Conditions of Competition, these parcels were not opened until December 28th in case any sets had been delayed in transit. No other parcels being received, I proceeded to open the cases marking all Drawings, Reports and Envelopes with corresponding numbers from No. 1 to No. 7 as the sets were taken out.

I have now carefully examined the various Designs submitted, with a view to advising you upon the Award, and have the honour to report as follows:

Most of the Designs received are really good, and there is fortunately a complete absence of the childish and amateurish examples generally to be found in competitions in this country—this, however, makes the task of an Assessor more difficult. While many of the Designs are excellent, I personally regret that, with one exception, none of the Competitors have submitted a Design for a Campanile in face brickwork on the exceedingly simple lines of the Campanile of Bologna, which could have been executed in Grahamstown bricks, a suitable material from its associations and comparatively inexpensive. The Design shown on Drawings marked No. 1—which comes the nearest to this idea—being unfortunately both too bulky and too far in excess of cost for consideration.

Only one design can be considered as possible to be built within the margin of 10 per cent. above £4,000 mentioned, and this is unsuitable in many ways.

Most of the Competitors have endeavoured to show the cost of their Designs at as near as possible to the £4,000, including margin. Four exceed this amount on their own showing—one being nearly double cannot be considered at all—and the cubing costs for the style of work proposed are in nearly every case too low.

Commenting on the different Designs in the order in which they were opened my notes are as follows:

No. 1.—Brick-built and Brick-faced, and in this respect generally on lines had in view by Assessor, but too large. 30 feet square Shaft and 70 feet square over base steps would block up roadway too much. Internal planning poor, Lift space and Stairs unnecessarily large, Author too lavish in strength altogether. In any case, cost £7,021 to £8,283 puts this design, though a well reasoned and well drawn set, out of court entirely. (Cubicle contents, 142,200 cu. ft. at 1s. 2d.)

No. 2.—A fine set of Drawings with a masterly perspective but very brief Report.

An excellent Design in brick and concrete entirely plastered externally. Well planned throughout but too ornate.

Stylobate of 8 steps with semi-circular ends at East and West 60 feet x 31 feet; good effect, but expensive. Lower Portion of Tower with porticos on East and West and Pilaster treatment North and South, handsome, but too costly. Plain Shaft with entasis very effective. Upper stage with Colonnades also good, but too costly. 89,280 cu. ft. at 1s., £4,464, according to Author's estimate. Could not be executed at anything like this figure, probably not much under 50 per cent. more, which unfortunately puts the Design out of the running.

No. 3.—Good and simple in design, but not quite pleasing in heaviness of upper portion. Stone Base, and Stone Upper Stage and plastered brickwork Shaft with Stone Juoins, an expensive treatment. Clock Chamber with circular stair through centre for access to Look Out floor, bad arrangement, and renders clock mechanism for four faces very difficult and expensive, if possible at all. (50,924 cu. ft. at 1s. 8d.) Stonework as shown would run the cost up much beyond the £4,400 allowed by Authors.

No. 4.—The only Design submitted on any other but square plan. Octagonal base worked back to Cross plan above is ingenious and novel, but seriously affects planning and appearance. Ground Floor Plan very cramped, caretaker's rooms only scale 7ft. x 7ft. Elevations lack simplicity and the necessary verticality of treatment. Cube Contents (without foundation work below ground) 62,808 cu. ft. works out at average of about 10¼d. Author's estimate, £3,950 much too low in cost, even adding allowances made for Finial and Lamps, Lift, Balconettes, etc., which are also too low.

No. 5.—A good Design, well reasoned and suited to its purpose. Cleverly arranged to have large Entrance Hall and important base, but rather expensive in this portion. Simplicity and unbroken surface of Shaft above this very effective, but Perspective does not coincide with plans and sections which have more windows in Shaft. If these are intended to be omitted some rooms and portions of Staircase would be quite dark. Belfry very cramped and its openings too small to give effective sound, Swung Bells of any size would hardly be possible. No space provided for future Lift. Upper feature of Tower not quite pleasing. Design would probably gain in effect if this were omitted altogether, but then height would be insufficient. Stone Base 30 feet square and upper portion of Brick Plastered, Paved Space 46 feet square. 71,435 cu. ft. at Author's average cost of 1s. 3d., making price £4,463, would probably be considerably under the mark.

No. 6.—Poor in Design, and construction wanting in solidity. Taller and slighter than any other design, which is its best point. Stairs not well arranged for planning, caretaker's rooms badly arranged and poor light and ventilation, and no space for future Lift. Brickwork plastered and Reinforced Concrete. 51,654 cu. ft. at 1s. 7d., with allowance for scaffolding of £300, making £4,389, probably might be sufficient.

No. 7.—A good set of Drawings and good Design, Strong and Dignified. Verticality of treatment well emphasised. Planning simple and well arranged, space for Clock and Bells satisfactory, Caretaker's rooms a decent size and liveable. Space provided for Lift. Windows in Shaft might with advantage to design be reduced in size and number, which would also make for economy. Stylobate consists of one step only, about 18in. projection beyond the 26 feet square base, so no expensive paving surround.

All in reinforced concrete plastered and jointed above a granite faced base. Interior specified all plastered.

Cube Contents (including founds) 54,960 cu. ft. at Author's price of £4,587 averages about 1s. 8d. per cu. ft. This amount is £187 over the margin, but could be reduced considerably by omitting and reducing windows as suggested, by omitting most of the plastering inside—which is quite unnecessary—and by omitting external plastering and finishing concrete with jointed face in self with advantage of greater permanency and bolder appearance without prejudicing design.

After careful consideration of the merits and defects of the above schemes with regard to suitability of Design in the first place and the Conditions of Competition, in my opinion the Design marked No. 7 most nearly meets all the requirements, and should be awarded the First Premium, and that, subject to compliance with the provisions of the Conditions of Competition, the Author of this Design be instructed to carry out the work; and the Second Premium should be awarded to the Author of Design marked No. 5.

