DSPACE

https://dspace.org/

# South African Architectural Record: Journal of the Association of Transvaal Architects, the Natal Institute of Architects and the South African Institute of Quantity Surveyors

**1924**

Institutes of South African Architects and the Chapter of South African Quantity Surveyors

http://hdl.handle.net/10539/18866

South African Architectural Journal BUILDING; The Journal of the Transvaal Architects, the Natal Institute of Architects and the South African Institute of Quantity Surveyors. 1924 vol:1-4 p1-110

Downloaded from a DSpace repository. https://dspace.org/

THE SOUTH AFRICAN ARCHITECTURAL JOURNAL

# Building

Issued Quarterly

Annual Subscription per Post, 5/-

*The Journal of the Association of Transvaal Architects, the Natal Institute of Architects and the South African Institute of Quantity Surveyors.*

No. 33. Vol. IX. MARCH, 1924. Price 1/-

*Hon. Editor—*
ERNEST M. POWERS, F.R.I.B.A.

*Hon. Assistant Editors—*
E. H. WAUGH, A.R.I.B.A., M.S.A.
R. HOWDEN, A.R.V.I.A., F.S. ARCH.

*Business Manager—*
MURRAY K. CARPENTER,
67, EXPLORATION BUILDINGS,
COMMISSIONER STREET,
P.O. Box 2266. JOHANNESBURG.
'PHONE 5821.

## EDITORIAL NOTE.

*The Editor will be glad to consider any MSS., Photographs or Sketches submitted to him, but they should be accompanied by stamped addressed envelopes for return if unsuitable. In case of loss or injury he cannot hold himself responsible for MSS., Photographs or Sketches, and publication in the Journal can alone be taken as evidence of acceptance. The name and address of the owner should be placed on the back of all Pictures and MSS.*

*The Association does not hold itself responsible for the opinions expressed by individual contributors.*

*Annual Subscription per post 5s., direct from the Business Manager.*

## CONTENTS.

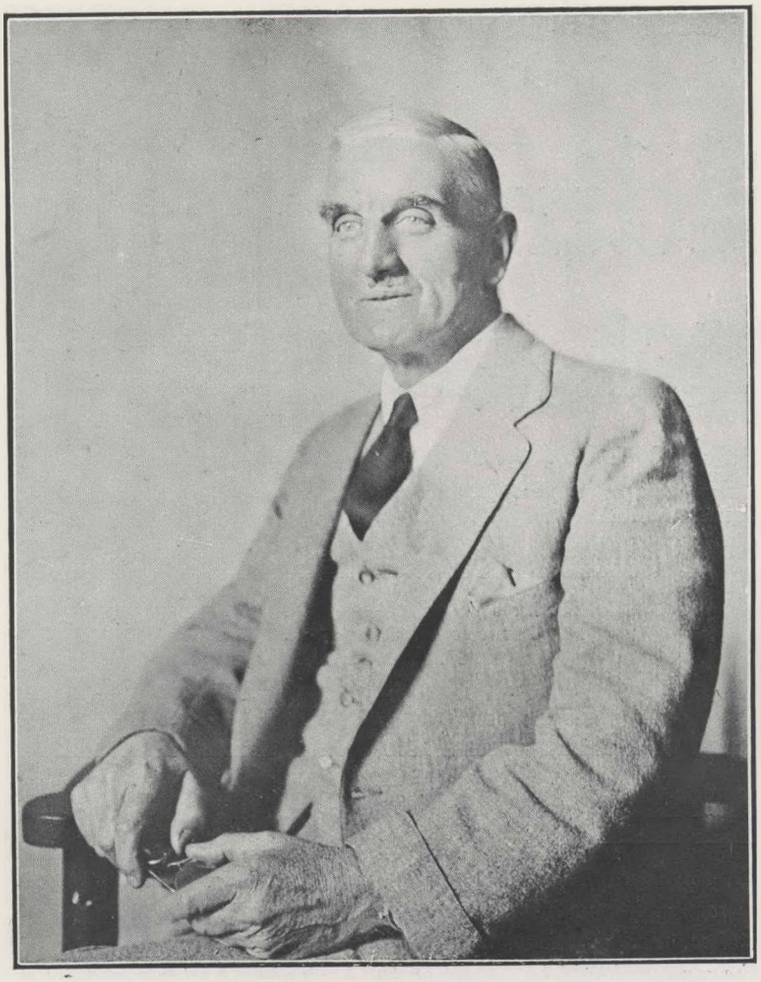

| | PAGE. |
|---|---|
| Our President ... ... ... ... | 1 |
| The Association of Transvaal Architects—Annual General Meeting ... ... ... ... | 3 |
| The South African Institute of Quantity Surveyors | 9 |
| Rodent Proofing of Buildings ... ... ... | 13 |
| Public Health Notes ... ... ... ... | 16 |
| Victoria's War Memorial Competition ... ... | 18 |
| Victoria's Great War Memorial ... ... ... | 19 |
| The Association of Transvaal Architects—Officers and Committees ... ... ... ... | 19 |
| Here and There ... ... ... ... | 20 |
| Higher Building in Relation to Town Planning ... | 21 |
| The Orient ... ... ... ... ... | 26 |
| Federal Council on Architectural Education ... | 29 |
| The Pretoria Hailstorm ... ... ... | 30 |
| Book Reviews ... ... ... ... ... | 32 |
| Notes and News ... ... ... ... | 34 |


## OUR PRESIDENT.

**By the Editor.**

Mr. Allen Wilson was born in London in 1860, his father hailing from Westmoreland, where his ancestors, on the male side, were tillers of the soil. Under the banner of a Wolf Rampant, " the family crest," they no doubt in former times augmented their livelihood by raiding their Scottish neighbours north of the border.

His mother was born within the sound of bow bells, and was a sister of the late William Holman Hunt. It is probable that the atmosphere and environment of " Art " of the pre-Raphaelite school during his early youth influenced him in adopting the practise of Architecture in later years, although he states his early ambition was to be a " builder of bridges and constructor of tunnels." Clifton suspension bridge and the Severn tunnel proved a great fascination for him; and, as a result of his early predilections in mechanics, the household clocks, sewing



Mr. Allen Wilson.

machine and lawn mowers oft-times went to the repairers.

Young Allen was educated at Cheltenham College, and was afterwards apprenticed to a firm of Architects in the same town, subsequently becoming a partner in the same firm. But, prior to commencing his Architectural studies, his father insisted upon his devoting a period to the practical work of the building trades, and arrangements were made with a local firm of builders which necessitated his being at work at the early hours of 6 a.m., the usual practice at that time. This practical training he has never regretted, and has found of great value during his professional career.

Mr. Allen Wilson's work was principally at Cheltenham and in the Cotswold district, and later on at Uxbridge, West Drayton and the Thames Valley, extending to Kensington. A church built of stone and snapped flints at Islesworth was erected by him prior to the Boer War.

A keen volunteer, he joined the Gloucester Rifles at the age of 16, transferred with a commission to the Monmouth Artillery in 1888, and was serving with cavalry and infantry brigades at Aldershot at the outbreak of the Boer War. He came to South Africa with a company of mounted infantry, and served under various commanders operating chiefly in the Northern and Eastern Transvaal. At one time his command was fairly composite, consisting of a section of Royal Irish, one section of Gordon Highlanders, two sections of Highland Light Infantry, one Scottish Horse, and a detachment of Western Australians.

After a period of over three years' absence from the Old Country, Mr. Wilson decided to stay in South Africa; and it is interesting to note that a meeting was held in his office at the instigation of Major Lamont, R.F.A., at which Major Godfrey Lys and Col. David Lyall, R.E., were present. There a scheme was evolved which resulted in the formation of the Transvaal Horse Artillery, with Col. Sir Thos. Cullinan at its head. Allen Wilson continued to serve with the Transvaal Horse Artillery until debarred by age limit, and for the same reason his services were refused during the Great War.

Mr. Allen Wilson is a bachelor, fond of children and animals, and plays a good game of golf.

His architectural work in this country is well known to most of our members, and comprise the Standard Bank, Eloff Street, and many large wholesale warehouses in the city. Among his domestic works, the late Mr. Tracy's residence on the Ridge above Orange Grove is the best known.

His geniality and cordial good humour have won for him a host of friends, and his tactful handling of difficult situations will serve him in good stead in the office of President of the Association of Transvaal Architects. We heartily congratulate him and wish him every success.

---

Mr. A. Oakley Coltman, having passed the examinations in Architecture at the University of the Witwatersrand, has been registered as an Architect in the Transvaal and elected to membership of this Association. Mr. Coltman has resigned his appointment in the Architectural Branch of the Town Engineer's Department, Johannesburg, on appointment as Building Inspector to the Municipality of East London.

Minutes of the Fourteenth Annual General Meeting of members held in the Council Chamber, Municipal Building, Pretorius Street, Pretoria, on Wednesday, the 27th February, 1924, at 3 p.m.

PRESENT.—The President (Mr. F. L. H. Fleming) in the chair, Messrs. Allen Wilson, G. S. Burt Andrews (Vice-Presidents), Messrs. N. T. Cowin, R. Howden, Gordon Leith, E. M. Powers, Walter Reid, D. M. Sinclair, F. Soff (Members of the retiring Council), Messrs. J. R. Burg, J. S. Cleland, T. Gordon Ellis, M. J. Harris, J. Lockwood Hall, J. G. Kraan, F. G. McIntosh, W. B. Turner Newham, Professor G. E. Pearse, Messrs. Harold Porter, V. S. Rees Poole, J. H. Rutgers, A. J. Stewart, H. G. Tomkyns, P. M. Ware, F. Williamson and the Registrar, M. K. Carpenter.

Sixteen members were represented by proxy.

MINUTES.—The minutes of the Thirteenth Annual General Meeting, held on the 27th February, 1923, and published *in extenso* in the official Journal, *Building*, on the 15th March, 1923, were taken as read and confirmed.

The minutes of the Special General Meeting of members held on the 27th February, 1923, and published *in extenso* in the official Journal, *Building*, on the 15th March, 1923, were taken as read and confirmed.

The minutes of the Special General Meeting of members, held on the 25th September, 1923, and published in the official Journal, *Building*, on the 15th March, 1923, were taken as read and confirmed.

ANNUAL ACCOUNTS AND BALANCE SHEET.—On the motion by Mr. N. T. Cowin, seconded by Mr. J. Lockwood Hall, the annual accounts and balance sheet for the year ended the 31st December, 1923, duly audited by Messrs. Aiken and Carter, and circulated to members in accordance with the Act, were adopted without discussion.

COUNCIL'S REPORT TO MEMBERS.—Mr. D. M. Sinclair moved the adoption of the annual report of Council to members, which had been duly circulated.

This was seconded by Mr. F. G. McIntosh and agreed to without discussion.

SCRUTINEERS.—On the motion by Mr. R. Howden, members unanimously agreed to the appointment of Messrs. D. M. Sinclair and Harold Porter as Scrutineers for the ballot for election to Council.

AUDITORS.—Mr. N. T. Cowin moved the appointment of Messrs. Aiken and Carter as Auditors for the year 1924. This was seconded by Mr. E. M. Powers and unanimously agreed to.

Mr. N. T. Cowin further moved that a sum of ten guineas be paid to Messrs. Aiken and Carter for the audit of 1923. This was seconded by Mr. Allen Wilson and unanimously agreed to.

VENUE OF ANNUAL MEETINGS.—Mr. E. M. Powers, in referring to the decision of Council to hold this annual general meeting in Pretoria, pointed out that for the first time since the inception of the Association the annual general meeting was being held outside Johannesburg. In view of the fact that the Association possesses many members in Pretoria and the excellent attendance recorded, he considered it advisable that a recommendation should be made respecting the holding of future similar meetings in Pretoria; he therefore moved that without prejudice to the By-Laws of the Association or the Council's powers thereunder, the annual general meeting of this Association be held in Pretoria at least once in every three years.

Mr. G. S. Burt Andrews seconded the motion, and referred to the Pretoria representative of Council, Mr. F. Soff, whose work was greatly appreciated by other members of Council; and the interest shown by Mr. F. Soff and the other Pretoria members present would prove to Council that the proposal of Mr. E. M. Powers was more than warranted. The motion was unanimously agreed to.

THE JOURNAL.—Mr. E. M. Powers (Editor), in referring to the work necessary for the production of the official quarterly Journal, asked for the support of Pretoria members by the submission of regular contributions for publication.

He suggested that the Pretoria architects might be responsible for a Pretoria section of the Journal.

Mr. N. T. Cowin, in agreeing with the Editor, suggested that the matter of obtaining literary contributions for the Journal be referred to the Pretoria Practice Committee for consideration and action. This was agreed to.

PRETORIA HAILSTORM.—Mr. N. T. Cowin, in referring to the disastrous hailstorm which occurred in Pretoria at the latter end of December, 1923, suggested that it appeared necessary that a thorough investigation should be made by members in order to ascertain the amount of damage done and generally to report upon the matter after conferring with tile-manufacturers and roofing people, with a view to

arriving at a decision respecting the suitability of tiled roofs. In this connection he pointed out that the Government and property owners generally in Pretoria were substituting corrugated iron for tiles on roofs, and he thought that for appearances sake the inquiry should be made to ascertain if it were not practicable to manufacture a roof-tile that would stand severe hailstorms. Mr. N. T. Cowin further touched upon the legal aspect of the damage done to buildings in progress and materials on site, and referred to the opinions obtained by the Master Builders as published in the February issue of the *Builders'* Journal.

Mr. N. T. Cowin formally moved that this matter be referred to the Pretoria Practice Committee for their consideration, and report to the Council of the Association. Mr. G. S. Burt Andrews queried whether the motion completely covered not only the effects of the disaster, but also the cause, and suggested that the Pretoria Practice Committee be asked to report upon the matter in all its aspects, including the possible prevention of hailstorms; and that Government officials be asked to assist.

Mr. J. Lockwood Hall pointed out that the Chief Architect was not a member of the Pretoria Practice Committee, and suggested his co-option on that Committee. This was unanimously agreed to, and the motion was passed.

STUDENT MEMBERS.—Mr. R. Howden drew attention to the disabilities of student members of the profession enrolled by the Association since January, 1921. At the annual general meeting held in February, 1920, the Council's report to members contained a recommendation that all student members entering the profession in future will be required to produce a certificate of matriculation. This was agreed to, but had not been carried out. Certain student members had stated that non-matriculated students had been enrolled since that date, and he sought to have their association with the profession placed on a proper basis in order that on completion of their studies they would be eligible for registration as members of this Association, notwithstanding the fact that they, on entrance to the profession, did not possess certificates of matriculation. Mr. R. Howden therefore moved " that this meeting of members of the Association rescind the resolution of the 28th February, 1920 (*viz.*, that students entering the profession in future will be required to produce a certificate of matriculation), and hereby instructs Council that all students who have been attending University Classes from 1919 to 1923 with a view to becoming registered Architects, be not enforced to pass the matriculation, and, providing that they comply with the remaining requirements as set forth when they entered the University, that they be registered."

The President stated that he did not consider it advisable to accept the latter portion of the motion, because it tended to interfere with the definite powers given to Council under the Act and By-Laws. Mr. R. Howden therefore amended his motion to read as follows:—" That this meeting of members of the Association rescind the resolutoin of the 28th February, 1920, *viz.*, that students entering the profession in future will be required to produce a certificate of matriculation." This was seconded by Mr. Gordon Leith, and, after discussion, was carried. The President explained the proposals of the Federal Council in respect of preliminary qualifications for those entering the profession.

FEDERAL COUNCIL ON ARCHITECTURAL EDUCATION.—The President stated that, following the special general meeting of this Association, which agreed to participation in the work of the Federal Council, the latter body held its inaugural meeting in Capetown in January, and the recommendations arising out of that meeting had been carefully considered by the Council of the Association and the Council had seen fit to accept the proposals put forward by the Federal Council in the following resolution:—

" That the Council of the Association of Transvaal Architects accept the recommendations made in the precis of business transacted at the inaugural general meeting of the Federal Council on Architectural Education held at Capetown in January, 1924, understanding:—

" (1) That such acceptance in no way infringes or limits the powers and liberty of action afforded to the Council of the Association of Transvaal Architects by the Architects' Private Act (Transvaal) Number 39 of 1909, or the rights of registered members of the Association of Transvaal Architects; and

" (2) That existing *bona fide* students recommended by the Council of the Association of Transvaal Architects are forthwith registered by the Federal Council on Architectural Education without reference to matriculation or any other status laid down for future students ";

and recommended to members that the action of Council in this matter be confirmed.

Mr. N. T. Cowin moved " that the action of Council in accepting the proposals of the Federal Council on Architectural Education as put forth in the foregoing resolution, be accepted, and the participation of this Association in the work of the Federal Council be confirmed in the terms of the foregoing." This was seconded by Mr. F. G. McIntosh and unanimously agreed to.

FEDERAL JOURNAL.—Mr. D. M. Sinclair recommended that it be an instruction to the incoming Council to consider and endeavour to bring about the establishment of a Federal Architectural Journal for the Union of South Africa. The President pointed out that this was discussed at length at the Conference held in Durban in July last, and appeared to be somewhat premature—it had, however, been referred to the Union Practice Committee, who would, no doubt, report in due course.

It was agreed that the matter be recorded.

