

SOUTH AFRICAN ARCHITECTURAL RECORD

THE JOURNAL OF THE CAPE, NATAL, ORANGE FREE STATE AND
TRANSWAAL PROVINCIAL INSTITUTES OF SOUTH AFRICAN ARCHITECTS
AND THE CHAPTER OF SOUTH AFRICAN QUANTITY SURVEYORS.

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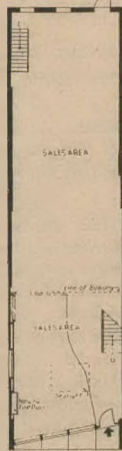
FURNITURE SHOP, NEW YORK CITY

Architects:

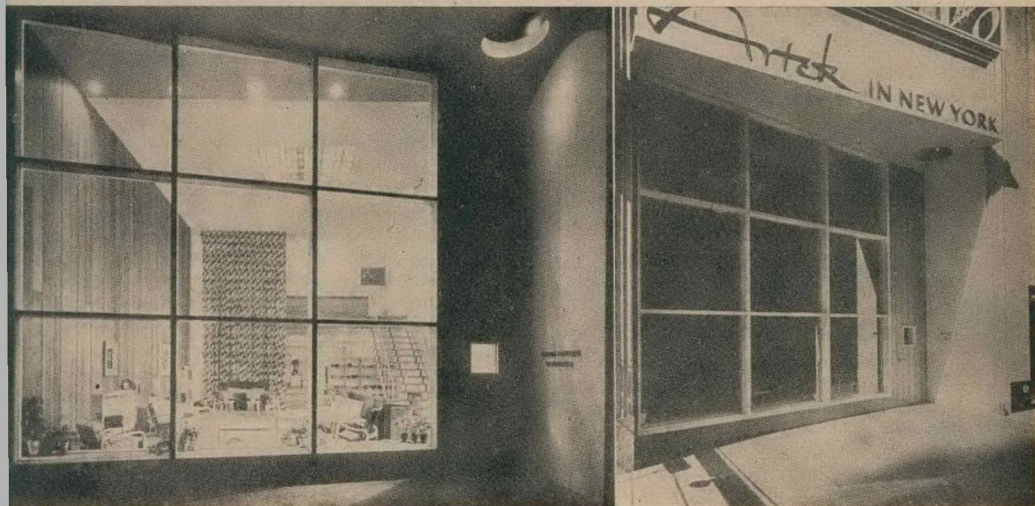
MORRIS KETCHUM AND FRANCIS X. GINA

Early in his career Alvar Aalto, the well-known Scandinavian architect, turned his attention to the creation of model furniture designs for industrial manufacture, and he allied himself with a manufacturer, Artek, in order to secure systematic and widespread distribution. Artek-Pascoe, or Artek in New York, are the American representatives of Alvar Aalto furniture designs, and their salesroom here illustrated is completely in tune with this furniture—it is inspired in design, yet simple and effective. The shop is planned on a long narrow site. The display space is related to the great show window across the front and a flexible wood screen at the entrance leads customers past this display space to the sales area behind, part of which is on the ground floor and part, with the firm's offices, being located on the mezzanine. An attractive open stair, offering no visual obstruction is used to connect these two levels.

ACKNOWLEDGMENTS ARE MADE TO "THE ARCHITECTURAL FORUM," NEW YORK, OF AUGUST, 1942, FROM WHICH THE PLAN AND THE PHOTOGRAPHS HAVE BEEN REPRODUCED



MAIN FLOOR



THE NATAL PROVINCIAL INSTITUTE OF SOUTH AFRICAN ARCHITECTS

The Committee's Annual Report for the Year Ended 31st December, 1942

Your Committee has pleasure in submitting this, the Sixteenth Annual Report of the Natal Provincial Institute of Architects.

MEMBERSHIP. The membership at the close of the year consisted of fifty-one Practising, seventeen Salaried, one Absentee and six Retired Members, a total of seventy-five members.

COMMITTEE. At the last Annual General Meeting the following members were elected to the Committee: Messrs. B. V. Bartholomew, C. R. Fridjhon, W. Hirst, Col. G. T. Hurst, D. C. McDonald, W. S. Payne, F. W. Powers, Alan Woodrow and C. S. M. Taylor.