The deposits paid on receipt of the Conditions of Contract should be returned to all the Applicants, irrespective of whether Designs were submitted or not.

I am returning to you herewith all the Drawings and documents from Competitors, together with the envelopes containing their names, which latter have not been opened, but I shall be glad to hear from you as soon as possible the names of all the Authors of the Designs submitted.

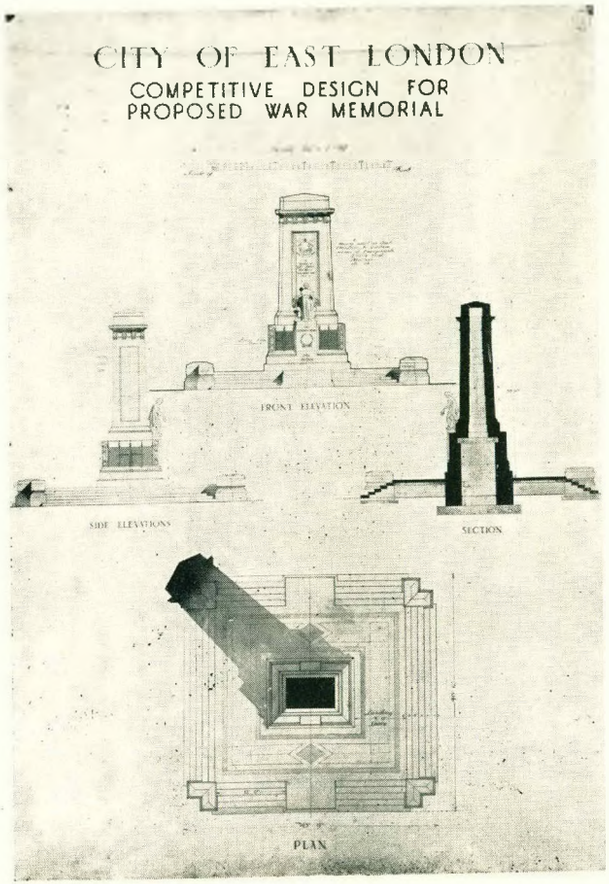
It will be necessary to place all the Designs on view somewhere, and to notify architects who have competed of the time and place of the Exhibition.

I have the honour to be,

Gentlemen,

Your obedient servant,

(Sgd.) VICTOR T. JONES.



First Premiated Design, East London War Memorial Competition.—Designed by Ing & Jackson, Durban.

East London War Memorial.

ASSESSOR'S REPORT AND AWARD.

I have the honour to state that the designs submitted for the above, together with the accompanying reports have been carefully considered, and I award the premiums as follows:

First Premium to design marked number 11.

Second Premium to design marked number 1.

Design No. 11 is simple and dignified, and would very fittingly symbolise the heroism and self-sacrifice of those who gave their lives for their country. The material suggested for the memorial is stone, and it is considered that this work could be carried out in this material, including lay-out, water pond and architects' fees for the amount available, viz., £7,000.

The stone would have to be carefully selected for weathering qualities, and it is felt that the steps, pedestals and a small surbase to the base of the shaft itself—which would have to stand a considerable amount of wear and tear—should be in granite.

The Memorial is complete in itself without the bronze group at apex indicated as an alternative. With the group, however, it is considered the width of the main shaft of the memorial should be a little more than for the one without. It is thought, therefore, that this question should be definitely settled before the final design is completed.

With regard to the Layout of Grounds, more details are required, but it is questionable if it would not be better to site the memorial in the centre, rather than near Oxford Street as proposed, the principal front to face Union Avenue with a main pathway leading up to same.

The Tram Shelter should be removed and a new one erected at a point at the top of Oxford Street, the design to be in keeping with the rest of the scheme.

Design No. 1 is excellent, but it is not considered to have the same dignity as Design No. 11. It is felt also that the openings in the base with the big heavy shaft on top would tend to give a weak appearance to the scheme as a whole. The material proposed is granite, and it is estimated that the work could be carried out for the amount available. The layout is good.

Design No. 10 is interesting, and worthy of mention.

J. S. CLELAND, Assessor

7th January, 1921.

The Matrix.

(No. 1.)

By G. W. NICOLAY, M.S.A.

There is a binding force which has interwoven the arts of each successive age with those preceding and following it, a force often overlooked or much undervalued, regarded as negligible.

It is represented in Architecture by what is generally recognised under the term enrichment, and consists of mouldings, panels and those simple forms which may be described as the lines, dots and dashes in stone or other materials used in building, in colour, or in both combined.

Whenever they occur, and they occur in every building which ranks above the most severely utilitarian or austere, from the work of the aboriginal which we have with us to-day to the most sumptuous architecture of our own or any other time.

These decorative features may be regarded as the matrix of the various methods in architecture and other arts, for after all each of the arts is similarly developed, and the characteristic disposition of the masses the aggregates.

Of capital importance are these minor mouldings, carvings and paintings, and used for the same purposes and in similar manner all down the ages. They serve the purposes of the most primitive as well as most advanced and perfect works, and are used with equal success by Egyptians, Greeks and Romans, West and East, and then by the peoples of Southern and Northern Europe as they developed their Romanesque and Gothic works; and indeed by people of all places and times, uncivilised or civilised, who have attempted to satisfy man's natural love of beauty and pass beyond the mere contrast of masses of light and shade; beyond, that is, the stage at which art really begins, for, as has already been noted, the primitive forms, such as the cube, pyramid, cylinder or cone and hemisphere are common to all manners and all ages.

The first step in the development of these decorative features was the Egyptian cornice previously referred to as probably emerging from the method adopted by the Egyptians in constructing their primitive houses with clay and reeds. It is very simple, but still a true type of cornice or wall

crown, and the member at its base is nearly a semi-circle in profile, and suggests that other horizontal member which in later times was called a string course and used in other parts of the wall as a means of dividing horizontally into equal or unequal parts, or of emphasising the horizontal as opposed to the vertical members of the design. The composition of the Egyptian cornice as a whole bears a close resemblance to many Gothic cornices which it is very unlikely were designed with reference to it.