ELECTION OF PRESIDENT, VICE-PRESIDENTS AND COUNCIL FOR THE YEAR.—The retiring President, Mr. F. L. H. Fleming, stated that only one nomination had been received for the position for President for the year 1924, and he had great pleasure in declaring Mr. Allen Wilson duly elected to that position for the current year. For the positions of senior Vice-President and junior Vice-President, Mr. G. S. Burt Andrews and Mr. H. T. Cowin, respectively, had been nominated, and, in the absence of other nominations, were declared duly elected.

The President received the Scrutineers' report of the votes cast for the members of Council, and, in accordance therewith, declared the following members duly elected to Council for the year 1924:—Messrs. J. S. Donaldson, F. L. H. Fleming, R. Howden, Gordon Leith, J. A. Moffat, E. M. Powers, F. Soff, H. G. Veale and F. Williamson.

Before vacating the Presidential Chair, Mr. F. L. H. Fleming thanked the retiring Council for their constant and invaluable support. His year of office had been quite free of friction and much had occurred that had been pleasant and edifying, and much that was noteworthy in the history of the Association. He wished the President, Vice-Presidents and Council every success and satisfaction in their labours.

Mr. Allen Wilson, who was accorded an ovation on taking the chair, briefly thanked members for his election, and said that with the consent of the members present the annual general meeting would now be declared closed and resolved into an informal meeting.

This was done, and a number of visitors joined the meeting. The President, Mr. Allen Wilson, addressed the meeting as follows:—

I sincerely thank you for the honour you have conferred upon me in electing me as your President for the ensuing year.

In following your immediate past President, I can assure you the position is no sinecure; the amount of time and energy he has put into the work of the Association makes me doubt as to whether I shall ever be able to carry out the Presidential duties with anything like the same efficiency: of this you may rest assured, the work of the Association and keeping up the dignity of our profession will have the first call on my time and ability

From the yearly report and Mr. Fleming's speech, you will see the tremendous amount of work already done by your Council for the profession in general and the Association of Transvaal Architects in particular; a lot more remains to be done, and unless one has served on your Council it is impossible to imagine the immense amount of matter brought up from time to time for their consideration.

Whilst deeply regretting the great loss sustained by your Council by the absence of Mr. Burton, who resigned early in the year owing to leaving for Europe and America; Mr. Sinclair, who had not offered himself for re-election, and Mr. Walter Reid, who had not been re-elected, I welcome Mr. J. A. Moffat and Mr. F. Williamson, who, I feel sure, will prove valuable additions to the Council; the spade work already put in by the re-elected members is a sure guarantee of the assistance they will give me in the running of your Association.

Now a word of reproof to the members. The fact of your electing your Council does not constitute the whole of the duties you owe to your profession; the Council want your continual support and confidence; what may be considered a grievance is often a misunderstanding easily got over, a few lines to your Registrar, or a word or two to one of your Council, may clear matters, and in this way ease the work of your Council and to your advantage.

It is always possible to combat with known grievances, but impossible to deal with them without knowing where they exist; and, worse still, where there is a feeling of unrest, without an indication of its cause.

Gentlemen, we invite your confidence. Let us be frank with one another, and always remember your Council have been elected by yourselves; and it would be an insult to you to say they were elected for any other reason than for their ability to study your interests and run the business of your Association.

You will see by the yearly report, the attendance at Council meetings twice a month does not constitute the whole of the work done by your Council; neither does the Committee work cover the whole of the time given in your interest, and interest of your professions; innumerable meetings have to be attended with other bodies; much has been done by personal influence and informal meetings.

Again I remind you it is your duty to support your Council, even though you may not quite agree with their views; remember that in the position you

have placed them, they will have a better opportunity of forming a just opinion than yourselves, who have, perhaps, only heard one side of the argument.

The question of unauthorised persons acting as Architects, robbing you of your rights, has, and will have, the Council's serious consideration.

My deepest sympathy goes out to that section of the public who employ unauthorised persons, generally to their ultimate sorrow, not only for the abortion created, but for the expenses they have incurred in doing so, leaving a lasting monument of their folly.

When will the public realise that a well and economically-designed cow shed, which may be made pleasing to the eye and landscape, cost no more and in most cases less than a badly and extravagantly marked-out (I cannot call it designed) structure created by an incompetent person, who has very little, if any, knowledge of design of building construction.

On behalf of the Association of Transvaal Architects, I welcome our visitors, some of whom will in due course join our ranks and combine in strengthening the status of our profession in South Africa and in this way protect the public from the unskilled and incompetent quack and jerry builder.

In conclusion, the President welcomed new members elected during the preceding year, namely: Messrs. J. H. Rutgers and H. G. Tonkyns, and called upon the retiring President, Mr. F. L. H. Fleming to address the meeting.

---

## Valedictory.

The address of the Retiring President, Mr. F. L. H. Fleming, to members, at the 14th annual general meeting held in the Council Chamber at Pretoria, on Wednesday, 27th February, 1924.

At all stages and in all circumstances of human life it is well to endeavour to analyse and appraise the present in its relation with the past and likely future, and this, as a matter of fact, is constantly being done by millions of human minds.

But there are occasions when this may and should be done more deliberately and seriously. To me it seems that no more fitting occasion could be chosen for the purpose than this present. An architect in middle life, conscious of the experiences of thirty years' work, honoured and entrusted by his fellows with the highest office, feels that he may regard his outlook as that of the average.

His first impression is of the dignity of his calling. In hoary antiquity, in history of all times and all places. in present development of states, in the farthest cast into the future, the architect finds place. And not the place of the mere time-server, the trader, purveyor, transporter, factor of things to be consumed, or creator of sensations of the moment; not of the mere director and controller of humanity, the law-maker, educator, calculator, clerk. The architect as an instrument is less than all these in that he ministers to their needs in human equipment, and greater than all in that his work abides long long after all else is gone, and records with inevitable accuracy the manner of man that was his contemporary.

Is the purpose of a nation great? Is there faith in God, is there appreciation of beauty in form and colour, is there cupidity, luxury, idleness, is there socialism or indifference and exploitation, is there thrift, foresight, energy? All these, and all qualities are faithfully written up by the Recording Angel, and the pen of the Writer is the architect.

Then is the architect to be satisfied with this philosophy, and to be the pen and the instrument only? By no means. He is a man first and then an architect. As a man, he has his contribution to make to the aggregate; and if he would see high qualities recorded, he must feel strongly, and give effect to that power of effort which seems to be at the base of the purpose of life. And since "no man liveth unto himself," his efforts will not be confined merely to securing his own comfort, nor to technical perfection, nor even to high ideals of personal behaviour. He must, if he is to be effective, influence the development of the world by activity in the directions to which he would see humanity progress. What is to be his propaganda? First, through his work, to plan and design with infinite patience, open-mindedness and foresight for the particular object in view, to choose his materials with discrimination and to dispose them in reasoned arrangement, to oppose his skill and knowledge to the relentless destructive forces of nature, to impart a sense of order and deliberate intention by the use of balance, proportion, rhythm, mass and void, outline, vista, ornament, light and shade, and colour; to convey his intentions clearly and unmistakeably; to see his intentions carried out; to hold the balance evenly between man and man.

Then outside his work, to enter into the lives of his fellows—the architect, quantity surveyor, draughtsman, the builder, the artizan, and the craftsman, sharing their labours, mitigating their difficulties, stabilizing the present and preparing for the future; encouraging the student and moving all authorities to persevere with education, and to provide opportunities. And, by all means to enlarge the view that beauty and order are vitalizing influences at all times. To declare that ugliness in the devil, and, whether arising from neglect and indifference, vulgarity or poverty of mind, selfishness and self-seeking, parsimony, or mere blindness, that devil to fight, at all points and all cost.

On the one side is the contribution to human satisfaction through beauty, capable of reaching heights and degrees quite unknown to us, and within the power of everyone to share, in the giving and in the receipt.

On the other is the negation of beauty and the gross toleration of ugliness. There is no room for compromise. Whether a people go to the devil, or allow the devil to come to them, seems to amount to very much the same thing in the end.

I am no politician, but I was struck, as no doubt you were, with a report which appeared in the *Star* on Monday last, of the speech of the Solicitor-General of the present British Labour Government.

"He thought the present age would go down to history as the age of ugliness. Our industrial products must again be made beautiful. That required a great educative effort, both on the part of the producer and the consumer. An Elizabethan Act of Parliament was more beautifully written than most modern novels. The trouble was that we did not look upon industry as a religious effort. We did not make for the glory of God as people did in the Middle Ages."

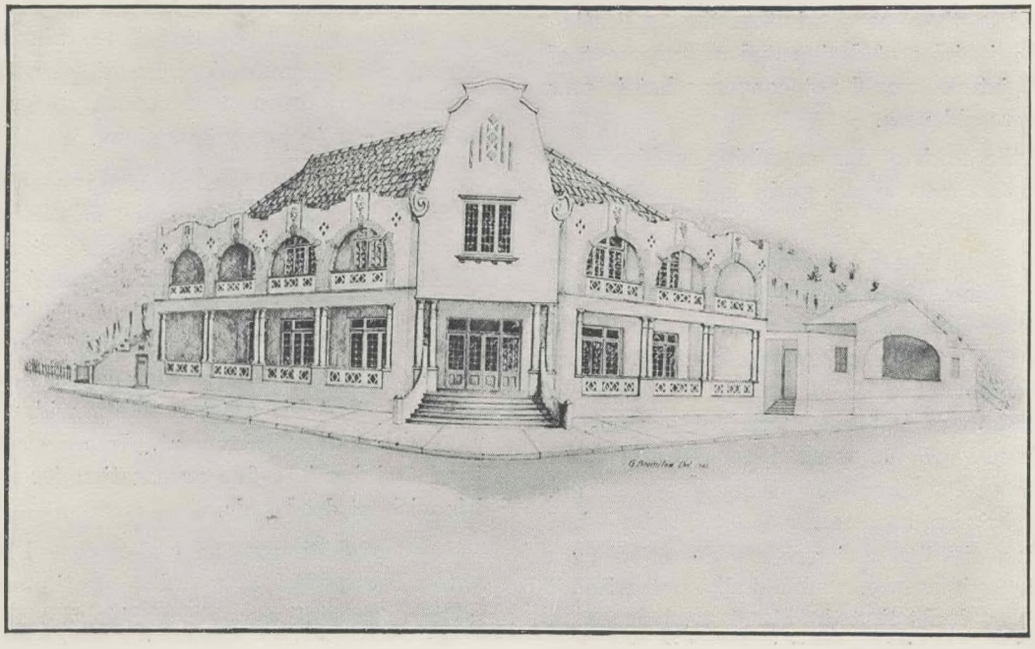
I am sure that these words will find an echo throughout the world. They are as far removed from party politics as the poles are apart, and if they may be taken as in any way representative of Labour, they are indeed significant.

Another contemplation is the comparison and relation of our work with that produced contemporaneously elsewhere. Doubly isolated as we are within an isolated continent, the tendency is perhaps to lose sight of the progress of others. There is the danger of ideals becoming stunted, and the vision becoming narrowed in the absence of the light and suggestion that comes from close contact with vigorous and imaginative people; but a compensation, if it will be availed of, lies in virility, in looking squarely without distraction or diffidence at the limitations and opportunities of local conditions, and making the best of them.

To my mind this compensation may be of the highest architectural value, the principle of working out local conditions to a logical conclusion, for our own needs.

It is commonly remarked that we, South Africans, have no national architectural style. I do not know, indeed, where in the world one would look with less likelihood of finding style. A small and very scattered community, composed of many races, with yet little singleness of purpose or strong united conviction, busy for the most part with beginnings, a country of experiment. Yet in quality of work, and to some extent of design, there is some ground for satisfaction, and much for hope.

More than likely our architecture is over-done, as it commonly is by all over-civilized peoples. If we could but dare trust to whitewash, and the tree near the wall, the sunlight and shadow would do the rest. George is a town with little architecture, but great charm, made up of simple seemly buildings unconfused by huddle, squalor, vulgarity, or advertisement. The greenery and the cool whitewash blend in delightful



Municipal Cafe, Humewood, Port Elizabeth

*George Bromilow, Architect.*

harmony, and the sunlight strikes chords that leave one wistful.

If the essentials of good orderly generous building are provided, if the lines are right, the less they are obscured by conventional fuss the better. The trade advertisement is the most serious menace to architectural amenity to-day. The urban authorities have powers and a definite and important duty to perform in this direction. It should not be necessary for this Association or any individual to press for the full exercise of those powers. It seems unnecessary to develop an argument about this obvious and inexcusable offence against propriety in our towns: I would reiterate that external trade advertisement is getting quite out of hand, and would appeal to those concerned with street advertising to consider whether the end is not endangered by the means, whether the application of recognised principles of design and arrangement of lettering and pictures would not convert what is now offence into agreeableness.

Much of the work of the practising architects of the Union deserves more study, notice and appreciation than it receives.

And our Public Works Department has set a high standard of building. However divergent may be the views as to the rightness and ultimate economy and benefit to the State of the principle of a great Public Works Department of salaried officers as compared with a widened and fostered circle of responsible architect citizens, yet the work done and the spirit which permeates it, commands the respect of all. Valuable though it has been to the country to have had good work thus distributed far and wide, affording a standard and an influence, undoubtedly not without effect, there is no doubt that the direct employment of individual and responsible practising architects upon some part of Government Works would be right and proper State recognition of a profession, at present recognised only by the Receiver of Revenue. The architects of the Union are not indifferent to their public duties in matters of education and the general advancement of architecture; the co-operation of the officers of Government Departments and Municipalities can be a most valuable help in these efforts; and a sympathetic unity of purpose and action would be of great value to the State.

To the student at the beginning of his career, the prospect is bright and full of hope. No longer is he left to grope through a dark and intricate labyrinth with little introduction and little leading, ill-equipped in mind and technique for his life's work. To-day he finds the open road, with stages well-defined, and a clear course. It is all in the rough, in the making; but the underlying principle of the Federal Council on Architectural Education is the liberal training of the youth of this country in the art and practice of architecture.

At the Witwatersrand University, the Cape, here in Pretoria, and in Durban facilities exist and will be developed for architectural training. It is not suggested that anything like completeness has been reached; it is very far from anything of the sort. I do not think there has been any occasion when I have had the privilege of addressing the Association when I have not said that in respect of the efforts made by architects in this country for the improvement of architectural education, there was no cause for complacency. I say it again to-day, and I trust that it may ever be said. So long as there is the spirit to advance, progress is possible, and the field lies open as the veldt.

There are not wanting those who fear for overcrowding in the profession, doubting whether the future holds out any prospect of sustenance for any considerable increase in present numbers.

That is on the lap of the Gods; even at the present slow rate of the development of this great country not more than one third, perhaps not more than one fourth of the whole of the building work in urban areas is carried out under an architect. It is reasonably to be supposed that development will improve, that the scope of the architect as the country develops will be enlarged, that his greater ability will receive greater recognition and employment. In any case the architectural training is a fine preparation for many walks of life without dead ends.

In concluding my year of office and these rambling notes, I would like to record my testimony of the value of the Association, not only to the whole body of architects and the community, but also to the individual. Whatever mistakes or vain beatings of the air may have been made, I am quite clear in my mind that all progress in architectural proper pride and all corporate sense in the profession in the Transvaal dates from the passing of the Architects Act 1909.

I sincerely trust that unification of all architectural bodies in the Union may continue and enlarge the valuable work which I feel was done by the promotion of our Act; and that the younger members who are entering the profession will carry on with enthusiasm and imagination the work which must pass to them. Their task will not be light or easy; there must be sacrifice; but help is ever forthcoming, and God helps those who help themselves. It is this quiet humble spirit of perseverance that for many years I have seen moving my fellows on the Council, that will bring to this beautiful country in due time a goodly and worthy heritage.

## THE SOUTH AFRICAN INSTITUTE OF QUANTITY SURVEYORS.

Extracts of Minutes of the Third Council Meeting, 1923 Session, held at the Institute's Offices, 26/7, Connaught Buildings, Pretoria, on Friday, 21st December, 1923, at 5 p.m.

PRESENT.—Messrs. T. Moore (President), G. E. Howgrave-Graham (Vice-President), N. T. Cowin, E. B. Farrow, W. E. Puntis and A. Loots (Secretary).

Apologies for absence were tendered on behalf of Messrs. D. A. McCubbin, F. D. Hickman, H. Rowe-Rowe and A. Stratton.

MINUTES OF PREVIOUS MEETING.—Taken as read and confirmed.

BRITISH EMPIRE EXHIBITION.—In response to the Secretary's letter for donations an amount of £5 5s. had been received. The Secretary was instructed to forward this to the proper quarter and explain that the smallness of the amount was due to many of our members having already subscribed to other institutions having the same object in view.

APPLICATION FOR MEMBERSHIP.—At the request of Mr. Ernest Hustwick, a former member of the Institute, he was re-admitted to membership.

STANDARD SYSTEM.—Owing to the amount of work involved the Sub-Committee's report was not ready for submission to Council, and it would be a recommendation to the incoming Council that the Sub-Committee continue in office until its work is completed.

FINANCIAL POSITION OF INSTITUTE.—The Sub-Committee appointed by the Council had considered the matter and had circularised all members for an opinion; two replies had been received. The Council's report will be submitted to the General Meeting next month, together with the Balance Sheet and Accounts for the current session.

Mr. Farrow was appointed Auditor for the current year.

ANNUAL GENERAL MEETING.—The 15th Annual General Meeting will be held in the Council Chamber, Town Hall, Pretoria, on Saturday, 2nd February, 1924, at 2.30 p.m. A luncheon will be arranged at Polley's Hotel for members attending, and the Secretary will advise members of details later.

NOMINATION OF COUNCIL AND OFFICE-BEARERS FOR COMING SESSION.—The Council's nominations are:—

As President: Mr. A. T. Babbs, Capetown.

As Vice-President: Lieut.-Col. W. E. Puntis, Pretoria.

As Council: Messrs. Farrow, Hickman, Graham, Laing, Moore, Rowe-Rowe and Stratton.

Other nominations will be invited from individual members, and voting papers (if necesary) will be posted to all members as soon as nominations are complete.

Minutes of the Fifteenth Annual General Meeting, held in the Council Chamber, Town Hall, Pretoria, on Saturday, 2nd February, 1924, at 2.30 p.m.

PRESENT.—Messrs. T. Moore (in the Chair), G. E. Howgrave-Graham (Vice-President), N. T. Cowin, J. W. Cowling, E. B. Farrow, F. D. Hickman, W. Harrison, D. J. Laing, W. E. Puntis, A. Stratton, A. W. Springthorpe, G. E. Turner, S. Waters and A. Loots (Secretary).

Apologies for absence were tendered on behalf of Messrs. D. A. McCubbin, W. McKenzie-Smith and H. Rowe-Rowe.

PROXIES.—Proxy forms duly completed were received from:—

A. T. Babbs, in favour of T. Moore or F. D. Hickman.

C. H. Deighton, in favour of W. E. Puntis.

N. Foulds, in favour of F. D. Hickman.

H. T. Jones, in favour of S. Waters.

H. G. Labdon, in favour of T. Moore or F. D. Hickman.

W. H. Priestley, in favour of T. Moore or F. D. Hickman.

E. Quail, in favour of E. B. Farrow or F. D. Hickman.

J. Quail, in favour of E. B. Farrow or nominee.

H. Rowe-Rowe, in favour of G. E. Howgrave-Graham.

R. S. Shepherd, in favour of F. D. Hickman or W. E. Puntis.

W. Thompson, in favour of T. Moore or F. D. Hickman.

W. J. McWilliams, in favour of T. Moore or E. B. Farrow.

MINUTES OF PREVIOUS MEETING.—Were read by the Secretary and confirmed; proposed by Mr. Hickman, seconded by Mr. Farrow.

Mr. Springthorpe stated that his apology to last Annual General Meeting for his inability to attend had not been registered, and he would like such to be done.

Mr. Cowling pointed out that the letters convening the meeting had not been received by him within the time stipulated by the Rules of the Institute; the Chairman explained that the delay in getting the letters out was due to the nomination of Mr. Babbs to the Presidency, and the subsequent nomination of Mr. Hickman when it was found that Mr. Babbs would be away in England for the greater part of the year. He considered it inadvisable to postpone the meeting in order to conform to the regulations, and tendered his apologies to Mr. Cowling.

Before continuing with the Business of the Meeting, the Chairman welcomed Mr. Harrison, and expressed the Council's appreciation of the trouble taken by Mr. Harrison in coming up from the Free State to attend the meeting; he wished more members wou'd take such interest in the Institute.

Mr. Harrison stated it gave him pleasure to attend these meetings, and he wished to take this opportunity to thank the Council for its letter of sympathy sent him during his illness last year.

COUNCIL'S REPORT.—The President stated this had been circulated to all members; it was a brief summary of the Council's business during the past session and there was very little else for him to mention; an old member, Mr. Ernest Hustwick, had rejoined the Institute after an absence of nine years, and was now residing at the Cape.

Mr. Cowling queried certain items in the report, *inter alia*, page 4, "Associated Scientific & Technical Societies of S.A." He did not see what bearing this had on the Institute; and page 5, "Architects' and Quantity Surveyors' Act," he wanted to know what hopes the Council had of the Act going before Parliament this year.

The Chairman explained (*a*) The Institute was a constituent Society of the Scientific & Technical Societies, and (*b*) When the report was written in December last there was every reason to believe that the Act would be presented to Parliament this year; certain matters have subsequently occurred which would delay its presentation.

Mr. Cowling also drew attention that no allowance had been made in the anticipated expenditure for the coming Session for disbursements in connection with the Architects' Act. The Chairman explained that the Executive Committee had enough money in hand to carry on until the Act comes before Parliament; further moneys may then be required.

No further questions arose, and Mr. Springthorpe proposed, and Mr. Farrow seconded, that the Council's report be adopted. Agreed.

PRESIDENT'S ADDRESS.—The President stated he had very little to add beyond what is already contained in the address, and he wished to thank members of the Council for the assistance rendered him during his term of office.

Mr. Stratton moved, and Mr. Hickman seconded, the adoption of the address. Agreed.

Mr. Cowling moved a vote of thanks to the President, and stated that he personally and the Institute generally appreciated the work done by the President during his term of service. Agreed with acclamation.

Mr. Moore, replying, thanked Mr. Cowling for his kind remarks, and stated that it had been a pleasure to him to serve and represent the Institute. He had no hesitation in saying that his successor would find it equally so.

FINANCIAL POSITION AND BALANCE SHEET.—The Chairman pointed out it had been an instruction from the last General Meeting for the Council to ascertain ways and means of increasing revenue and decreasing expenditure; a Sub-Committee had been appointed, which, after mature consideration, had reported that it could not recommend any decrease in the expenditure, but it would recommend that the Membership Subscription be raised to £3 3s. for practising and £2 2s. for salaried members. He (the President) moved that the Council's recommendation be adopted.

Messrs. Cowin, Harrison and Waters spoke in support.

Mr. Cowling stated that both salaried and practising members had contributed to the success of the Institute, and he was of opinion that some of the members would resent being placed on what he considered an inferior or cheaper footing. He personally resented it, and would oppose the measure.

He criticised the expenditure of the past year and mentioned items on which economy could be effected—*viz.*, Printing Charges, Stationery, Subscription to *Building*, Contributions to Associated Scientific & Technical Societies and the Secretarial Salary.

Mr. Cowling also queried the Council's right to have made use of the amount standing to the credit of Education Fund, and criticised the Balance Sheet for the year generally. He deprecated the Council's action in waiving the payment of an Entrance Fee of

one of the newly-admitted members, at the time when the Institute's finances were so depleted.

Messrs. Hickman and Stratton spoke in support of Mr. Cowling's last remark.

Mr. Springthorpe drew attention to the small margin left between the anticipated Revenue and Income for the current Session, and thought economy could be effected in the printing of Council's report, subscription to *Building* and Associated Scientific & Technical Societies.

A long discussion ensued, and Mr. Harrison in eventually moving the acceptance of the Balance Sheet, expressed pleasure at some of the amounts appearing under last year's expenditure. Country Members, he said, greatly appreciated receiving reports from the Secretary from time to time, as it kept them in touch with the Institute and its affairs. He heartily supported the Council's actions during the past year.

Mr. Cowin seconded the motion, which was unanimously agreed to.

Mr. Puntis asked that the points which had been raised in connection with the Balance Sheet be noted and incorporated in next year's accounts.

Mr. Cowling drew attention to the omission of the Furniture account.

With regard to the Council's recommendation for an increased subscription for Practising Members, Mr. Laing moved an amendment that Salaried Members wishing to pay £3 3s. be allowed to do so. Mr. Howgrave-Graham seconded.

Several members spoke on this point, and Mr. Hickman moved, as an amendment, that the subscriptions remain at £2 2s., but that the incoming Council be granted power to ask for donations from members, if, in their opinion, more money is required to meet the current year's expenditure. Mr. Springthorpe seconded.

Mr. Cowling supported Mr. Hickman's amendment and said he was prepared to offer a donation of £5 towards the Institute's finances. Mr. Moore thanked Mr. Cowling for this liberal act, and spoke in support of this amendment. Mr. Cowin stated that Mr. Cowling's offer drew a differentiation between members at once.

On the matter being put to the vote, Mr. Hickman's amendment was carried by 10 votes to 3.

Mr. Harrison asked that a lead as to the amount required be given by the Council when donations are asked for.

ASSOCIATED SCIENTIFIC & TECHNICAL SOCIETIES.—The President stated that sufficient copies of the documents referring to (*a*) Sustaining Members, and (*b*) Patrons had not been received in time for this meeting, but he would suggest that they be sent with the minutes of this meeting.

ELECTION OF OFFICERS AND COUNCIL.—Twenty-two members voted, and Messrs. Harrison and Waters were elected to act as Scrutineers. There was one spoilt paper. The result of the election was:—

As President: Mr. F. D. Hickman (elected unanimously).

As Vice-President: Lieut.-Colonel W. E. Puntis (elected unanimously).

As Council: Messrs. Moore (21 votes); Farrow (20); Graham (20); Rowe-Rowe (19); Cowin (18); Laing (17); Turner (14); Stratton (14); Deighton (6).

Several members offered to withdraw in favour of either Mr. Turner or Mr. Stratton, but a resultant toss was in favour of Mr. Turner.

The Council for the coming Session will therefore consist of the first seven members mentioned.

The President congratulated Mr. Hickman on election, and said he had pleasure in vacating the chair in favour of so ardent a worker in the Institute's interests.

Mr. Hickman, in taking the chair, expressed pleasure at the honour which the members had done him, and said it was his intention to follow in his predecessor's footsteps: he would consider it his duty to advertise the Institute and economise wherever possible.

Mr. Puntis, in assuming the Vice-Presidency (vacated by Mr. Graham), also thanked members for the honour shown him, and stated he would consider it a pleasure to work for the common good of the Institute and Quantity Surveying.

GENERAL.—No business arose under Item 8.

This concluded the business of the meeting.

QUARTERLY REPORT OF THE COUNCIL.—Following on a discussion at the Annual General Meeting, the Council decided that in future a quarterly report of the activities of the South African Institute of Quantity Surveyors should be published in the South African Architectural Journal—*Building*—and *The Architect, Builder and Engineer*, instead of the abridged minutes as heretofore; and, further, to discontinue the practice of sending a copy of the abridged minutes to every member.

The Annual General Meeting was duly held on the 2nd February, and the minutes thereof will be found elsewhere.

The first Council Meeting of the year was held on February 25th at Pretoria, and was well attended, only one member being unable to put in an appearance.

In view of the financial position of the Institute, the Council feel that, as far as is consistent with the furthering of the interests of Quantity Surveying, rigid economy should be preserved.

Considerable delay and extra work has been caused in the past by reason of the correspondence being sent to Pretoria while the Secretary is resident in Johannesburg, and in future it is earnestly requested that all correspondence and subscriptions (the latter now due) should be posted to the *Secretary, Mr. A. Loots, P.O. Box 364, Johannesburg.*

It will be remembered that the Council decided to revise the system of the measurement of concrete work. During the last year or so concrete blocks cast in the mould have come into considerable use and Surveyors were experiencing a difficulty in measuring this work to reflect the true value thereof.

An energetic Sub-Committee was found who had the power to ask that indefatigable member, Mr. J. Cowling, to co-operate, and it is hoped shortly to issue the method of measurement of cast concrete work as an addenda to the well-known Standard System of measurement published by the Institute.

At the time of writing no further progress has been made with the Architects Act. In this connection it is gratifying to think that our members as a whole are in agreement with the proposed Chapter as amended.

The Council had in view the revision of the By-Laws, but have decided to leave them as they stand for the time being.

The Council again urge members to make more use of the premises of the Technical & Scientific Club —both the cuisine and accommodation are excellent.

Various members of the Council have suggested the possibility of affiliation to the Surveyors' Institution, Great Britain, enrolment of Students and the forming of an Associate Class, and the holding of Surveying Classes at the Witwatersrand University.

The necessary procedure for these matters was decided on, and will be further dealt with in the next quarterly report.

In the past a difficulty has arisen in arranging Council Meetings. Some members of the Council found it difficult during the week-day to give the necessary time; and, further, there is no late train from Pretoria for the Johannesburg members to return after an evening meeting, while all members of the Council thought Saturday afternoon meetings were decidedly irksome.

A happy arrangement has now been made, whereby the meetings are to be held on week evenings in Johannesburg and Pretoria alternately, the members of the town in which the meeting is held providing accommodation for the visiting members to stay over the night.

With a view to bringing the members into closer touch and to promote social intercourse, a suggestion was made for a tennis match between the Johannesburg and Pretoria members, and it is hoped to arrange a date in the near future.

---

The Fifth Annual Exhibition of the South African Academy, under the auspices of this Association, will be held in the Selborne Hall, Johannesburg, from April 28th to May 10th, 1924. Members are reminded of the provision for an Architectural section at this Exhibition, and it is earnestly hoped that there will be a good response of Exhibits.

---

THE
TOWN PLANNING
ASSOCIATION
(TRANSVAAL.)
67, EXPLORATION BUILDING,
JOHANNESBURG.

EXPERT ADVICE GIVEN ON
GENERAL LAY-OUT AND
TOWN PLANNING SCHEMES.

ALL ENQUIRIES SHOULD BE ADDRESSED TO THE SECRETARY.

# RODENT PROOFING OF BUILDINGS.

In order to aid the Public Health and Local Authorities, members are directed to the following regulations regarding the prevention of rodent infestation of buildings and premises in Urban areas.

*Definition.*

1. In these regulations, except where otherwise specified, "shop" or "store" means any shop, store, or other building used for containing or storing goods or merchandise for business purposes, and includes any office or similar structure in connection therewith.

"Rat-proof material" means material, or a combination of materials, which cannot be penetrated by rats or similar rodents.

"Rat-proof netting," unless where otherwise specified, means galvanized wire-netting of half-inch mesh, B.W. gauge 19, or other rat-proof material which has been approved by the local authority.

*Requirements.*

2. Every person who shall erect, alter, adapt, or add to any shop or store shall comply with the following requirements:—

*Site.*

(*a*) All disused drains existing on the site shall be removed, and all cavities firmly filled in so that no harbourage for rodents remains.

*Interspaces.*

(*b*) Interspaces likely to afford harbourage to rodents, such as spaces between ceilings and overlying floors and behind matchboard linings or skirting-boards, shall be, as far as possible, avoided.

*Lowest Floor.*

(*c*) The lowest floor shall be constructed of concrete or other durable rat-proof material. Any material superimposed on such a floor shall be laid without interspace. Every large space below floors, under roofs, or elsewhere within a building shall be provided with access easy to man.

*Spaces Between Ceilings and Overlying Floors.*

(*d*) Interspaces between ceilings and overlying floors (not made of rat-proof material) shall be protected in the following manner:—

To the under side of the flooring boards and to the upper surface of every non-rat-proof ceiling shall be affixed rat-proof netting extending not less than twelve inches horizontally inwards from the walls all round, brought up to the walls and continued upwards to line the walls at the back of the skirting-boards (if any), but in any case for not less than six inches, or, alternatively, built at least four inches into the walls. In the case of buildings of wood and iron or other buildings in which the walls are not solid, rat-proof netting shall be similarly affixed to the upper side of the ceiling, in addition to the under side of the floor, brought up to the iron of the framework, and carried up above the level of the floor, and secured to the iron with corrugated strips and bolts and nuts.

*Walls.*

(*e*) Walls shall be constructed of rat-proof materials. All interspaces in connection with panelling, lining, or wall finishing shall be protected by a complete lining of rat-proof netting. In the case of every building the outer walls of which are of galvanised iron, the foundations and walls up to six inches above the level of the lowest floor, or, if there be a cellar, the floor of the storey above shall be built of brick, stone, concrete, or other approved rat-proof material.

Any opening which affords entry for rodents into any cavity wall or other space in, behind or beyond any brick, stone or other wall, shall be effectively covered with rat-proof netting of not more nor less than ½in. mesh. Where such cavity extends upwards so as to afford communication for rodents to a floor-space or roof-space, it shall be closed with at least one course of burnt bricks laid in 3½ to 1 lime-mortar or else effectively covered with rat-proof netting of not more nor less than ½in. mesh.

In the case of wood-and-iron walls, the lower and free edge of the corrugated iron shall be finished with a continuous line of galvanised sheet iron securely fixed behind the corrugated iron to the wall-plate and brought down and outwards under the lower and free edge of the corrugations, so as to close the space formed by the corrugations, in such a manner as to prevent passage of rodents.

*Roofs.*

(*f*) Roofs shall be covered with rat-proof material. Permanent openings shall be protected by a covering of rat-proof netting.

Roof space, *i.e.*, space bounded by the lines of the roof-covering and the level of the roof wall-plates, shall be efficiently protected by rat-proof netting fixed horizontally at the wall-plate level so as to extend inwards continuously for a width of not less than 12in. from the inner face of the wall; and, where efficient beam-filling hard against the underside of the roof covering is not provided, the rat-proof netting shall be continued upwards over purlins or battens and under roof-covering in such a manner as effectively to prevent passage of rodents between it and the roof-covering.

*Apertures.*

(*g*) Ventilation openings and other apertures throughout the building, except doors, windows, and chimneys, shall be screened with durable rat-proof material in such a way that no opening is more than half an inch in diameter. Domical gratings of rat-proof netting shall be provided at the top of rain-water and other open pipes.

*External Doors.*

(*h*) External doors, if not constructed of rat-proof material, shall be protected to a distance of six inches from the bottom of the door by a covering of rat-proof material. The threshold of external doors shall be constructed of concrete or other durable rat-proof material extending for a distance of not less than six inches from the threshold outwards.

*Use of Rust-proof Wire-netting.*

(*i*) In places within ten miles of the coast, wherever in these regulations rat-proof netting or rat-proof material is specified, and where such netting or material is exposed to the outer air, galvanised iron, steel, or wire shall not be used, but there shall be used No. 12 half-inch mesh brass, copper, or other rust-proof alloy wire or other rust-proof material approved for the purpose by the local authority.