Many buildings have a base course or plinth by which a strong horizontal line is given from which the building grows and which forms a corrective to any slope that may be taken by the surface of the ground about it. Sometimes and with better ecect the muilding is placed upon or immediately above the uppermost of the projecting courses which spread the foot of the wall to ensure its equilibrium.

After these appear a multitude of devices for breaking up the surface of the wall and even the face of the work to obtain that "texture" which has of late been much talked of and which is, of course, always existent, although not perhaps the most appropriate or advisable.

These are means of handling for artistic purposes the general form of buildings, and to them must be added sculpture and colour, which are means of handling the surface effect of the work.

These are only the principal devices for producing artistic effect in building work, they have all been used in the remote past and will, it is safe to predict, continue to be used unless building, some day, becomes unnecessary and architecture a thing of the past.

The methods of building and decorating buildings have been the same from the first, the management of them for special purposes or effects have changed from time to time.

They move upon the ages like the sea upon the foreshore, at times moving forward rapidly and with great energy, at times slowly and placidly, at times seemingly in a stagnant state, but always in motion subversive or resurgent.

The great difficulties of art are much sooner apparent in Architecture than in any other of its exponents. Sculpture and painting make a ready appeal to the uninitiated because the difference between imitation and registration in form or colour of thought and imagination, the intellectual and romantic aspects of them is not clearly understood, when the merely initiative work is well done, and that is the first necessity, the Artist has engaged the attention of the spectator successfully, securely, and if he is able to do the higher work he has a more easy road to successfully satisfying the intellect and stirring the emotions.

The other Artist, be he Architect or Craftsman, has first to satisfy an utilitarian want. His building or piece of architecture, or whatever he is engaged on, must serve the purpose for which it is required. A building such as a pergola, for instance, must support its vines, a rose bowl must hold water and the roses.

Nature, to which we so often make appeal in matters of conduct or grace, because after all we are products of it, shows us this successful combination in perfection, in profusion, so diverse in its manner, so universal in its matter that although it is the fashion to doubt or even deny that Architecture has anything to do with it, and to treat with impatience any suggestion that it has, it appears certain that without some such guide the most advanced Architecture which the world has produced could not have been achieved. Indeed, the fact is so patent that the only difficulty we have is to avoid the mental confusion caused by an attempt to copy anything in Nature. We immediately realise the impossibility of it, and the most successful artists in all mediums are those who frankly acknowledge this and give a self-invented symbol of what they want to show. Take a good portrait, the presentment of some familiar face, and hold it up against that face, and compare the one with the other. Is it not apparent immediately that between the face and the "speaking likeness" there is a difference impossible to eliminate? The painting in that state which the painter decided to leave it as best representing the subject, though he could have shown less or more of what he had before him, and still given the "speaking likeness," the same perfect work. The smile on the face is visible at different distances, but the expression of it is not shown in the same way; at a distance it is general, you cannot analyse it, but the nearer view discovers the detail as we call it, the sweet lines about the eyes and lips, the soft swelling of the cheek, all of which can now be easily observed with that added pleasure which provokes a return.

All this is rendered by the painter, but within the limitations of his medium and his genius. He cannot indeed give you the bloom on the young cheek or the lines on the old one, but he can so model his colour as to make you think of them. The lines about the eyes and lips are too fugitive, lasting but a moment of time, to be given precisely as seen, but the sure remembrance of them is represented successfully to the admiring spectator. The sculptor can also do this, but cannot add the colour which is the characteristic and crowning grace of the painter, and was always in ancient days added to the sculpture by the painter.

Architecture lays no claim to work of this kind. What beauty there is expressible in it is of a more general and extended kind. Nature is followed in the larger and inanimate feaures of it. But still the same means are at our disposal, and those means only. In mountainous districts, where by denudation the exposed stone stands piled up in picturesque heaps a very close resemblance to a group of ruinous buildings is often seen, and, as has already been noted in a previous number of this series, division between bed and bed and the lamenations between the bets almost certainly suggested "building" and the heaps of broken stone at the feet of the cliffs provided the material for following up the lesson and thereby increasing the security and comfort of the man in those remote ages when we see him, as it were, feeling his way towards civilisation and refinement. And it is a thought which should warm the heart of the Architect to attempt the highest and best, that his art has at all events as much as any other assisted the reclaiming of the savage man, smoothing his manner, taming his ferocity, and affording that shelter which readily leads him to learning and refinement.

We can imagine the plain uninteresting wall he built which, however, was a matter of pride and affection to him, regarded with regret as he left it behind him, when he went out on some dangerous expedition, of joy as he approached it on his return. And then the effort to improve it, smoothing the stones, making fair joints and beds, making the openings for windows and doors more regular in shape and disposition, more perfectly built. Maturing, so to say, those aggregates for which he found the matrix in those minor decorations indicated above which were to bind him, or break his broad lights and shadows, and form emplacements for sculpture, humble or magnificent as his condition or opportunities suggested or allowed.

In Egypt, which has been taken as a starting point for these notes, and where the interesting development of the clay cornice has been noticed, the management of general form here and perhaps rather fancifully called the aggregates, the lines, dots and dashes and minor enrichments, though after the same manner called the matrix, were with sculpture proper and painted decoration being developed side by side in the same buildings and reached great perfection. Not in a tentative manner, but with great skill monumental materials and imperishable colours, and remain to this day, and although until we examine carefully we, the heritors of many ensuing ages regard their work as wanting in beauty, still we find it in their sculpture and coloured decoration in astonishing profusion.

NOTE.—The illustration to this and the following number of this section will appear in the December number of the Journal.