3. No urban local authority shall pass or approve of plans or specifications of any shop or store unless they are in accordance with the requirements of Regulation No. 2 hereof.

4. No person shall occupy or use or suffer to be occupied or used any shop or store erected, altered, adapted, or added to after the promulgation of these Regulations unless such shop or store is in accordance with the requirements of regulation No. 2 hereof.

*Power of Local Authority to Make Orders.*

5. The local authority or its duly authorised officer may make an order requiring the owner or occupier of any premises to carry out measures for eliminating harbourage or facilities for ingress of rodents to the satisfaction of its duly authorised officer. Such order shall specify the measures required and may fix a time-limit for their completion. If an order is not complied with, the local authority may itself carry out the measures required and recover the cost incurred by action in a competent court.

*Destruction of Rodents.*

6. The owner or occupier of any premises found to be rodent-infested shall take all practicable measures for their destruction, and for subsequent exclusion of them from the buildings, and shall carry out the instructions of the local authority or its duly authorised officer in connection therewith.

*Collection, Storage, etc., of Refuse and Dunnage.*

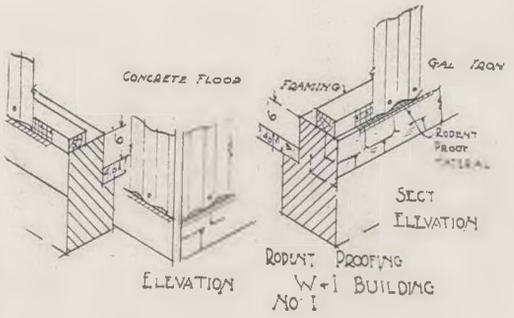
7. The owner or occupier of any premises shall make provision to the satisfaction of the local authority or its duly authorised officer for the collection, storage, or disposal of garbage, refuse, and rubbish, and for the storage of forage, grain, or other food for animals, or of any material which is of a nature to attract, or so placed or arranged as to afford harbourage for rodents.

*Penalty Clause.*

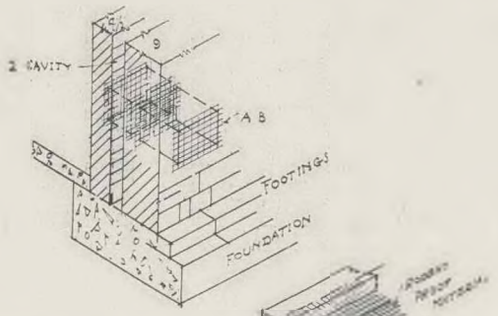
8. Any person who contravenes or fails to comply with any of these regulations or any order made thereunder shall be liable on conviction to a fine of not exceeding £50, and in the case of a continuing offence, to a further fine not exceeding £5 for every day during which such contravention or failure continues after the date fixed in any written notice in respect thereof.

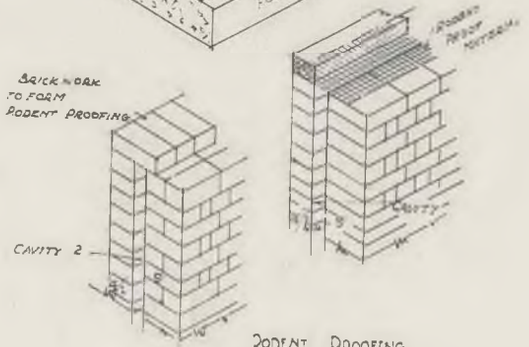
# REGULATION FOR RODENT PROOFING OF BUILDINGS

## DIAGRAM SHEWING VARIOUS PROVISIONS REQUIRED

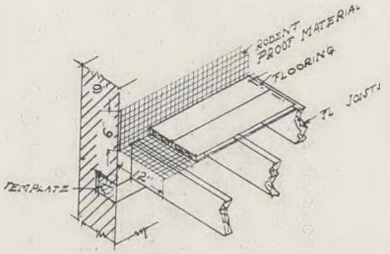



RODENT PROOFING W+I BUILDING No 1

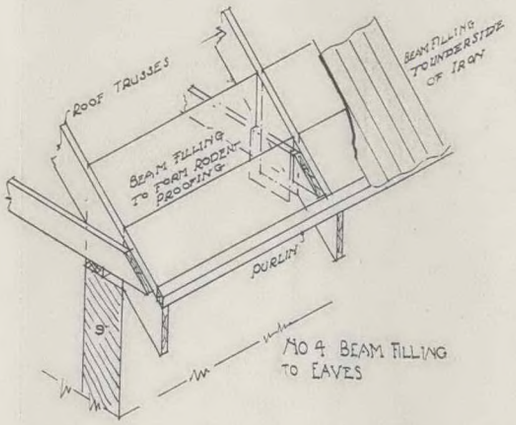


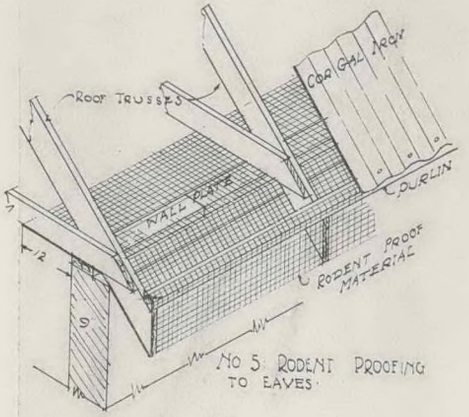

No 2 RODENT PROOFING TO OPENINGS CAVITY WALLS



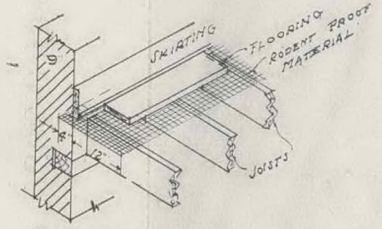

RODENT PROOFING No 3 TO FLOORS



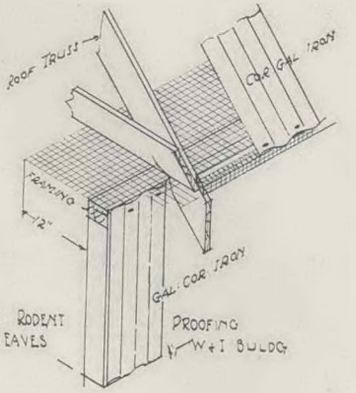

No 4 BEAM FILLING TO EAVES



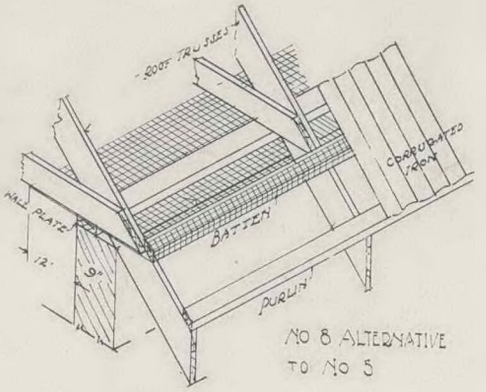

No 5 RODENT PROOFING TO EAVES



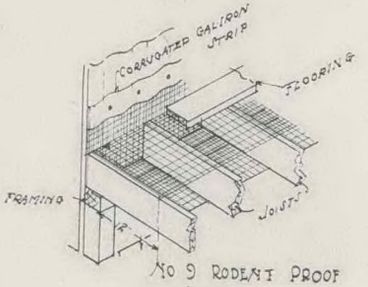

No 6 ALTERNATIVE to No 3



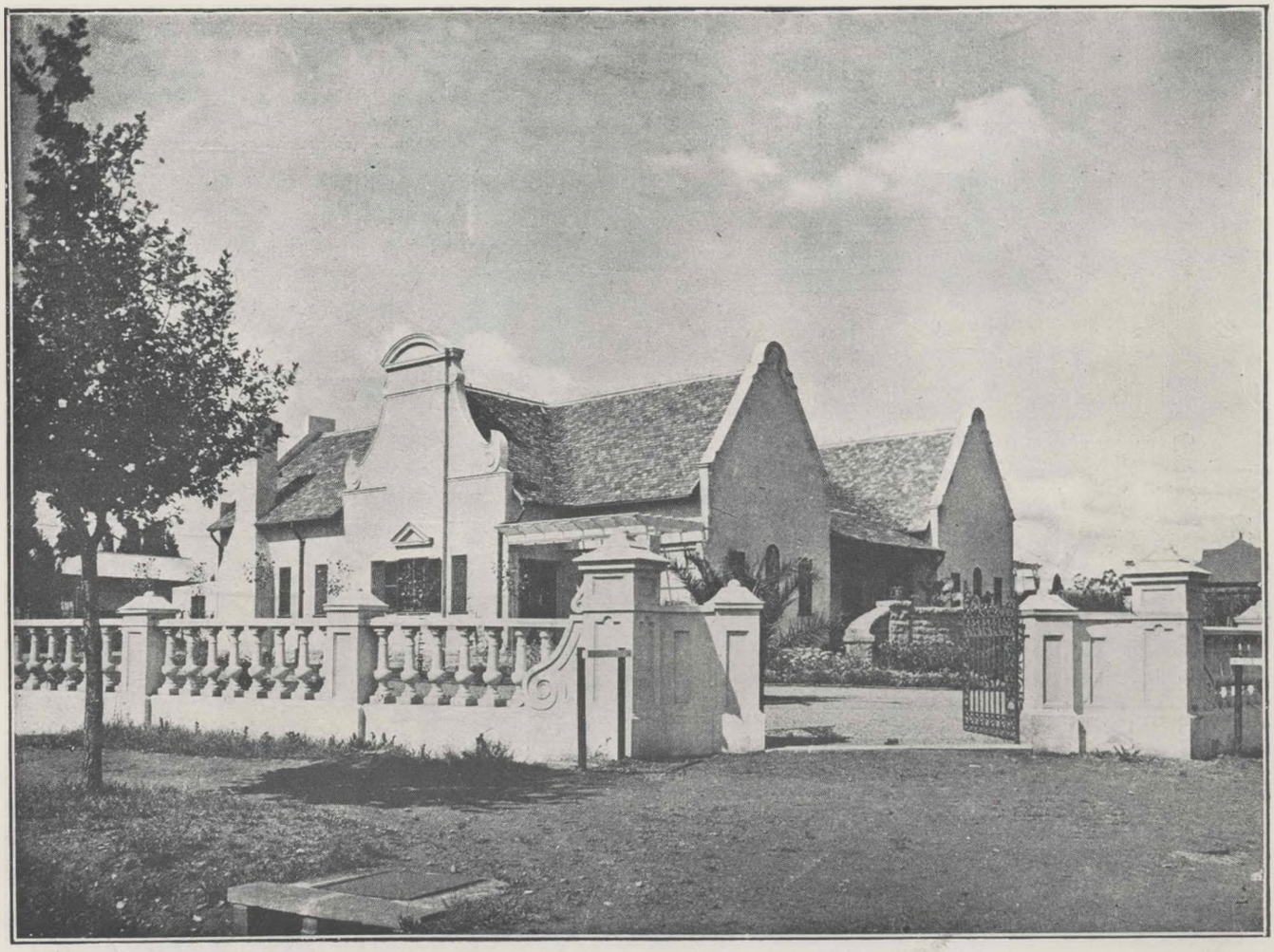

No 7 RODENT PROOFING TO EAVES W+I BUILDG




No 8 ALTERNATIVE TO No 5




No 9 RODENT PROOF TO FLOORS W+I BUILDING



*Gerard Moerdijk, A.R.I.B.A., Architect.*

House at Pretoria for Mr. Douw v. d. Merwe, M.P.C.

## PUBLIC HEALTH NOTES.

"He who has not health has nothing."

—*Rousseau.*

* * * * *

A most unusual case of lead poisoning has occurred in the States, a golf professional being the victim. The disease was so severe that the patient was unable to follow his occupation, and it was traced to the practice of painting golf balls—*i.e.*, coating used golf balls for re-sale by rotating a ball between the palms of the hands, the latter being smeared with white lead paint.

* * * * *

It is estimated that the mortality in England and Wales, due to the consumption of tuberculous milk, is 3,000 per annum.

* * * * *

An outbreak of Baker's Itch at Hull was traced to the use of flour, which had been sophisticated with potassium per sulphate.

How little we know what our food contains.

The favourite murderer in South Africa is said to be the fly.

* * * * *

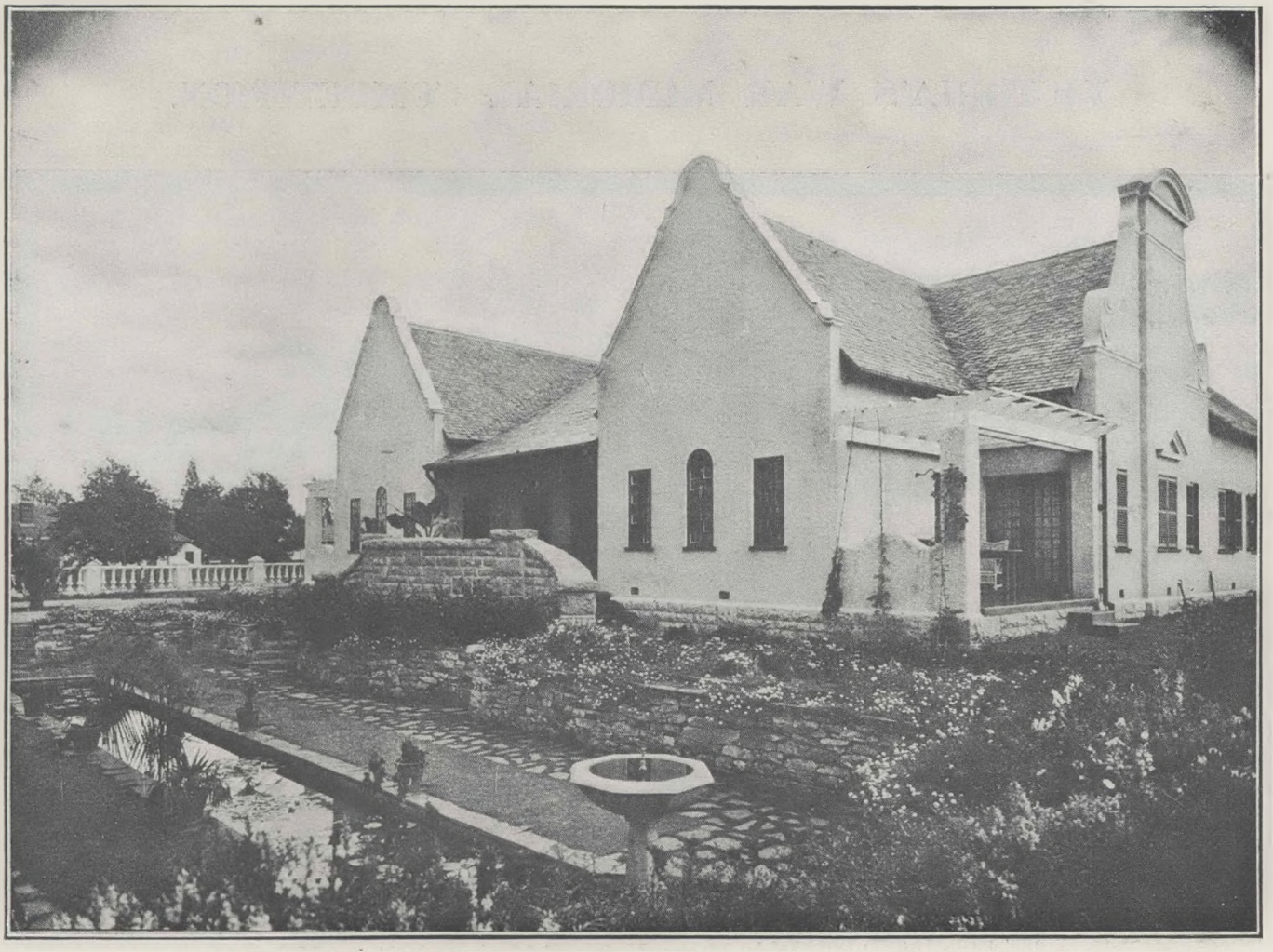
The communities of India are divided into three classes:—

(1) Those who bury their dead—Christians, Jews and Mahommedans.
(2) Those who burn their dead—Hindoos.
(3) Those who have their dead devoured by birds of prey—Parsees.

Which is the most sanitary of the three systems?

* * * * *

Oh Vitamine, pure Vitamine,
The hypophosphates come and go;
But you, my goddess, fair, divine,
Art dear to me as $H_2O$.
I see thy face in eggs and cream,
My porridge plate is full of thee,
With thee the sprout and lettuce teem,
Thou art my all, my A.B.C'e—e—e,
O—h, Vitamine!



*Gerard Moerdijk, A.R.I.B.A., Architect.*

House at Pretoria for Mr. Douw v. d. Merwe, M.P.C.

In order to encourage the spread of knowledge in Public Health and Sanitation, Mr. M. J. Harris, Mayor of Johannesburg, a Past-President of this Association, has donated a gold medal for award to the member, associate member, or student member of the South African Public Health Officials' Association who submits the best original essay during the current year under compliance with the following conditions:—

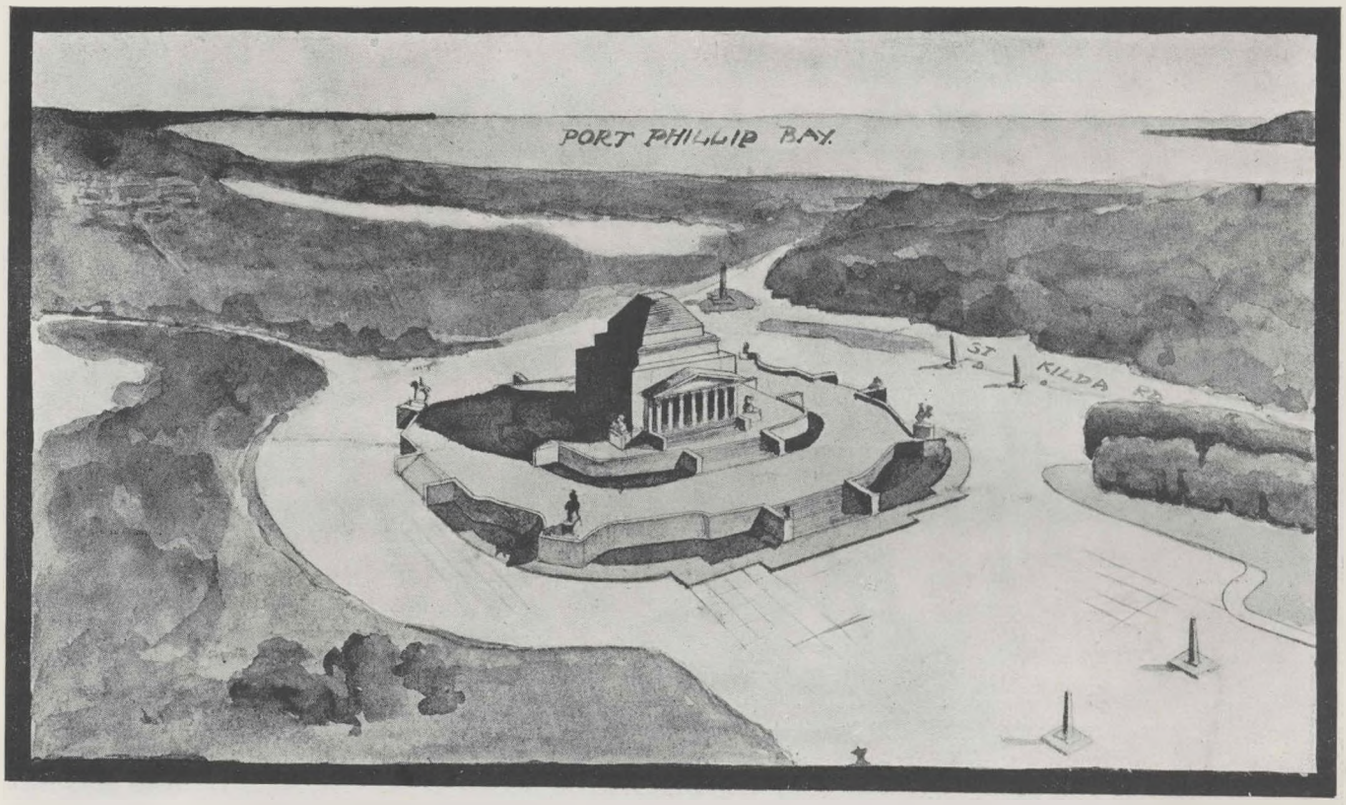
(1) The essay to consist of not more than 3,000 words, to be type-written on foolscap, one side only, and may be illustrated by drawings or sketches. (2) Competitors desiring to exhibit lantern slides on the screen are requested to communicate with the Secretary, who will furnish particulars of the drawings required, and will make the necessary arrangements. (3) Essays shall be read before meetings of the Association by the writer, or, in case he cannot attend, by a member nominated by the Chairman. (4) Essays must be delivered to the Secretary, P.O. Box 4623, Johannesburg, not later than the 31st day of July, 1924. (5) Should any essay be considered by the Adjudication Committee to be of insufficient merit or importance, the Council reserves the right of withholding it from competition. (6) All essays submitted shall become the property of the Association. (7) The Council of the Association reserves the right to publish any or all of the essays submitted. (8) Due care will be taken of all essays, but the Public Health Officials' Association will not be responsible for any loss of, or damage to them while they remain in its keeping.

The medal, which will be of gold, artistically engraved, will display the Johannesburg Municipal Coat of Arms, in enamels, together with the name of the donor. On the reverse side, in relief, will be the name of the Health Officials' Association and that of the winner. The award of the medal will carry with it a certificate granted by the Association.

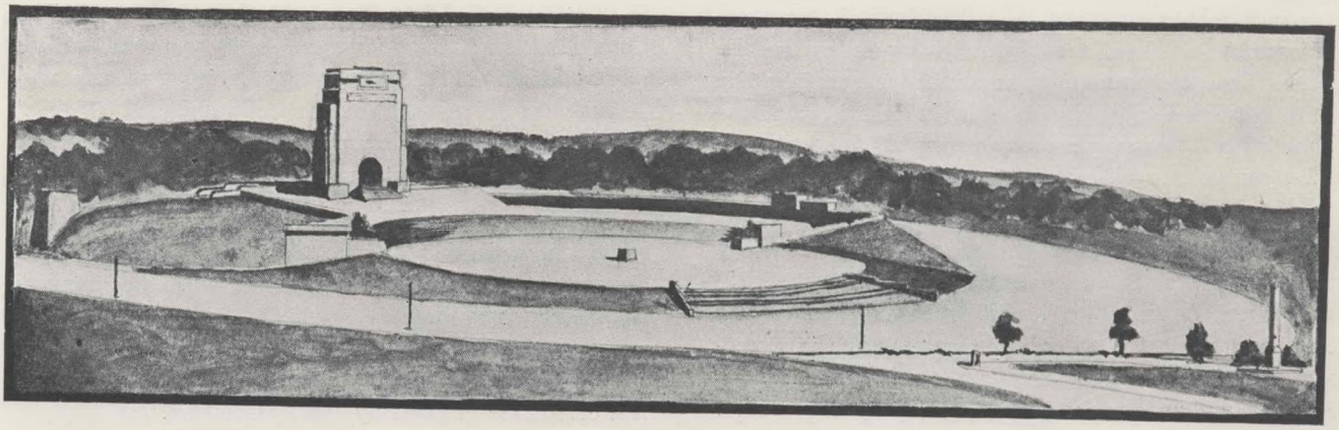
---

Mr. D. M. Sinclair, after many years active participation in the work of the Association as a member of Council, declined nomination for the current year.

# VICTORIA'S WAR MEMORIAL COMPETITION.




FIRST PREMIATED DESIGN by Messrs. Hudson & Wardrop, Architects, Melbourne.



SECOND PREMIATED DESIGN by Mr. William Lucas, F.R.V.I.A., formerly a Councillor of the Association of Transvaal Architects.

## VICTORIA'S GREAT WAR MEMORIAL.

Thanks to the kindness of Mr. Cole-Bowen, Student of the Architectural School at the University of the Witwatersrand, in re-producing drawings from faint newspaper blocks, we are able to present to our readers perspectives of the first and second premiated designs in this Competition. The authors of each are resident in Melbourne, where the Memorial is to be placed on the slight eminence in the Vice-Regal Domain at the corner of St. Kilda Road and Domain Road, and will be seen from ships coming up Port Phillip Bay while still ten miles out. Further, as St. Kilda Road takes a bend, the Memorial will be situated on the axial line of Swanston Street and St. Kilda Road and will be fully visible from the centre street of the city and in front of the Town Hall. It is thus a position of rare possibilities, and the Memorial should be one of the finest in the world, and will cost £250,000.

The first design by Messrs. Hudson & Wardrop is somewhat on the lines of a conjectural restoration of the Mausoleum at Halicarnassus, and will contain a rough hewn block of stone in the cella, being a "Stone of Remembrance." The cella will be surrounded by Greek ionic columns of porphyry, with a frieze of figures, the ceiling being stepped to the eye of light above, which will illuminate the "Stone of Remembrance," leaving the remainder of the cella in shadow —a very fine conception. The surrounding lay-out of the Mausoleum is, to our minds, too broken and restless, and if more simply treated would have given a better foil to the Memorial and composure to the beholder. The general effect is too grandiose.

The second design, in this respect, gains immeasurably over the first, as it is more simple and silent—as it should be. The author is our old friend Mr. William Lucas, F.R.V.I.A., who left here in 1916 after about 22 years' residence in South Africa. The individuality of this design is unique, the author's aim being to produce a Memorial "single-voiced and constant in its appeal without overstatement," and not to attempt rivalry with the Gothic and classic splendours of the Cathedral and Houses of Parliament within visibility of this Memorial. The simple mass of cliff-like, sentinel masonry standing guard for ever over the rough stone altar in the centre of the "Place of Remembrance" in front of it, is a work of inspiration, and makes one somewhat regret that the choice did not fall on this Memorial. The Melbourne *Argus* describes this effort as being in plan and elevation entirely original, and it contains *no* direct representation of the movement of war. The author is to be congratulated on the message evoked by the character of his conception to the memory of the remembered dead of a great nation. He has answered the poet Gray's question—

"Can Honour's voice provoke the silent dust?"

## THE ASSOCIATION OF TRANSVAAL ARCHITECTS.

### Officers and Committees for the Year 1924.

The following officers and committees have been elected for the current year.

President: Mr. Allen Wilson, F.S.Arc., Lic. R.I.B.A.

Vice-Presidents: Mr. G. S. Burt Andrews, F.S.Arc., M.I.C.E.; Mr. N. T. Cowin, M.B.E.

Members of Council: Mr. J. S. Donaldson, F.S.Arc.; Mr. F. L. H. Fleming, Mr. R. Howden, A.R.V.I.A., F.S.Arc.; Mr. G. Leith, M.C., A.R.I.B.A.; Mr. J. A. Moffat, F.S.Arc.; Mr. E. M. Powers, F.R.I.B.A.; Mr. F. Soff, Mr. F. Williamson, A.R.I.B.A.; Mr. H. G. Veale, F.S.Arc.

Finance Committee: Messrs. J. S. Donaldson and J. A. Moffat.

Practice Committee: Messrs. H. G. Veale, R. Howden, Walter Reid, E. M. Powers, F. Williamson, J. A. Moffat and J. S. Donaldson.

Journal Committee: Messrs. E. M. Powers, E. H. Waugh, R. Howden, Gordon Leith, H. W. Spicer, F. Soff, J. P. Nelson and Professor G. E. Pearse.

Board of Examiners: Messrs. E. H. Waugh, E. M. Powers, H. G. Veale, F. Williamson, P. J. Hill, S. C. Dowsett, H. W. Spicer, Gordon Leith and Professor G. E. Pearse.

Art and Education Committee: Messrs. F. L. H. Fleming, D. M. Burton, E. M. Powers, Gordon Leith, H. G. Veale, H. W. Spicer, R. E. Green, A. E. Gyngell, F. Soff, J. S. Donaldson, Professor G. E. Pearse and F. Williamson.

Seymour Memorial Library: Mr. Allen Wilson.

Town Planning Association (Transvaal): Messrs: D. M. Burton and H. G. Veale.

Associated Scientific and Technical Societies Club: Mr. Allen Wilson (alternate, Mr. D. M. Sinclair), Mr. R. Howden (alternate, Mr. Gordon Leith).

British Standard Engineering Committee: Messrs. Allen Wilson and Walter Reid.

The Union Registration Executive Committee: Mr. M. J. Harris.

The Union Architectural Practice Committee: Mr. M. J. Harris.

The Federal Council on Architectural Education: Mr. E. H. Waugh (alternate, Mr. Gordon Leith).

Pretoria Practice Committee: Messrs. W. J. de Zwaan, T. G. Ellis, P. J. Hofman, F. Soff, J. G. Kraan, J. B. Wyers, F. Roberts, V. S. Rees Poole, J. R. Burg, F. G. McIntosh, P. M. Ware, J. H. Rutgers, P. Eagle and J. S. Cleland.

The President and Vice-Presidents are *ex-officio* members of all committees.

MURRAY K. CARPENTER,
Registrar.

## HERE AND THERE.

The passing of Alexandre Eiffel, at the age of 88, recalls the achievements of this wonderful man running back to 1858, when he designed the bridge over the Garonne at Bordeaux, followed by other notable bridges, till in 1887-9 he designed and built the famous Eiffel Tower in Paris, which bears his name and is his monument. This great edifice is well-known all over the world. It is 984 feet (300 metres) in height—higher than St. Paul's Cathedral by 580 feet. It rests on four great legs forming a square 100 metres in width (328 feet)—an area of about 2½ acres. The foundations rest on concrete 49 feet below the surface. The lantern gallery at the top is 16.4 feet in diameter. Apart from being the Mecca of sightseers, it has proved to have considerable scientific value for air observations, and was of great use in the late war. Almost as noteworthy were Mr. Eiffel's construction of the framework for Barthoidi's great Statue of Liberty in New York Harbour. The deceased constructor designed the huge sluices for the Panama Canal, in connection with which were the famous scandals in 1893. He was one of the first to employ compressed air caissons, by which method many difficult building and engineering constructions have been effected in riparian sites. He also invented movable bridge sections in 1885, and investigated air resistances in aeronautics. A truly brilliant son of France, he brought lustre to his native country and carried the light of knowledge far into the field of achievement.

* * * * *

Sydney, Australia, is trebling its water supply—a much belated work. The Avon dam, to be completed Christmas, 1925, will impound 43,000,000,000 gallons of water at a cost a little under £1,000,000, or just over 2s. per 1,000 gallons. The dam wall is cyclopean masonry set in cement concrete. It is 200 feet thick at base, 20 feet at top, and 233 feet high. In the same system is another dam—the Cordeaux—eight miles from the Avon dam, which will impound 20,000,000,000 gallons at a cost of £810,000. A ten feet high-pressure tunnel will distribute the above supply and carry 100,000,000 gallons into Sydney daily.

* * * * *

In America concrete walls are now being poured with the wall flat on the ground on a platform, and after setting, the wall is elevated on one edge by jacks of a telescopic character till it comes up to the vertical, all the jacks being controlled by a common driving shaft. When upright the wall is held by shores in place till its neighbours are elevated, when corners are formed by casting pillars of concrete. Buildings are being erected in this way up to several stories, and it naturally is expeditious and cheap.

* * * * *

"Architects Encroach on Engineer's Work." This is the headline of a recent article in Australian *Engineering*. Three Alleghany bridges about to be built are the subject of attack on the grounds that the designs are unworthy. Some time ago a similar action resulted in the County Commissioners retaining two architectural firms with full control of design and construction.

The 7th Street Bridge, Pittsburg, was stopped by the Art Commission of that city as it was inadequate and unworthy in design, and the American Institute of Architects was asked to nominate suitable firms of Architects for the work. It was remarked by a prominent authority in fine arts that "the day had gone by for the erection of bridges without regard to grace and beauty of line."

* * * * *

Melbourne is about to increase its water supply from 20,000,000 gallons per diem to 60,000,000 gallons by the construction of the O'Shanassy aqueduct duplication at a cost of about £265,000 for the pipes alone.

* * * * *

The railway between the east and west coasts of South Island, New Zealand, culminated in the opening of the Otira Tunnel, which pierces the mighty Southern Alps—the backbone of this picturesque country—for a distance of 5¼ miles. Boring was started in 1908. The tunnel has been run through so skilfully that the borers met in the centre with a difference in level of only 1½ inches and alignment of ¾ inch. It is the longest tunnel in the British Empire and the seventh longest in the world. It has a grade of 1 in 33, and trains will run by electricity to avoid smoke nuisance.

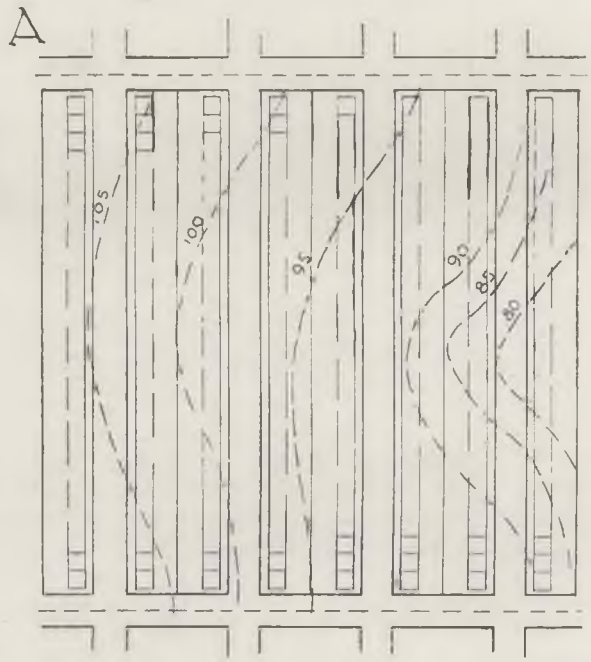
# HIGHER BUILDING IN RELATION TO TOWN PLANNING.

By RAYMOND UNWIN.

[*Read before the Royal Institute of British Architect.*]

There was once a great controversy which, I believe, profoundly moved the theological world of its day, if it did not even threaten the peace of empires, as to how many angels could stand on a needle's point.