The Architectural library of the late Mr. J. M. Solomon, recently purchased for the Department of Architecture, University College, Johannesburg, through the good offices of Lady Lionel Phillips and this Association, has arrived and has been catalogued.

The works are housed in the Seymour Memorial Library, University Buildings, Eloff Street, Johannesburg, and the collection is now available for reference by practitioners and students.

Facilities for this purpose have been made by the provision of a special table in the Library, and all members of the Association are at liberty to make use of this acquisition to the professional reference centre of Johannesburg.

Babylonia or Chaldea.

BY PROFESSOR G. E. PEARCE, A.R.I.B.A.

(Being a lecture delivered before the Delegates at the First South African Architectural Congress and members of the Association of Transvaal Architects at the [illegible]ual quarterly meeting held in the Scientific and Technical Club, Johannesburg, on Monday, 5th September, 1921, under the chairmanship of Mr. E. M. Powers, F.R.I.B.A.)

In this lecture I am indebted to the following authorities: "The Excavations at Babylon," by R. Koldewey; "Guide to the Babylonian Rooms," British Museum.

This ancient kingdom, known to-day as Mesopotamia, the land between two rivers, lay along the two great rivers, the Tigris and Euphrates. To the south and south-west lay the Arabian desert, to the north the hilly country known to-day as Persia and Kurdiston, while to the south-east was the Persian Gulf or Erithrean Sea.

Of the aboriginal inhabitants of the country we know nothing whatever, but it is certain that the first inhabitants of which we possess records were of a non-Semitic race, and that they spoke and wrote a language which has been thought by some writers to resemble the Ancient Tartar languages.

Their principal cities were Eridu, Ur, Erech, Larsa, Nippur, Lagash and Umma, and were situated in Southern Babylonia at the head of the Persian Gulf, which then extended far into the land.

At a period which it is impossible to fix with accuracy, the immigration of this non-Semitic race into Babylon took place: they were known as Sumerians from the fact that they settled in Sumer, or S. Babylonia.

At a subsequent period the Semites invaded Northern Babylonia or Akkad, where they settled and took the name of Akkadians. Their principal cities were Kish, Opis, Sippar, Babylon and Kutha.

According to the Bible the leader of this invasion was Nimrod, a mighty hunter before the Lord, the son of Cush, who built Babel (Babylon), Accad, and Calah in the land of Shinar.

Shinar has been sometimes identified with the lower and richer part of the converging valleys.

Nimrod is also recorded to have built Erech in S. Babylonia so it is clear that the two invasions are not sharply distinguished by the writer. The Semitic immigrants or Akkadians appear to have amalgamated with the earlier inhabitants, and to have been considerably influenced by their higher civilisation. Thus they borrowed from the Sumerians the system of cuneiform writing, and adapted it to suit their requirements. For a long period both languages were used, with the result that each was affected by the other, and gradually adopted many foreign words into its vocabulary.

When the Semitic language became the common tongue, Sumerian still survived as a literary language. These people won fame at least 5,000 years ago for the astronomical science of their priests or sages, founded upon observations of long date. They were also notable for controlling and spreading the waters of their great rivers with such skill that this dry country, which under Turkish rule was tending to relapse into a wilderness, could then support a very large population.

The population in 1914 was well under a million, at the time of the Babylonian Empire it was over 100 millions.

The alluvial plains still being pushed out into the Persian Gulf gave them a poverty of stone that forced upon their sculptures the economical form of bas-relief. As the Bible states, they had brick for stone and slime (bitumen) for mortar. Most of the cities of Babylon have become "mounds," and their secrets lay longer hidden than in the case of Egyptian antiquities.

One branch of this Semitic stock increased and multiplied as the Hebrews, after their forefather Abraham wandered from Ur to the land of Canaan.

The earliest Babylonian Empire in the proper sense of the term was that founded by Sargon, who, according to the Cylinder of Nabonians, King of Babylon, B.C. 555-538, reigned 3,200 years before, i.e., about 3,800 B.C.

The period of the Sumerian rulers before the foundation of this Empire must have been long, for the names of a considerable number of kings and rulers have been identified from Sumerian inscriptions.

The Deluge, the Ark, and the Tower of Babel appear in their sacred records. To their Magi or "wise men" we owe the distinction of the Constellations, the signs of the Zodiac, the five planets, and the measurements of the year, brought to Europe by the Greeks and widely applied in nautical enterprise by the Phœnicians.

From 3800-2500 B.C. little is known of the history of the country, though records exist of a series of kings who founded dynasties in the various cities.

About 2200 B.C. Hammurabi, King of Babylon, boasted that he had united the whole country under his rule. His name has become famous as affixed to the oldest code of laws extant, discovered at Susa. This is now treasured in the Louvre at Paris.

This document, carved on a basalt stele, is interesting, not only by its correspondence with the laws of Moses, but as proof how far, so long ago, man had risen above the savage.

Besides dealing with crimes and main questions of morality, Hammurabi legislates on such matters as rents, wages, ransoming of prisoners, inheritance and dowries. He provides for relief from debt caused by failure of a harvest, etc.

He goes into minute details as to fees of doctors and veterinary surgeons, and punishments for unprofessional conduct.

Jerry-builders and other dishonest craftsmen are threatened with penalties which might prove a salutory addition to our own land. The following extracts will be of interest:

"If a builder has built a house for a man, and his work is not strong, and if the house he has built falls in and kills the householder, that builder shall be slain."

"If the child of the householder be killed, the child of the builder shall be slain, etc., etc."

Also, "If a builder has built a house for a man, and his work is not done properly, and a wall shifts, then that builder shall make good that wall with his own silver."

His dynasty was eventually overthrown by the Hittites, who captured Babylon and carried off the Statues of Marduk and his consort, the national God and Goddess of Babylon.

About 1800 B.C. Babylon was again taken by the Kassites, who established themselves in the country, and flourished for many centuries. Their oppression caused an emigration of the Semites northward, where they eventually established a separate kingdom known as Assyria, with its capital at Nineveh.

About 1275 B.C. the conquest of Babylonia was effected by the Assyrians. After a continuous series of wars, in which the Assyrians and Babylonians in turn held sway, lasting until about B.C. 607, Nabopolassar, an Assyrian General, holding a command in Babylonia, with the assistance of the Medes, overthrew Nineveh after a two years' siege.

The country was divided, Assyria falling to the Medes, and Babylonia to Nabopolassar, who founded the New Babylonian Empire.

He was succeeded by Nebuchadnezzar II., who devoted himself to the repairing of the ancient temples of Babylon, and beautifying the city. During his reign numerous campaigns were conducted, including that against Judea, which ended in the captivity of Judah.

This Empire only lasted about 70 years, until under Nabonidus, the Belshazzar of the Scriptures, it was overthrown by Cyrus of Persia, B.C. 539.

This briefly gives the history of Babylonia, and I shall now continue with a description of Babylon and its buildings as excavated by various archæologists, chiefly by a German expedition under Robert Koldewey. All that is left of these great cities consists of huge mounds standing out in the plains, in some cases curiously like the tailings dumps of the Mines.

The excavations in Mesopotamia have been carried out under great difficulties, owing partly to the superstitions of the Arabs, and partly to opposition on the part of the Turks, as well as the atrocious climate.

In 1854 Sir Henry Rawlinson excavated the Birs Nimrud mound, the traditional site of the Tower of Babel, South of Babylon. He proved from inscriptions found there that the building, of which remains still exist, was once the famous Tower of the Seven Planets, built upon an ancient site by Nebuchadnezzar II.

Each storey of the Tower was faced with bricks glazed with the colour attributed to the particular planet to which it was dedicated.

The restoration by P. and Ch: is based on diagram of buildings found in the bas-reliefs, and this theory is borne out by later discoveries. A continuous sloping way led from one storey to the other. The portion of the Tower of Babylon excavated seems to indicate a different construction, as will be shown later.

These towers (Ziggurats or Observations as they were called) were probably used by the Priests for their astronomical observations. The following description is from Herodotus:

"The city of Babylon stands on a broad plain, and is an exact square, a hundred and twenty furlongs in length each way, so that the entire circuit is four hundred and eighty furlongs."

While such is its size, in magnificence there is no other city that approaches to it. It is surrounded, in the first place, by a broad and deep moat, full of water, behind which rises a wall 91ft. 8in. in width, and 366ft. 8in. in height. And here I may not omit to tell the use to which the mould dug out of the great moat was turned, nor the manner wherein the wall was wrought.

As fast as they dug the moat the soil which they got from the cutting was made into bricks, and when a sufficient number were completed they baked the bricks in kilns. Then they set to building, and began with bricking the borders of the moat, after which they proceeded to construct the wall itself, using throughout for their cement hot bitumen, and interposing a layer of wattled reeds at every thirtieth course of their bricks.

On the top, along the edges of the wall, they constructed buildings of a single chamber facing one another, leaving between them room for a four-horse chariot to turn. In the circuit of the wall are a hundred gates, all of brass, with brazen lintels and side-posts.

The bitumen used in the work was brought to Babylon from the Hit, a small stream which flows into the Euphrates at the point where the city of the same name stands, eight days' journey from Babylon. Lumps of bitumen are found in great abundance in this river.

The city is divided into two portions by the river which runs through the midst of it. This river is the Euphrates, a broad, deep, swift stream, which rises in Armenia, and empties itself into the Erythræan sea.

The city wall is brought down on both sides to the edge of the stream: thence, from the corners of the wall, there is carried along each bank of the river a fence of burnt bricks.

The houses are mostly three and four storeys high; the streets all run in straight lines, not only those parallel to the river, but also the cross streets which lead down to the water side.

At the river end of these cross streets are low gates in the fence that skirts the stream, which are, like the great gates in the outer wall, of brass, and open on the water.

The outer wall is the main defence of the city. There is, however, a second inner wall, of less thickness than the first, but very little inferior to it in strength. The centre of each division of the town was occupied by a fortress. In the one stood the palace of the kings, surrounded by a wall of great strength and size: in the other was the sacred precinct of Jupiter Belus, a square enclosure two furlongs each way, with gates of solid brass, which was also remaining in my time.

In the middle of the precinct there was a tower of solid masonry, a furlong in length and breadth, upon which was raised a second tower, and on that a third, and so on up to eight.

The ascent to the top is on the outside, by a path which winds round all the towers. When one is about half-way up, one finds a resting place and seats, where persons are wont to sit some time on their way to the summit. On the topmost tower there is a spacious temple, and inside the temple stands a couch of unusual size, richly adorned, with a golden table by its side.

There is no statue of any kind set up in the place, nor is the chamber occupied of nights by any one but a single native woman, who, as the Chaldæans, the priests of this god, affirm is chosen for himself by the deity out of all women of the land."

For nearly 2,000 years Babylon was the centre of the world's civilisation. Her script and her language were known in Egypt, and on the shores of the Mediterranean, and were the universal medium of communication between educated men. She was the bank and emporium of the East; and in the age of her splendour, with her daughter states about her, dominated the thoughts of mankind. What Rome has been, and London is, that

Babylon was—" the glory of kingdoms, the beauty of the Chaldæans' pride."

Her ruins are still wonderful; but she has left us spiritual ruins too, and these are yet more strange. The debt of ancient Israel to Babylon was immense. The code of Khammurabi (circ. B.C. 2200) may well have influenced the Mosaic code; the angelology of later Jewish Scriptures was Babylonian in origin; the legends of Creation, the Fall, and the Deluge are of Babylonian ancestry.

Little wonder if, when the end came, and she fell, a cry went through the earth that had once feared her power, her pride, her universal empire:

" Babylon is fallen, is fallen " (Isa'ah xxi. 9).