Twenty or thirty years ago in this country it was generally assumed that great gains could be secured by overcrowding dwellings upon the land; that some dire economic necessity arising from these reputed gains compelled us so to develop our towns. That fallacy has now been pretty well exploded. Most of those who have examined the matter are agreed that, if people will, land can be developed at a density of ten or twelve houses to the acre at little, if any, more, and sometimes at even less cost per house, than the same land can be developed for the same type of house, at a density of twenty or thirty to the acre;



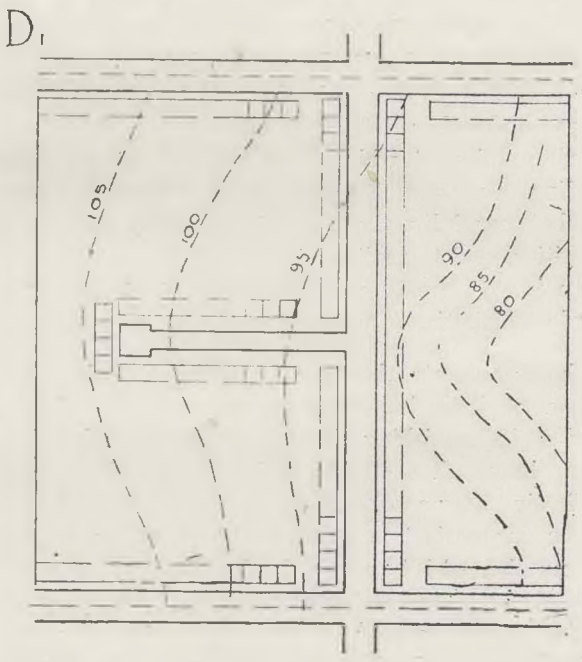




DIAGRAM 1.

| | | |
|---|---|---|
| No. to the acre ... ... ... | 22 | 12 |
| Area of plot ... ... ... | 156 sq. yds. | 351 sq. yds. |
| Cost of roads per house ... ... | £57·6 | £48·48 |
| Cost of land per house ... ... | £9·22 | £16·66 |
| Total cost per plot ... ... ... | £66·82 | £65·14 |
| Cost per square yard ... ... ... | 8s. 7d. | 3s. 8½d. |

To-day we look back with wonder, not perhaps untinged with some slight contempt, that serious people could have spent their energies in such a discussion.

But examining, as I have been constrained to do during the last twenty or thirty years, the attempts which mankind is making in various parts of the world to find out, not how many ethereal angels, but how many ponderous people and still more ponderous motor cars can occupy the same square yard of ground at the same time, I begin to wonder whether the superiority of our intelligence to that of our theologically-minded forefathers is as obvious as we should like to think.

that so far from there being anything to be gained from overcrowding dwellings on land, the fact is that such overcrowding yields less total return to the landowners, and affords a dearer plot for the occupant (Diagram 1). So that apart from other disadvantages, congestion of dwellings is really an expensive luxury. Unable to believe, however, anything so simple as that there is plenty of room for everybody; that it is crowding, the attempt of two people to stand on a space that is only large enough for one, which causes most of our urban difficulties; modern business intelligence is now proposing to adopt vertical overcrowding. Unless we are careful, it will not be content without

actual and disastrous demonstration that this particular form of overcrowding has even less to be said for it than the horizontal kind. The fact that this method has been fairly well tested in America; that it has created there urban problems of a difficulty exceeding anything which we know even in this great city; that 183 American towns containing 40 per cent. of the urban population have already adopted zoning ordinances, and that the remaining cities are hurrying after one another pell-mell to adopt regulations limiting the height of buildings, as drastic as the vested interests already created will allow, does not seem enough to convince some of our urban theologians that many men cannot stand on the same flagstone at the same time, or more than one car move at one moment on an identical piece of roadway. Nevertheless, in the hope that it is not too late to save our London from copying mistakes which New York, Chicago, and other American cities now regret, and the evil results of which they are now desperately struggling to remove, it seems worth while to examine somewhat carefully the conditions which prevail in those cities, and to realise what would be the effect in London if we were to adopt the method of expansion upwards which the Americans are trying to check.

The arguments that can be brought against the adoption of high buildings are many and weighty. The law of diminishing returns applies to such buildings in almost all respects. With every added storey the effective floor area per storey is reduced, while the cost per square foot is increased; the greater proportional number of lifts required take their toll of space from each of an increasing number of floors. You do not dispense with transportation by going up; you merely change the horizontally moving omnibus for the vertically travelling lift, and incidentally make walking for even short journeys far more difficult.

One witness before the New York Height of Buildings Commission calculated that the average time taken to reach the 30th floor would equal that of taking the express train on the subway to a spot one mile distant.

The same law holds good as to light. Every storey added tends to darken all the floors below. In spite of the bright light of New York, the number of dark rooms in which artificial light must always be used is far greater than with us. The consequent injury to health and loss of efficiency is said to be serious; eyesight is injured; tuberculosis and other diseases are encouraged. Much evidence was also given showing that high buildings lead to unstable property values. They unduly inflate the price of land and concentrate property development in small areas where the maintenance of values is very speculative, thus preventing a more widely distributed and stable improvement. The values of the lower rooms in adjacent buildings, whether themselves high or low, are depreciated by the erection of higher buildings which diminish their light and obstruct their ventilation. It is true that one advocate of higher buildings gave as his reason the pleasure of living on the highest floors; but he overlooked the fact that the higher the buildings the smaller must be the proportion of people who can have the benefit of living at the top.

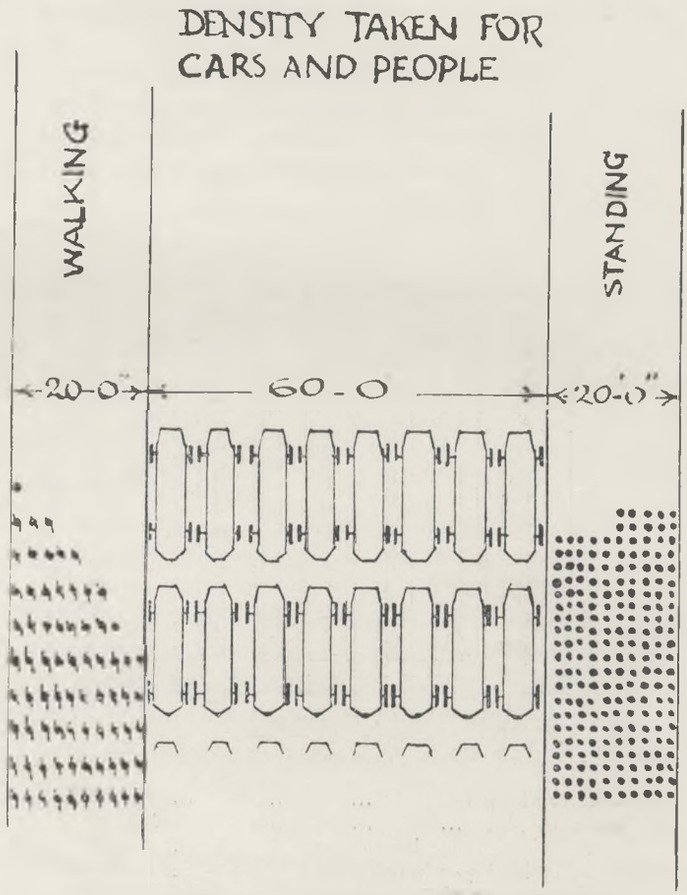



DIAGRAM 2.

I do not propose to enlarge on these or other similar arguments because the conclusive argument against high buildings is that no real gain to the community is secured by adopting them. As hitherto used, they have so far deprived each other of light and air, and so seriously congested the traffic in the streets, as largely to destroy their own value and to deprive themselves of reasonably comfortable access even if they could be spaced so far apart as to allow proper light and air, and if the streets could be laid out of such widths as to carry their concentrated traffic without congestion, the total area covered would then be little, if any, less than that required to provide

for the same community with buildings of normal height.

This more general or town planning aspect of the problem has acquired a special degree of urgency for us during the last few years, because we appear to be following another lead of our American cousins in regard to the extensive use of the private motor car. We are following far behind American attainments, but still evidently following. In that country there

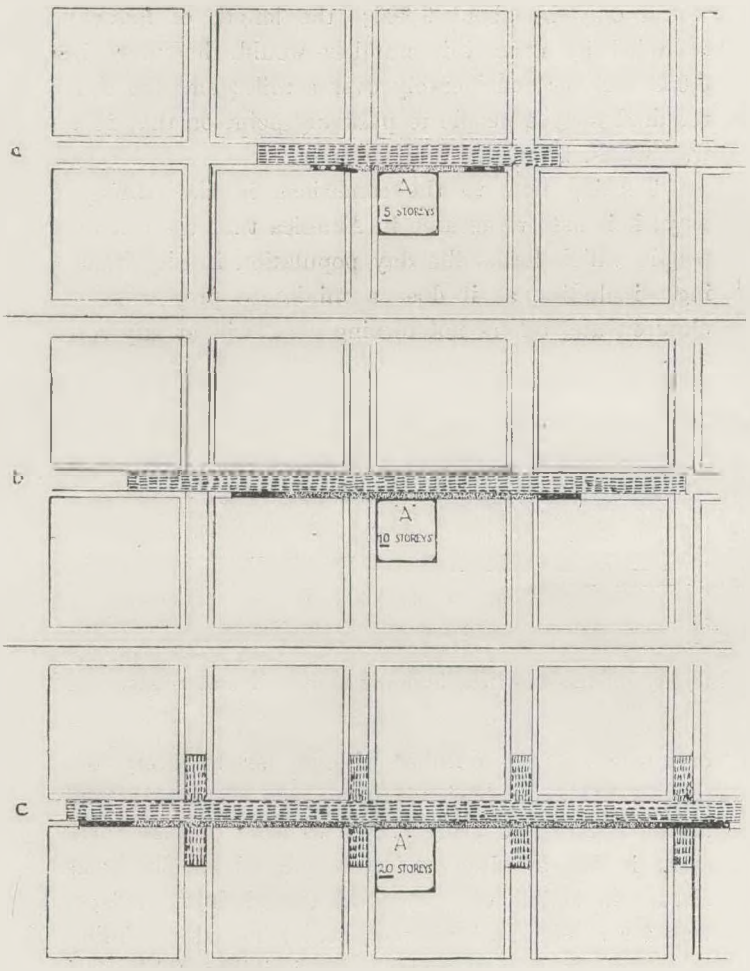



DIAGRAM 3.

Diagram showing amount of street area required with buildings of different heights to accommodate the average number of people in the building "A," when standing, and the average number of cars owned by them.

are something like twelve million cars, or an average of about one car for every ten people, including men, women, and children. There are, moreover, several individual towns in which the number of cars registered has risen to one for every five of the population. In some of these towns it has been calculated that there is seating accommodation in these cars for the whole of the population to go joy riding at the same time!

It is not yet apparent what will prove to be the saturation point in regard to ownership of motor cars. Mr. Ford, who has contributed more than anyone else to the supply, does not consider that that point has been nearly reached; and I am informed that the industry in America is at the present time turning out approximately half a million cars per month. While they export a good many, the majority are for the supply of their own population. We in this country have little idea what this means. We still number our total possession of cars in hundreds of thousands, and our annual output in tens of thousands. While we may hope, as much for the pleasure of the motor car owner as for the safety of foot passengers, that we shall not reach numbers comparable with those found in America, there is yet little doubt that our present number will expand enormously. It is increasing even in the present time of depression at a rate approaching 25 per cent. per annum. We must therefore reckon with a rapidly extending use of the private motor car as one of the conditions which must be dealt with in the future. There is little evidence that this condition is likely to be accompanied by any diminution in other kinds of vehicles, such as the motor omnibus, which is already threatening to present one of our most serious traffic problems.

To understand the traffic aspect of the high building question it is necessary first to realise the extent to which an increase in the height of buildings affects the demand on street space. Fortunately this problem of height has recently been investigated with great care by the Chicago Real Estate Board, in connection with the fixing of height limits throughout that city. In their report they give precise data for buildings ranging from five to thirty storeys high, erected on one particular corner plot, including the net rentable floor space, cost, and other matters. There appears to be a fairly constant relation between the net rentable floor space and the total day population. I have checked it in connection with one or two individual buildings like the Woolworth Building in New York, and also in connection with the whole of the Loop area of Chicago, and I find that a figure of about 45 square feet of rentable floor per head of population appears to be near the mark. To be on the safe side I propose, in my calculations, to take 50 square feet of net floor space per head of population—that is, total day population. It is quite simple to establish a definite relation between this population and the footpath area of the roads, and for this purpose I have assumed that, to provide standing room, a space of 2 feet by 2 feet is necessary for each person; and to provide for walking, on the average a space of 2 feet by 5 feet is necessary. It will be realised that crowds of people walking along

a footpath rarely average so little space as this. It is not possible to establish a definite relation between the road surface and all the various vehicles required to serve buildings of different height; but as we have in America a fairly reliable relation between population and the number of motor cars owned, it is easy to establish a relation between the floor space of the buildings and the road space that would be required to accommodate these motor cars; this relation is sufficient for my purpose. The average over-all length of a number of motor vehicles, I find, is 20 feet; and allowing a little space for the cars to stand clear of each other, about 24 or 25 feet is as little as can be allowed for each car. I have further assumed that the cars occupy a width of road space varying from 7 feet 6 inches to 8 feet, according as the carriage-way most nearly divides up into a certain number of car widths. These densities of occupancy of footway and road are illustrated in Diagram 2. The building which is taken for comparison of different heights was designed to stand on a corner plot in the Loop area, measuring 160 feet by 172 feet, with an alleyway at the rear. With five storeys I find that this building would have a day population of 2,018, and taking the average width of the roadways in the Loop area, which is about 86 feet, and the footway in front of the building as one-fifth of this, or 17 feet, I find that the people occupying this one building would take up a length of 504 feet of footway if they were standing, and a length of 1,260 feet if they were walking. It has been observed that the average speed of people walking on the footway in a crowded condition comparable to this would be 224 feet per minute, so that this length of 1,260 feet of footway would be occupied for five and a half minutes before the occupants of this one building could pass away from it. If the building were increased to ten storeys the population would not be doubled—that is, 4,036—but would be about 3,704, and the length of footway to accommodate this number walking would be 2,315 feet. The time in this case for the people to pass would be ten minutes. With an increase to twenty storeys the figures would be—population accommodated, 6,930; length of footway occupied, 4,330 feet; time to pass, 20 minutes. Above twenty storeys, owing to the large amount of floor space occupied by lifts on the lower floors, the increase of available space in proportion to the number of added floors becomes steadily smaller, so that at thirty storeys, instead of a floor space enough to provide for 12,114 persons, the population would only be about 9,386; the length of footway occupied by even this number would, however, be 5,853 feet, or considerably over a mile; and the time required for the people to pass any point on that footway would be nearly half an hour.

Turning now to the conditions in the carriage-way; it is safe to assume in America that the class of people which forms the day population in city buildings, including as it does a minimum proportion of children and others not owning cars, will at any rate own the average number of one car to every ten people. On this basis, if these cars were to attend at the building to bring people to work or take them away in the evening, and were packed as closely as already indicated, they would fill the whole of carriage-way for a length of 804 feet with a five-storey building, 1,480 feet with a ten-storey building, 2,772 feet with a twenty-storey building, and 3,744 feet, nearly three-quarters of a mile, with a thirty-storey building. These lengths of road required are also illustrated in Diagram 3. If half the carriage-way only were taken, on the ground that the other half of the street should be left for the use of the buildings on the other side, these lengths would have to be doubled; it may reasonably be said, therefore, that with the present extent of ownership of motors in America, the cars require nearly twice as much length of roadway to accommodate them as the people would require walking along the footways. We must not forget, in considering these figures, that no account has been taken

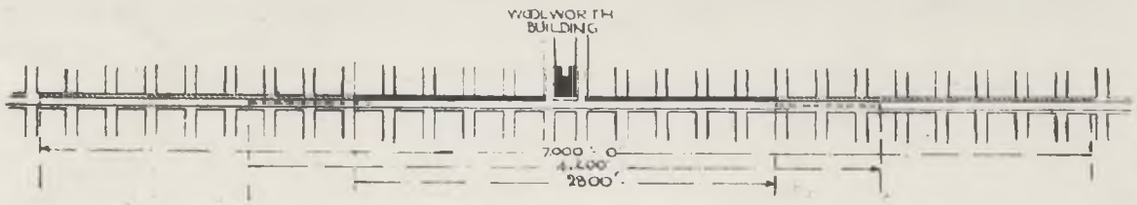



DIAGRAM 4.

Showing the extent of footway and roadway required by the day occupants of the building and their motor-cars.

of the increase of other vehicles, particularly trade vehicles, required to deal with the growing volume of merchandise that would be handled by the increasing population. It is, perhaps, not necessary to take account of the increase in motor omnibuses and other similar vehicles, because we have reckoned the whole of the people as either walking or riding in cars. On the other hand, it is a well-known principle, which applies as far as I know generally in all towns, that the extent of public passenger traffic increases much faster than the increase of population. In fact, the increase of traffic and of the number of journeys per head is frequently more than the square of the increase of population. That has been so both in London and New York. To the extent to which this holds true, Diagram No. 3 understates the increasing demand on the streets due to increase in height.