THE OUTER CITY WALLS.

The colossal outer city wall that surrounded mighty Babylon partly exists, and is recognisable by a low earthen ridge about three miles long. It has been partly excavated, and has been rendered famous by Greek authors.

There was a massive wall of crude bricks 23ft. 6in. thick, in front of which, at an interval of about 36ft. 6in., stood another wall of burnt brick 25ft. 3in. thick. In front of this again was the strong wall of the fosse, also of burnt brick, and 10ft. 6in. thick.

Astride the mud wall were towers 27ft. 3in., which projected on both sides as shown. These towers centre to centre were 140ft. apart.

Owing to the unfinished state of the excavations, it is not yet possible to say how the towers on the outer wall were constructed.

The space between these two walls was filled in with mud and broken bricks. Thus on the top of the wall was a roadway that afforded space for two teams of horses four abreast to pass each other. The upper portions of the towers faced each other like small houses.

This broad roadway on the summit, which was of world renown, rendered possible the rapid shifting of defensive forces from one part to the other. The north-east front was three miles long, and with the Euphrates enclosed that portion of Babylon in which the ruins exist.

The circuit of the walls was about twelve miles, i.e., Herodotus gives it as 53 miles, but generally his measurements are not in accordance with those actually preserved, while his general description is usually accurate. He describes the walls as built of burnt brick.

To an observer from without it would appear as such. The bricks in the wall of the moat measure about 15in. square, and bear the usual stamp of Nebuchadnezzar. Those of the brick wall are smaller, and are unstamped.

These smaller are common to the period before Nebuchadnezzar. The mud brick wall probably belongs to an earlier period, as there are remains of a moat within the great brick wall. There are no clues to the height of these walls and towers.

On the entire circumference at the spacing shown there would be 360 towers. Ctesias gives the number at 250.

No gateway has as yet been excavated.

The foundations of the brick walls are below water level, those of the mud wall, as is usual, are built on a platform.

The mortar in the mud walls was clay on the brick bitumen.

Where the fortifications enclose Ku mount Babil, the inner wall was also of burnt brick.

Owing to the constant inroads of brick robbers, as shown by the deep trenches, it cannot be said that the gigantic wall, described by Herodotus, 480 stadia, must necessarily have left considerable traces. A comparison of size can hardly be made with modern cities, as Babylon was a fortress.

When compared with other walled cities, it takes the first place, both for ancient and modern times.

In one of Nebuchadnezzar's inscriptions, i.e., the East India House Inscription, this passage occurs:

" That no assault should reach the wall of Babylon, I did what no earlier Kug had done: I caused a mighty wall to be built on the east, I dug out its moat, and I built a scarp of bitumen and bricks. A mighty wall I built on its edge mountain high.

" Its broad gateways I set within it, and fixed in them double doors of cedar wood overlaid with copper.

" I surrounded it with mighty floods.

" In order that no breach should be made in it, I piled up an earthen embankment against it."

THE MOUND BABIL.

This mound rises to a height of 71ft. 6in. above the plain, and is pierced with astoundingly deep ravines and tunnels caused by quarrying for bricks.

Portions of the walls of very considerable height are still standing, with courses of mud brick held together by layers of well preserved reed stems.

The building consisted of many courts and chambers of varying size, a palace upon a substructure 58ft. 6in. in height.

The walls of the latter are continuous, and carried down to water level, while the intermediate spaces are filled with earth to the height of the palace floor.

The floor consists of sandstone flags, on the edge of which is inscribed, "Palace of Nebuchadnezzar, King of Babylon."

There are also many portions of a limestone pavement, with a fine upper layer 1½in. thick, coloured a fine red or yellow. This, the upper layer, is generally considered to belong to a later period.

The interior walls are of burnt brick, stamped with Nebuchadnezzar's name, and laid either in bitumen, or a grey lime mortar.

In another passage of the East India Inscription, it states: "On the brick wall towards the north, my heart inspired me to build a palace for the protecting of Babylon.

"I built there a palace, like the palace of Babylon, of brick and bitumen. I built an apadana towards Sippar. I laid its foundation on the underworld. Mighty cedar trunks I laid on it for roof."

The word "apadana" in Persia was "a many fronted palace" as those in Persipolis.

This mound contained the Principal Citadels and Palaces of Nabopolassar. The Main Entrance to the Citadel is to the North. From here between two great walls is a broad street or roadway leading direct to the Ishtar gate made by Nebuchadnezzar as a processional road for the God Mardute, to whose temple at Esajila it eventually leads.

It still possesses a brick pavement, covered with asphalte, which formed a bed for the paving. The central part was laid with flags of limestone measuring 3ft. 6in. square, and the sides with slabs of red stone veined with white.

The bevelled edges of the joints were filled with asphalte. On the edge of each slab was found this inscription, "Nebuchadnezzar, King of Babylon, son of Nabopolassar, King of Babylon am I." The Babel Street I paved with blocks of stone for the procession of the great Lord Marduk, Marduk Lord grant eternal life."

stone for the procession of the great Lord Marduk, Marduk Lord grant eternal life."

These stones were probably brought from Hit or Anah, higher up the Euphrates. They show no traces of wheeled traffic, but were polished and slippery with use.

This road lies 40ft. above the river, and slopes gently upwards to the Ishtar gate. The walls were 22ft. thick, and guarded the approach to the gate. Manned by defenders, they were a pathway of death to the foe who should attempt them.

The impression of peril and horror was further heightened by the impressive decoration of long rows of lions advancing one behind the other, with which the walls were adorned in low relief, and with brilliant enamels.

Some of them were white with yellow manes, others yellow with red manes, the ground being either light or dark blue. There were 120 of these.

These were probably constructed by building a temporary mould of plaster clay on which the relief could be modelled. The jointing was carefully considered so as not to cut the figures too obviously, and each brick bears a considerable share of the relief.

With these models moulds could be made for each separate brick. The ground of these reliefs, and the wall surface were identical, and there is not even a projecting base on which the paws of the great beasts might appear to rest, as in most stone reliefs.

The art of glazing in Babylonian days was higher than in later Persian work, and has probably never been excelled since.

This magnificent approach crossed a canal and ended in the Ishtar gate which, with its walls still standing 40ft. high, covered with brick reliefs, is the largest and most striking ruin of Babylon. It was a double gateway with connecting walls.

Two widely projecting towers of each gateway still stand, and behind them is a space closed by a second door.

This space, called the gateway court, was probably roofed to protect the leaves of the double door.

The walls of the second gateway were of such colossal thickness that it may be supposed to have supported a tower of great height, as will be shown on the section.

This is assumed from a gold plaque, which was discovered in a grave, and is engraved with a representation of a great gateway with arched doors and towers overlapping the walls. These towers have the triangular stepped, battlemented parapets which appear in so many relief sculptures of buildings of this period.

Portions of these stepped battlements were discovered in the ruins. The decorations of the walls consisted of alternate figures of bulls and dragons. They are placed in horizontal rows on the parts of the walls that are open to observation by those entering or passing.

The rows are repeated one above another, a line of bulls following one of dragons. Each relief occupies 13 brick courses, and between them are 11 plain courses.

These 24 courses measure almost exactly 6ft. 6in. From top to bottom there are nine rows visible in relief.

Above these was a row of bulls in enamelled bricks, a good portion of which was found in situ.

From the fragments found there must have been at least one more row of bulls and two of dragons. This enables one to obtain a rough idea of the height of these walls. All the bricks in these gateways have Nebuchadnezzar's stamp, though his pavement covers so many of the reliefs. One inscription of Nebuchadnezzar's states:

"Ishtar of Imgar Bel, and Nimitti Bel, both entrances of the town gates, had become too low, owing to the filling up of the street of Babil. I dug out that town gate, I grounded its foundations, facing the water strong with bitumen and baked bricks, and caused it to be finely set forth with baked bricks of blue enamel, on which wild oxen and dragons were pictured. I caused mighty cedars to be laid lengthways for its ceiling. Door leaves of cedar covered with copper thresholds and hinges of bronze I fitted into its gates. Wild oxen of bronze and raging dragons I placed at the thresholds. The same town gateways I caused to be made glorious for the amazement of all peoples."

A somewhat similar inscription was found between the two doorways on a great block of limestone. The bull was the sacred animal of Rammam the weather god.

His emblem the lightning is frequently placed on the back of a recumbent bull. The colouring was a golden yellow on a blue ground.

The dragon was the sacred animal of Marduk and Nabu.

Marduk was the principal god of Babylon. This dragon was the far-famed animal of Babylon, and fits in admirably with well-known stories.

The priests of Esagila probably kept some reptile, and exhibited it in the semi-darkness of a temple chamber as a living dragon. The Babylonian name sirrush means a walking serpent.

A striking feature is the scaly coat and the great tail of a serpent's body. The head, with forked tongue, is that of a serpent, the horned viper of Arabia.

Behind are two spiral combs similar to those on the heads of the frequently represented Chinese dragon. The tail ends in a small curved sting, like a scorpion's.

The forelegs are those of a feline animal, probably a cheetah. The hind legs those of a bird with powerful claws. The colouring was white on a blue ground, the mane, tongue and horn being golden yellow.

Close to the Ishtar gate stood the temple of Ninmach, "the great Mother." Its entrance is on the north side, and immediately in front stood an altar of brickwork.

The Temple was of mud brick, its walls covered with a white plaster which gave it the appearance of marble.

The elevations were like those of the city wall. Towers in close proximity are placed on the walls, and especially beside the gateways. In addition these sacred buildings possessed a very characteristic form of decoration, which is absent in fortresses and secular buildings. This consists of vertical grooves carried from top to bottom of the walls.

Columns and entablatures are entirely absent in Babylonia.

On each side of the entrances were small recesses, probably for offerings. The entrance was fitted with double doors. The base of the door posts had bronze ferrules which turned in stone sockets. One of these was discovered in position.

On leaving the vestibule, one enters a large court with the entrance to the cella immediately opposite, indicated by towers with grooved decorations. From here it must have been possible to behold through the open cella doors in the mystic holy of holies the image on its pedestal.

In a small recess at the Cella entrance was found a small pottery figure of a man, holding a slender gold staff in his hand. At one corner lay a foundation cylinder of Sardanapalus.

Nebuchadnezzar in his restoration must have read the last four lines with the awe with which it is read to-day.

It states: "Who with cunning deed shall destroy this record of my name, bring to the ground, or alter its position, him may Ninmach before Bel bespeak to evil destroy his name his seed in his lands."

In raising his pavement, Nebuchadnezzar built a burnt brick wall round the temple without interfering with the existing building, to strengthen it, and raised his new walls on this.

Numerous terra cotta figures of divinities were found in this temple, also tablets containing lists of the delivery of building materials, of workmen, also the name of the Architect Labashi.

(To be concluded in December issue.)

New Book.

"Shades and Shadows." By David C. Lange, M.S.

The author, in a short preface to the volume, states that it has been compiled with special attention for its use as a Text Book, and a careful study of the work will show that he has so well arranged his study as to justify its publication for the purpose referred to.

The study of Shades and Shadows is of very great importance to all students of Architecture, and a thorough knowledge of the subject will have a very large bearing on the architectural conceptions produced by the student thoughout his career.

The set of problems to be worked out by the student will be found most useful and instructive. The illustrations are clear and precise, and are so arranged as to make the subject easy to follow the stages of the work.

Mr. D. C. Lange knows his subject thoroughly, and in these days when schools of Architecture are being established in all parts of the world his study on Shades and Shadows should be found in every Architectural School Library.