We may take one more example in connection with which accurate information is available. I refer to the Woolworth Building in New York. This building stands on a plot 151 feet by 195 feet; it has streets on three sides of it; it has, including basement, 28 storeys covering the whole area of the building apart from lighting wells, and has, further, a tower containing a like number of additional storeys. The day population of the building is 14,000 people. In addition to this there are large numbers of visitors that I have not reckoned. The roadway in front of it is less than 100 feet, but for convenience we will take the usual New York main avenue width of 100 feet, having footways 20 feet wide and a 60-feet carriage-way. On the bases we have taken, therefore, the footway would accommodate a maximum of ten persons walking abreast, and I have assumed that the carriage-way would take eight motor cars abreast, allowing only 7 feet 6 inches per car. The day population of this one building would therefore occupy 2,800 feet of side-walk standing packed together, or, if walking, 7,000 feet—over a mile and a quarter; and they would occupy a minimum of half an hour in passing over any part of that space. Diagram 4 illustrates this case.

Assuming, again, one car for every ten people, and that the whole of the roadway were occupied, the cars would require 4,200 feet of roadway to provide standing room. Should it be arranged for these cars to draw up at the door of the building to take their owners home, allowing an average length for car and space to move of 25 feet, the queue of cars in single file would be between six and seven miles long.

In view of these figures you will hardly be surprised that the utility of the private car is diminishing, or wonder at the enormous congestion of traffic in cities like New York and Chicago. It is only because the very tall building is quite exceptional in New York, and even on Manhattan Island is confined to very restricted areas, that an absolute deadlock has not already been reached. The vast majority of buildings, even in the downtown area, as may be seen from a recent aeroplane photograph, are still of the old height of five or six storeys. Even as it is, the problem of traffic is almost insoluble. Along Fifth Avenue it is now regulated by signal lights. When the white light shows, the stream flows along the avenue; when the green light shows, the traffic along the whole length of the avenue thus controlled must stop at every cross street. These cross streets occur at intervals of only 88 yards centre to centre, and the whole of the traffic must stop with the signal, whether any vehicle requires to cross the street or not. It is not often that at any of the cross streets there is nothing waiting, but as the whole of the stream must be stopped long enough on the average to allow the traffic of the busiest cross streets to pass, it must be held longer than necessary at all the less busy cross streets. The arrangement is, however, in spite of these drawbacks, considered to be a great improvement on the previous condition.

*(To be continued.)*

---

Mr. J. A. Carter Moffat, of Durban, son of Mr. J. A. Moffat, of Johannesburg, passed the examination for Associateship of the Royal Institute of British Architects, and has been registered as an Architect in the Transvaal and elected to membership of this Association.

* * *

Mr. Harold G. Tomkyns, articled pupil to Mr. F. L. H. Fleming, has succeeded in passing the Diploma Course in Architecture at the University of the Witwatersrand, and has been registered as an Architect in the Transvaal and admitted to membership of this Association.

# THE ORIENT.

By G. W. NICOLAY, F.S.Arch.

A traveller from afar was approaching—though unconsciously—the place to which he was journeying, as the sun slowly settled down in the west.

On a road quite unknown to him he was seeking a place where dwelt a person owning a large tract of land and much wealth. He had travelled all day and had seen but three men, and had been able to get speech with only one in the middle of the morning, who, in answer to his anxious question as to the whereabouts of the great River Chehung, pointed a little to the left of the road to a bright patch gleaming in the distance, and said "There it is!"

The traveller saw it and was comforted, but now as the road swung sharply to the left and took a nearly northerly direction and to his right displayed a vast extent of open, flat country, he thought he had lost his way. His mind was, however, soon relieved, for ascending a little rise he reached the top of the higher ground, and stood still for a moment to view the river, here only about a mile wide, and the vast expanse of open, flat country to the north and east, closed many miles away by a range of mountains now taking on the gloom of the covering night. A few more steps cleared the view to the right, and showed him the place he was seeking, with its remarkable—and for those times remote by ages from the present—spacious, palatial residence.

He noticed he had been seen the moment he turned the corner, for a stout person, tall and large, with an important manner, moved quietly towards him, followed at a few paces by two men and some dogs. The traveller moved on, and, knowing the customs of the country, though never in this district before, on coming within a few paces, made the prescribed obeisance and stood still. Having answered satisfactorily the questions put to him and presented acceptable credentials, he moved with his now complacent and friendly host towards the house. He regarded the house with great curiosity, for, though he was familiar with the type of building, he had never seen anything of the kind so carefully wrought and designed. That he was not allowed then to get a clear idea of the arrangement of the rooms, because his host led him immediately along a narrow gallery at the side of the house on to a broad verandah stretching all along the river front, and, sitting down in Oriental fashion upon a raised seat or divan, pointed to the place beside him, which was immediately occupied by the traveller.

San Tan looked complacently about his property, and then, turning to his guest, said he always spent the half-hour before sunset on this verandah, because he could see the light flash on the edge of the mighty cascade as it rushed over the rocks where the wall or barrier had been broken through and the waters of the lake above, being released, had scoured out the bed of the river, which, though very deep near the rocks, was at his house only about a fathom and a half.

He was evidently glad of every opportunity of extolling the house and its surroundings.

The sun went down, and immediately San Tan got up and ceremoniously conducted his guest into the house.

The evening meal was served in the principal room, which was large and high, the whole construction of the roof being visible, and the whole place hung with rich textiles and lighted by oil lamps of silver hanging from the rafters by silver chains.

The business in which the traveller had come was discussed and satisfactorily closed. San Tan got up and expressed his wish that, the business being agreed upon, should not again be referred to until the time came for settlement of accounts. He then struck a curiously wrought brass gong three times, wished his guest good-night, and retired. Immediately a servant conducted him to his place of rest. . . .

The notes which have served to introduce San Tan to the interested reader will serve to construct a picture of this interesting house, although it may be necessary now and then to have recourse to imagination to fill in details.

The site was well chosen in every way. It was, as it were, upon the last step of the hill which had for the whole day kept the traveller from a sight of the river, though from the directions given him he had expected to see it near the road on his left-hand. The road passing round the eastern end of the hill changed from north to a north-easterly direction and dropped immediately down to the ford just where the hills in the north of the river opened and left it free to continue its course through the flat surrounding country far away to the mountains just visible in the failing light.

On the right of the road the very foot of the hill spread out into a little plateau, sloping down to the plain for perhaps a mile, and then dipping again down to the flat for some twenty or thirty feet. On this little plateau was built "The Place" of San Tan and his immediate dependents. The plain below for many miles each way was his estate, upon which, dotted about as far as the eye could see, houses large and small could be detected wherever the ground rose sufficiently to give security against the floods of the wet season.

The house stood on the northern side of this plateau, a quarter of a mile from the river side, where had been constructed a landing-stage of a very substantial and enduring design, and moored beside it was

a boat very like those now called "junks," which he used to transport the produce of his estate.

San Tan's house, like that of all important people, was larger than his own necessities required, and, as was customary in his time and among the people to which he belonged, had not only accommodation for his family and intimate friends, but for visitors of sufficient distinction to expect and obtain his personal hospitality; and for those in other circumstances and general travellers, he maintained a caravanserai on the other side of the river situated as picturesquely as his own house.

This house was such as the Occident of those times had no idea of. The foundations of it were of stone laid with regular courses, not of equal height, but nowhere exceeding about ten inches. These foundations were about nine feet out of the ground upon the north or river side of the house, and highest at the north-east corner and decreased gradually towards the south-east corner, where they stood out of the ground about three feet. The top course of this work was composed of selected stones longer and broader than the others, and it was weathered on its upper surface, throated on the underside, and had the lower arris cut off at an angle of forty-five degrees.

These foundations were carried down to the rock, which was not far below the surface of the ground, and the space thus enclosed was made use of as cellarage.

The floor was simply constructed, but with solidity, and a view to comfort and cleanliness. Stone piers were built at convenient intervals about three feet square, and upon these large slabs of stone were laid, and upon these a finish of small tiles of different colours, of which some were glazed and had devices painted upon them, set most workmanly, forming attractive patterns on gypsum.

The structure raised upon this foundation was constructed entirely of bamboo. It consisted of a large room, 36 feet by 18 feet, with its long axis north and south, nearly parallel to the road leading to the ford.

On the east side was a small courtyard, of which the east end had only two rooms, one on each side of the gateway, giving access to the garden. The north had four rooms, with windows high in the wall on the north side, and access to the principal room was gained by a passage, of which the outer wall formed the back of the verandah to the courtyard on the north side. The south side had smaller rooms, of which there were five. These were for friends and strangers of esteem, like the traveller, whose notes are here being edited. The rooms on the north side were the family rooms, and the north side of these was exactly in line with the north wall of the principal room. The south side of the courtyard was in line with the south wall of the principal room, and the verandah was continued across the end of it, but made wider, forming a large porch, which was the main entrance to the house and which was used as a sort of ante-room, wherein much ordinary business was done, both in trading and the management of the estate. Here was formed another courtyard, which had a verandah on its east side, but to the south, where it projected a considerable distance beyond the house, it had only a high and strong palisade, and the same kind of enclosure on the west, and in the centre of this a gate with a narrow roof over it.

To the south of this courtyard, the kitchen and its offices and rooms for the superior servants immediately in attendance upon the proprietor were arranged and had a yard attached, surrounded by a palisade.

The north side of the house had a broad verandah extending from the west side of the great room to the east side of the family suite. It was twelve feet wide and sixty-three feet long.

The court and the kitchen yard were paved with plain red slabs of baked clay.

The verandahs of the courtyard at the side of the large room were paved with the same material as that used in the entrance court, but with pieces of different sizes, which were arranged in patterns; but the centre portion, which was about seven inches below these, was paved with white clay tiles of pale tones of pure colour accentuated with small pieces of black and white placed so as to be only noticed when the value of the colour arrangements was observed. In the centre was a small tank about three feet deep, with a water lily and some gaily-coloured fish. The kerb to this tank was of moulded and glazed porcelain of pale warm brown, and at the corners of the court, in bamboo tubs, were placed small specimen trees.

The colour on the bamboo walls was of a more decided tone, in parts approaching full strength of colour, and the reed thatch, which was blue and never seen except at a rather acute angle of vision, gave in the full sunlight a pearly-grey border, and in fading light a darker, but still tender, grey, which deepened into a solemn purple as the gloom of night came on. Under the pale moonlight it was a silver-grey.

The colouring of the walls externally is particularly referred to, because this little court presents nothing special in construction, such as is to be seen in the principal room, which will next be described, but must have been a perfect thing of its kind, a place to which the family could retire to enjoy those moments, always few, when the cares of life may be put out of sight and quiet recreation becomes possible and more successful than by the naturally-appointed recreator—sweet sleep.

The large room, more remarkable for its construction than anything else, is an instance of the careful designing common in the earliest times. It was built, as already stated, upon a stone foundation, the top course of which was weathered on the upper surface. Upon this sill stools were wrought for the great bamboo posts which stood in front of the sunk face at the back of the weathering, and about half-an-inch above the point where the weathering and sunk face met were set back so as to leave a joggle which would fit into the end of the bamboo to prevent its base moving. The top of this joggle was level with the upper surface of the back of the sill, and from the joggle to the back of the sill was four inches, and the angles of this part of the sill were rounded off.

This arrangement enabled the water coming down the face of the matting tied to the framing between the bamboos to be discharged on to the sill, and so the house was kept dry in wet weather. The mat screens, also, of course, excluded wind and dust.

The angle posts were twelve inches in diameter, and between them others of about eight inches were placed at six feet centres, and all of these were twelve feet long, so that the top of the plates was about twelve feet eight inches from the floor. This plate was of separate pieces of moderate length. The joints were made by putting a hardwood core into the hollow part of the bamboo, long enough to be pinned on each side of the joint with a hardwood pin. These joints were kept in the centres between the posts, and struts from the posts placed so as to meet at that point to support the plate at the joint. At the head of each post the plate was secured by a plug fitting into the hollow of the top of the post, long enough to be seated upon the natural joint of the bamboo and passed through the plate and the foot of the rafter.

The ties and collars were double—each in one piece; the ties about four inches thick at one end and about three inches thick at the other, the collars about three inches thick, and each pair were reversed so that a thick and thin end came together upon the plate to which they were pinned, as well as to the foot of the rafter. At about one-third of the span from each side uprights were placed, passing between each pair of ties and collars and having a plug inserted in its upper end and pinned to it, and with its end diminished passed vertically through and pinned to the rafter. The rafters were crossed and pinned together at the head, and upon this series of crutches so formed a ridge pole was laid and lashed at each crutch with thongs of hide. Between the principals, rafters were set similar to the principals, but with the centre part of the ties between the uprights omitted.

These intermediate rafters had a diagonal brace from the ends of the remnants, so to say, of the ties, and fastened to rafters in the same manner as the heads of the uprights. Under the ends of the ties of the principal rafters brackets were placed of the reticulated pattern common in Eastern countries.

They had three squares at the top, then two, then one, and were halved and pinned together. The ends of the horizontal pieces passed right through the posts and fastened with a cleat on each side. The uprights were pinned to the ties, and the second from the wall carried up to the rafters and pinned to it.

Upon these rafters bamboo laths were lashed horizontally from the ridge downwards, to receive the reed thatch which formed the roof covering, and which was about eight inches thick at the eaves and five at the ridge. Here the thatch was covered with a ridge of plaited grass.

On the east side the large room was held against lateral movement by the other parts of the house abutting against it, and on the west side corbels were built, springing from half the height of the foundation walls, and rising with over-sailing courses until a projection of about two feet had been gained, which supported the ends of bamboos the same size as the wall posts, which were dispersed like shores, the heads of which were cut to fit the posts and pinned to them. These shores reached to within two feet of the head of the posts and were stiffened by means of crosspieces fitted between the shores and the posts, and were plugged and pinned to them in the same manner as that used for the roof.

At nine feet from the floor a rail four inches thick was fixed between the posts, and the space above up to the plate was filled in with a reticulation of thin bamboos, and below the rail and hanging to it was fixed the mat, stiffened with pieces of split bamboo, half on each side of the mat, and sewn to it much after the manner of Chinese sails, which kept out the weather. The eaves were projected well over the walls, and shutters of matting were ingeniously arranged which could be hoisted against the outside of the openings whenever it was desired to close them.

The large room was lighted mainly from the north and south ends. The garden was planned and planted with skill equal in every way to that bestowed upon the house, and was maintained in splendid order. The climate was favourable to both fruit trees and flowers, and the rich soil and abundant supply of water combined to enable San Tan to make his garden perfect of its kind.

The local rains were very moderate, but the low-lying country on each side was flooded periodically by water coming from a great distance to the west and bringing down with it alluvium which established conditions favourable to the growth of plants and trees in great variety.

# The Federal Council on Architectural Education.

IN THE UNION OF SOUTH AFRICA.

The First Annual General Meeting of the Council held in Capetown on the 3rd and 4th January, 1924, was attended by Messrs. W. A. Ritchie-Fallon (representing the Cape Institute of Architects), Ernest M. Powers (representing the Royal Institute of British Architects), Gordon Leith (representing the Association of Transvaal Architects), F. K. Kendall (representing the Port Elizabeth Society of Architects), W. S. Payne (representing the Natal Institute of Architects), Percy Coleman (representing the Union Department of Education), Alfred E. Snape (representing the University of Capetown), G. E. Pearse, Professor of Architecture at the University of the Witwatersrand; O. J. P. Oxley, Professor of Fine Art at the Natal Technical College; and M. K. Carpenter (Secretary).

Mr. W. A. Ritchie-Fallon, President of the Cape Institute of Architects, was elected Chairman for the current year, and Mr. Ernest M. Powers (R.I.B.A.), Vice-Chairman. It was decided to hold the next annual meeting in Johannesburg during February, 1925.

Following the adoption of minor amendments to the Constitution, confirming the headquarters and the appointment of Secretary, the Council dealt carefully with the provisions for Architectural Education in the proposed Architects' Act for the Union, and made several important suggestions for consideration by the Registration Executive Committee.

The Council decided, unanimously, on the acceptance of the matriculation certificate or its equivalent, as defined from time to time by the Council, as the preliminary qualification for entrance into the profession, except in special cases sanctioned by the Council. It was further laid down that the equivalents to the matriculation certificate be those laid down by the Joint Matriculation Board, P.O. Box 392, Pretoria, and any others which may from time to time be defined by this Council.

The following general standard for Architectural Education in the Union was adopted:—

(1) That there be two grades or courses for students, either of which shall be accepted for qualification as Architects. These courses shall be termed "Degree" and "Diploma."

(2) That the "Degree" course be of a standard not lower than the standard laid down by the British Universities granting degrees in Architecture.

(3) That the "Diploma" course be formulated on the lines laid down by the final examinations of the Royal Institute of British Architects and the Society of Architects (London), and be of such a standard that it will be acceptable to these bodies, and at a certain stage an intermediate examination of a corresponding standard be held.

Respecting the sources of study, including the advisability of travel, the following decision was arrived at:—"This Council associates itself in every possible way with the standard of Architectural training as established by the R.I.B.A. and the Society of Architects (London), but feels that it would be in the best interests of the profession in South Africa, in order to promote study abroad, if these bodies would withhold the granting of their Diplomæ until South African Graduates and Diplome's have spent a period of not less than three months in England or other approved countries in the study of Architecture, and have submitted satisfactory testimonies of studies, executed in this period, to the respective bodies."

This recommendation is made with the object of encouraging study abroad and to bring the candidate into close touch with the parent bodies.

The Council recorded a unanimous disapproval of any form of correspondence course in Architectural training, and decided to issue an official pamphlet for the guidance of entrants to the profession and to provide information relating to the courses and examinations, with an estimate of the cost. This pamphlet will be available at an early date. Applications for copies should be addressed to the Secretary, 67 Exploration Building, Johannesburg.