Chapter 7, Wash-Rendering, is valuable; the examples given of students' work as illustrated show great merit, and the advantages to be obtained from a careful study of the subject. The author has taken care to prepare a work that is at once interesting and instructive.

Published by Messrs. Chapman & Hall, Covent Garden, London, W.C. 2.—Price 15/- nett.

Quarterly Meeting.

The next quarterly dinner and Meeting will be held in the Scientific and Technical Club, 100, Fox Street, Johannesburg, on Saturday, the 26th November, 1921.

Dinner will be had at the usual time and members intending to be present should notify the Registrar without delay, so that the necessary arrangements may be made as in the past. It is hoped that Members will make a special point of bringing their wives and lady friends.

At the the meeting it is hoped to present two short papers of particular interest, each to be followed by a discussion. Further particulars will be notified to each Member by Circular Letter early in November.

Native Housing in Municipal Areas.

The housing of natives working in towns is a problem of many difficulties and pitfalls apart from the great expense involved. Most municipalities in South Africa have found a solution by simply evading it, but not so Durban. That progressive city resolutely tackled the problem nearly a decade ago, and is now on the fair way to a satisfactory solution thereof.

The set of views published illustrate a recently finished portion of a group of native quarters at Congella which provide comfortable and hygienic housing for some 900 men of the togt and rickshapuller class. The main building is largely of reinforced concrete construction roofed with locally made tiles, and all ground floors are asphalted.

The accommodation provided is of the social or large dormitory type, lofty and airy, each storey being encircled by a verandah or balcony and as vermin-proof as it is possible to make such buildings.

The kitchen, ablution and wash houses, latrines, administrative and other appurtenant buildings are of a very substantial and up to date construction, and are grouped at one side of the main block and are of a capacity to serve also a second main block for which the adjacent ground is set apart. The cost of the group was in the vicinity of £34,000.

There are other groups of native quarters in different parts of the town of which, generally speaking, the living or dormitory blocks are the main features, immediately adjacent thereto being the dining rooms together with their kitchens, store-rooms, etc., and with lavatory and ablution blocks convenient.

Facilities for recreation in the shape of halls and sports grounds are not forgotten.

The profits from the municipal native beer

monopoly have largely contributed the means whereby Durban has been able to provide accommodation for the large number of natives employed in the town of an up-to-date and superior kind, many degrees better than anything of the sort in other cities of the Union. "Jim Fish" will have his native beer somehow. Under the municipal monopoly in Durban he gets it—as much as he likes within specified limits and hours. The native benefits by the pure quality, low alcoholic strength and cheapness of the "tshwala" he loves so much, and he reaps the additional and important benefits of fine and hygienic living quarters provided largely out of the profits made on his favourite beverage.

The group illustrated was designed and carried out by Messrs. T. Read and Hurst, Architects, Durban. The Contractors were D. Burns and Co., Durban.

Durban War Memorial.

There were 37 sets of designs submitted in the Architectural Competition for the War Memorial at Durban, and the Assessors, Professor G. E. Pearce of Johannesburg, and Mr. O. J. P. Oxley of Durban had no light task in awarding the three following premiums:

First Messrs. Eagle, Pilkington and McQueen of Cape Town, Second, Mr. Gordon Leith, Johannesburg, Third, Mr. Frank Emley Johannesburg.

It is hoped that illustrations of these, designs will be made in the December issue of this Journal, in the meantime permission is being sought from the promoters to exhibit the whole of the submitted designs, in Johannesburg at an early date, if successful members will be notified of the Exhibition by circular letter.

Group of Native quarters at Congella, Durban, for the Durban Municipality.—Designed and carried out by T. Read & Hurst, Architects, Durban.

Germiston War Memorial.

TO ARCHITECTS.

COMPETITIVE DESIGNS are invited for a Memorial to the Fallen, in accordance with the Conditions of Competition and site plan which may be obtained from the undersigned.

Mr. E. M. Powers, F.R.I.B.A. will be sole assessor, and the Author of the design placed first will (unless for bona-fide reasons to the contrary) be entrusted with carrying out the work and a premium of £25 paid to the Author of the design placed second.

Designs to be sent in, on or before the 15th OCTOBER, 1921, to M. K Carpenter, Registrar, The Association of Transvaal Architects, 67, Exploration Building, Commissioner Street, Johannesburg.

King Edward's School,
Houghton, Johannesburg.

WAR MEMORIAL.

COMPETITIVE DESIGNS are invited from Architects for a War Memorial to the old boys of the School who fell in the Great War.

The Memorial is to be erected in the quadrangle of the School at Houghton, Johannesburg, and is to cost approximately £750

A copy of the site. plan and Conditions of Competition may be obtained on application to the undersigned to whom all designs must be submitted on or before noon on the 14th NOVEMBER, next.

M. K. CARPENTER,
Registrar.

The Association of Transvaal Architects,
67, Exploration Building,
Commissioner Street, Johannesburg
September 22nd, 1921.

War Memorial Bloemfontein.

Applications are invited for COMPETITIVE DESIGNS for Monument to be erected on the Market Square, Bloemfontein, from Architects and Artists residing in the Union.

Full particulars to be obtained from the undersigned.

H. A. TAYLOR.
Secretary.

Town Hall,
Bloemfontein

Obituary.

JOHN PARKER.

We deeply regret to hear of the death of Mr. John Parker, F.R.I.B.A., Architect of the firm of Parker & Forsyth, Cape Town. Mr. Parker's extensive practice and high standard of work at the Cape is well-known throughout the profession and his loss will be severely felt. He also took a prominent part in the public life of the Town and was the first mayor of Greater Cape Town. We extend our deep sympathy to his relatives and partner in their sad loss.

H. HANCOCK.

News is to hand that Mr. H. Hancock, a former member of our Association and Town Engineer of Klerksdorp, died recently at Liskard, Cornwall, where he had retired after many years practising in South Africa. We deeply regret to hear the sad news and extend our sympathy to his relatives.