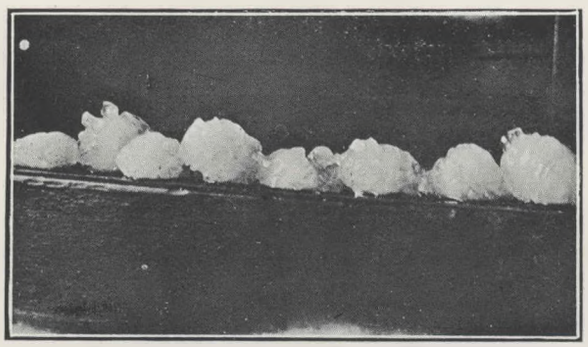
The Council decided to compile a register of students engaged in the profession and to enrol new applicants after acceptance. Copies of this form of

application for enrolment as an Architectural student under the Federal Council can be obtained on application to the Secretary. In view of the decision to issue certificates to successful students in the Diploma course it is imperative that all students make application for enrolment.

The Council unanimously recommended that the normal course of training for a student who is not a Graduate in Architecture shall be a pupilage in an Architect's office for a period of not less than three years, and that a premium be charged; the amount of the premium shall be returned to the pupil as salary repayable proportionately and monthly before the termination of his pupilage, and that the premium shall not exceed £100.

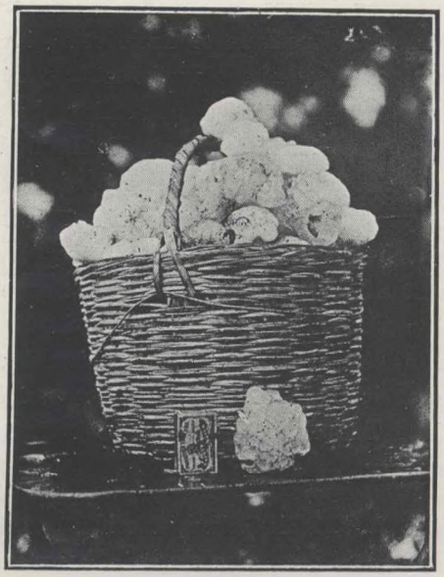
## THE PRETORIA HAILSTORM.

The effects of the disastrous hailstorm which occurred at Pretoria a few months ago and caused enormous destruction to the roofs and interiors of the houses should be closely investigated by Architects, and the local practitioners might well write up their experiences in "Building" *pro bono publico*. We are told that such a visitation has not been known in the town before and will probably never occur again—but who knows? Clearly as our attention has been drawn in such a forcible manner to the latent defects of our roof coverings, we should endeavour to find a remedy.



Hailstones.

All classes and makes of terra-cotta tiles—plain, Marseilles, Italian pattern, etc.—were broken to pieces by the onslaught of hailstones as large as tennis balls, and asbestos tiles fared no better; shingles, thatch and corrugated iron stood the test fairly well, and emerged from this ordeal battered, but intact, and practically watertight. The natural consequence of this is that in about 90 per cent. of the cases tiles have been replaced by corrugated iron, and this applies to Government buildings as well as private houses. Shingles have been ruled out as too costly,

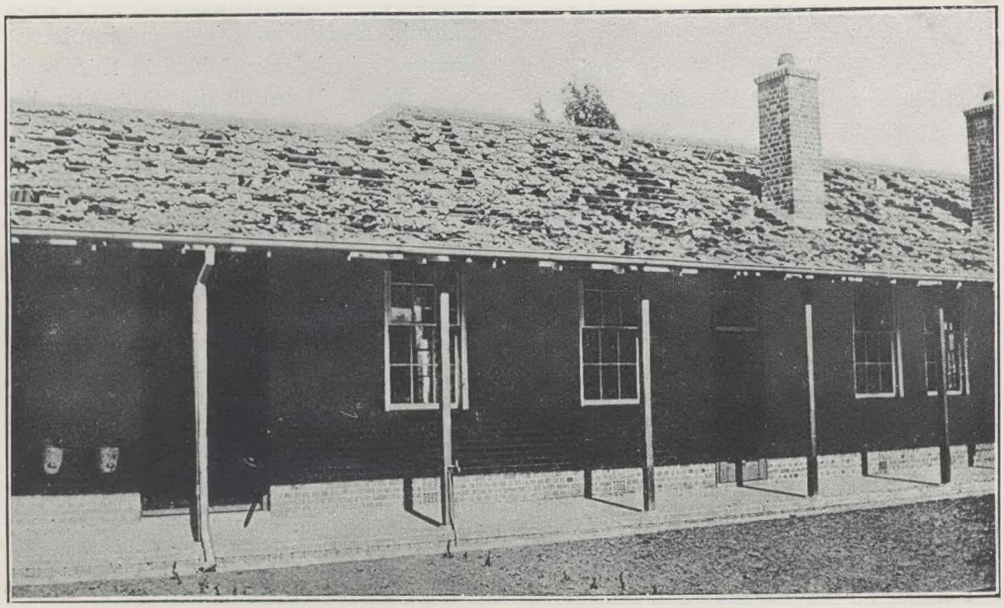


Hailstones.

and thatch also, on account of the Municipal Regulations prohibiting its use in certain areas.

The broken tiles fell on to the ceilings, and, in many instances, pierced them, and the damage by water to the ceilings, walls and furniture was considerable. Where tiles have been used again it has been considered advisable in some instances to put a protective covering on the ceilings, so arranged as to run off any water on to the eaves and prevent damage to the interior of the house in future. In one case the writer knows of matched boarding has been laid on top of the tie beams and covered all over with Malthoid sheeting. It has been suggested, too, that a concrete ceiling under the tile roof would answer the same purpose. Boarding and felt directly under the roofing tiles would prevent flooding by water during storms in the event of the tiles being broken, but this treatment could not apply to roofs covered with tiles that require wiring at the back to battens. These are all costly precautions, and the best remedy lies in designing a hailprooof tile.

The advocates of concrete roofs should get a great fillip from the Pretoria catastrophe, but however serviceable this form of roofing may be for commercial buildings one cannot contemplate its universal adoption for domestic buildings with equanimity.



Damage done by hailstones to roof of Government School, South Wonderboom, Pretoria.

The insurance companies have not been slow in looking to business in this direction, and are prepared to insure roofs against hailstorms, but few will be found willing to take advantage of this new precautionary measure on account of its high cost. The charge for this class of insurance is 5s. per £100 on the value of the house for fire insurance and not on the value of the roof only. Thus, in the case of a house insured against fire for £2,000, the cost of insuring against hail works out at £5, whereas if the value of the probable damage to the roof only were worked on, say, £200, the annual charge would be 10s. At the latter figure the insurance companies would not make the proposition payable and therefore cannot entertain it, and the higher figure is prohibitive to the small householder. A scheme to meet both parties—the insurance company and the householder—might be one that would require the householder to pay on the higher scale and the insurance company to allow him a rebate each year in the event of no damage arising from a hailstorm during that period.

Unless clients can be safeguarded against severe losses from hailstorms it will be difficult, especially in the Pretoria district, to prevail upon them to have tiled roofs, and the beauty and charm of many a home will be jeopardised.

The damage to houses in hailstorms is not confined to the roofs, and a big bill accrues for replacing broken glass. Here the remedy would be to replace the thin sheet glass invariably used by plate glass. Cost again enters into this proposition, but "first cost would be last cost," and the use of a vastly superior material to the present sheet glass would greatly improve the appearance and outlook of the windows. The glass in skylights can be effectually protected by wire hail guards, but these must be strong enough to take severe blows from the hailstones and kept well up from the glass, otherwise the hail will dent them sufficiently to reach the glass and break it.

N. T. C.

*ARCHITECTURAL BRONZE*

and other Metals

*for . . .*

CHURCH FITMENTS
BANKS
BUILDINGS
RESIDENCES
and Memorials of every description.

*Your Plans and Specifications for Estimates will be Appreciated by*

MURRAY K. CARPENTER,
67, Exploration Building, Johannesburg,
*For the*
BIRMINGHAM GUILD, LTD.

## BOOK REVIEWS.

*Acoustics of Buildings*, by F. R. Watson, Professor of Experimental Physics, University, Illinois. London: Chapman & Hall, Limited. 155 pp. 15s. net.

This timely work is the first systematic treatise on the Acoustics of Building which has come under our notice. The publications on this subject which have appeared have been in the form of papers in professional journals from the pens of Messrs. Hope, Bagenal and A. W. Sutherland, and have been much appreciated. We have also had in book form the " collected papers of the late Professor Wallace C. Sabine," the famous pioneer in this form of practical physics. These last papers, however, while highly valuable, require a deal of digging into and are too specialised and lacking in co-ordinated sequence to form a useful treatise for Architects; and this need the present volume appears to us to fill. It is well illustrated with diagrams and photographs, and is intended for the use of Architects; and the mathematics of the subject have been kept within the range required. Without unnecessary discursiveness the writer has admirably succeeded in marshalling the main outlines in good sequence and in guiding his reader forward into the practical application, and a number of worked examples from actual cases which have arisen in practice are given.

The work is divided into three parts. Part I.: Introduction—The Action of Sound in Buildings. Part II.: Acoustics of Auditoriums, which explains the effects of sound and acoustical design to meet these effects, with useful chapters on sound-absorbing materials and acoustic correction. Part III. is on Sound Proofing in Buildings. This section opens out a field of information on the exclusion of sound from apartments, either from the external air or from the interior of the buliding itself. On this subject the late Professor Wallace Sabine had carried on much research, but his papers on the subject were not complete and some appear to be missing. The author of the present work has, however, done much investigation in this field, which is as important to Architects as that of the acoustics of auditoriums. The vibrations arising from street traffic, trains, lifts and machinery are dealt with, and diagrams of methods to eliminate transmission of vibration waves in building construction are shown clearly. The quietening of hospital wards, of hotels, of apartments, of schools of music, is passed under review, and while this chapter by no means exhausts the treatment of this aspect, it is of a distinctly helpful character. The size of the book does not admit of mention of the innumerable causes of noise in offices, such as the annoying click of typewriters and calculating machines, which have of late been effectively lessened in places by the adoption of the principles unfolded in this work.

There is no doubt that this little volume will form a welcome addition to the table of every Architect dealing with halls, churches, theatres and other auditoriums, and to those who should consider the reduction of vibrations in our future city buildings.

E. H. WAUGH.

---

*Quantity Surveying for Builders*, by Wilfred L. Evershed, F.S.I. Price 10s. 6d. net. Chapman & Hall, Ltd., 11, Henrietta Street, Covent Garden, London, W.C. 2.

We cannot agree with the author in the opening remark to his Preface that "for some considerable time I have felt the lack of a satisfactory text-book upon Builders' Quantities." We think that the demand is well met at present, but, nevertheless, we welcome any addition to the literature on this subject as evidence of the growing importance and greater knowledge required of Quantities, and moreover, another point of view sustained with so much care and thought as in this instance, merits attention and support.

For the first time we notice a chapter on " Mensuration as applied to Quantity Surveying "; some of the information given here is elementary and no harm would be done by eliminating some of the examples which ought to be mastered at schools.

The Author has adopted an unusual method in setting out the book in that each trade is not dealt with separately, but the instructions are written in the order in which the " Taking-off " should be carried out. An index, however, is supplied which enables the student to find the method of measurement of any particular item or trade. " Taking-off " by trades is rightly dubbed an out-of-date method, and we think any reference to it inadvisable as it is never adopted in the best practice.

Great emphasis is laid on the necessity for measuring in a definte order and system, and any one with experience will fully endorse this admonition. Errors will crop up in spite of the utmost care, and they can only be minimised by adopting a rigid order and method.

The methods of measuring advocated are in accordance with the practice in London, and do not differ materially from the Standard System adopted in South Africa. In many respects the London system is more detailed, as for instance, in measuring drains, it is recommended that the items of excavation, concrete and pipes should be taken separately, and the work to manholes also taken out in complete

detail, saddle bars to lead glazing measured as a lineal dimension and not included with the glazing, horsing to beam casings in reinforced concrete work measured separately; all practices which are not followed out here.

The examples of "Taking-off" which are given are from Examination Questions set by The Surveyors' Institution, City and Guilds of London Institute and other Technical Institutes. Some of the examples illustrated are not worked out, and we think it is a mistake in a text-book not to work them all out. The dimensions in the examples given are not squared and set down in their proper column, which is left blank; this should be done in a future edition, as it would be a useful lesson to the student to check the "squaring."

The example of "Taking-off" for a Hot Water System is not accompanied by an illustration and is not very helpful in consequence.

In the Example on page 70 of "Taking-off" for a cast iron column it is stated: "Assume that a square foot of 1 in. cast iron weighs 3½ lbs.," this should be corrected to 37½ lbs., and the weight of the column and also of the steel girder in the previous example should undoubtedly be worked out if these examples are to be of real help to the student.

We are disappointed to find that so little is said about the measurement of artificial stone or cast concrete blocks. We are told that "this is measured by the cubic foot under the headings of plain, molded and splayed and molded and enriched work. Special enriched work by artists should also be kept separate. All moulds should be included in the description." This class of work is making great headway, and is rapidly displacing stonework in large buildings where low cost is a deciding factor, and Contractors are not satisfied to estimate from the meagre details outlined above. It is urged that the facework in plain faces, sunk faces, mouldings, etc., should be measured separately, much on the lines adopted for the detailed measurement of stonework, and it is not unreasonable to require more information than can be given when the work is merely cubed up under a few headings.

A chapter should be included on "Pricing," giving the leading items in each trade and methods of arriving at their values, more especially as the example given on page 169 states: "Price the quantities and make up the estimate."

The book is well printed, and the illustrations are clear and comprehensive, and one can have no hesitation about recommending it as a sound and useful preceptor and a mine of information on Quantity Surveying, and it is undoubtedly a valuable addition to the Directly-Useful Technical Series under which it is published.

N. T. C.

**Established 1892.** Output Capacity **EXCEEDS 3,000,000** Bags per Annum. **Telegrams—"CEMENT," Johannesburg.**

**THE SOURCE OF SUCCESS FOR YOU AND YOUR CONTRACTOR:—USE**

**PRETORIA PORTLAND CEMENT**

**Reaches the HIGHEST STANDARD possible for UNIFORMITY and QUALITY.**

Used with great success and highly commented upon by Experts connected with the latest and most modern Concrete Construction Engineering feats, including the GOVERNMENT GRAIN ELEVATORS, HARBOUR WORKS, and large IRRIGATION and WATER SCHEMES throughout South Africa.

**EVERY BAG GUARANTEED.**

**Suitable for all Classes of Work.** **Immediate Despatch to all Stations.**

STOCKED BY ALL MERCHANTS AND DEALERS.

*Orders and inquiries receive our prompt attention. Address—THE SECRETARY,*

**PRETORIA PORTLAND CEMENT COMPANY, LIMITED,** P. O. Box 3811, JOHANNESBURG.

## NOTES AND NEWS.

Messrs. J. L. Henderson and J. S. Bowie, the well-known Practitioners at Springs and Benoni, have been commissioned by the Municipality of Springs to prepare plans for a new Town Hall and Municipal Offices for that local authority.

* * *

Mr. M. J. Harris, Mayor of Johannesburg, has been joined in practice by Mr. W. J. Sloan, late of Benoni, and the style of the firm is Harris & Sloan, National Mutual Buildings, Rissik Street, Johannesburg.

* * *

Messrs. F. Masey and Rhodes-Harrison, the Bloemfontein Architects, have been commissioned to design the War Memorial for erection at Kroonstad, which is expected to be ready for unveiling by the Prince of Wales during his forthcoming visit.

Mr. W. H. Stucke, a Past President, was recently married to Miss Ethel Scott, and has proceeded on a tour which is to embrace the British Isles and the Continent.

* * *

Mr. G. G. Lawson, an early member of this Association, now domiciled in Australia, has been appointed Assistant Chief Draughtsman in the office of the Architect-in-Chief, at Adelaide.

* * *

Mr. W. Lucas, an early member of this Association, now domiciled in Australia, was successful in submitting the second premiated design in the competition for the Australian National War Memorial.

* * *

Mr. Clifford B. Stocks has joined Mr. Farrow in partnership at East London, and the style of the firm will in future be known as Cordeaux, Farrow & Stocks, Oxford Chambers, East London.

THERE IS NO DOUBT
ABOUT THE QUALITY OF
KEYSTONA

*The Original Flat Oil Paint*

PRODUCES A FLAT AND VELVETY FINISH THAT IS REALLY WASHABLE.
ARTISTIC.




*:: Made Famous by Quality ::*

IT HAS A LARGER COVERING CAPACITY THAN ANY OTHER PAINT: THEREFORE MORE ECONOMICAL.

HERBERT EVANS & Co.

'PHONES: 2214-5-6-7. *THE PAINT HOUSE,* P. O. BOX 1231.

88, PRITCHARD STREET, VON BRANDIS SQUARE, JOHANNESBURG.

AND AT 263, PRETORIUS STREET, PRETORIA.

*Journal of the SA Architectural Institute*

***PUBLISHER:***

**University of the Witwatersrand, Johannesburg**

***LEGAL NOTICE:***

**Disclaimer and Terms of Use:** Provided that you maintain all copyright and other notices contained therein, you may download material (one machine readable copy and one print copy per page) for your personal and/or educational non-commercial use only.

The University of the Witwatersrand, Johannesburg, is not responsible for any errors or omissions and excludes any and all liability for any errors in or omissions from the information on the Library website.