At the first meeting of the newly elected Committee, Mr. F. W. Powers, the retiring Vice-President, was elected President, and Mr. B. V. Bartholomew, the retiring President, was elected Vice-President, for the ensuing year.

One Annual General Meeting and sixteen Provincial Committee Meetings were held during the year. The following is a record of attendances at the Committee Meetings:

	No. of Meetings.	Leave Granted.	Attendances.
B. V. Bartholomew	16	2	14
C. R. Fridjhon	16	2	13
W. Hirst	16	2	11
Col. G. T. Hurst	16	10	6
D. C. McDonald	16	5	11
W. S. Payne	16	3	11
F. W. Powers	16	—	16
C. S. M. Taylor	16	2	12
Alan Woodrow	16	7	8

Note:—Col. Hurst and Mr. Alan Woodrow were on Military duty.

REPRESENTATIVES—1941-42. On Central Council: B. V. Bartholomew, A.R.I.B.A.; Alternate D. Calvert McDonald, A.R.I.B.A.

On Board of Education: B. V. Bartholomew, A.R.I.B.A.

On the Natal Technical College Council: Col. G. T. Hurst, F.R.I.B.A.

On the Greater Durban Development Committee: D. Calvert McDonald, A.R.I.B.A.

Mr. B. V. Bartholomew is the Architect representative and Mr. W. G. Thompson the Quantity Surveyor representative on the Local Advisory Committee of the Government Control of Building Industry.

LOCAL EDUCATION COMMITTEE. W. S. Payne, A.R.I.B.A. (Chairman), B. V. Bartholomew, A.R.I.B.A., D. Calvert McDonald, A.R.I.B.A., F. W. Powers, A.R.I.B.A.

Members are reminded of the facilities afforded in courses of Architectural Education at the Natal University College. Full particulars of these courses may be obtained on application to the Secretary of the University, Commerce Building, Warwick Avenue, Durban.

The past session has been a strenuous one, as will be seen by the number of Committee Meetings held.

Many matters of importance to the profession have engaged the attention of the Committee. Your Committee has been consulted and its advice sought by various local bodies, and every endeavour has been made to justify this confidence, either by co-operation, assistance and advice, and in appointing one or more of its members to act on committees.

The Committee tenders its grateful thanks to those members for giving much of their valuable time to the various matters concerned.

Representations have been made to the City Council urging the principle of putting out for competition to private practising architects schemes of major architectural importance, but so far with no results.

In regard to Natal Provincial Council work, the practice of commissioning private architects by the Administration appears to have been entirely discontinued, and an architectural department is being built up by the Administration with the apparent intention of carrying out further Provincial work departmentally. This your Committee views with grave concern.

As a result of representations made to the Railway Administration urging the desirability of promoting an architectural competition for the proposed New Railway Station for Durban, your Committee was invited to nominate three practising members who would be willing, if selected, to accept the position of Architectural Consultant to the Administration in respect to the proposed New Railway Station.

Nominations were invited from all practising members, and a secret ballot was taken by the Committee of the nominations submitted, and the following three names (listed alphabetically) were nominated by the Committee and forwarded to the Central Council for submission to the Railway Administration: viz., Mr. B. V. Bartholomew, Mr. Wallace Paton, Mr. E. M. Powers. The name of the selected nominee has not yet come to hand.

" ' COST-PLUS-PROFIT ' CONTRACTS." A Sub-Committee was appointed to consider nature of evidence to be tendered before the " Cost-plus-profit " Inquiry Committee set up by the Union Government.

A comprehensive Memorandum was drawn up by the Sub-Committee, and forwarded to the Central Council, as this Institute's views on the matter.

DEFENCE BUILDING WORK, DURBAN. A Sub-Committee was appointed to interview the Defence Authorities, re distribution of Defence Building Works among members of the profession. As a result, a certain amount of work had been handed out to members ; but was anything but encouraging.

NATIONAL WAR EFFORT. The Durban Architects' Civilian Protective Services Committee, formed in 1940, to co-operate with the Local Authority in the Civilian Protection of the City, still continues to function.

FINANCIAL. From the audited Statement of Accounts for the year, accompanying this report, it will be seen that the Revenue and Expenditure Account shows a deficit of £141 6d. 5d. as compared with £48 5s. 6d., shown for the previous year. This is mainly attributed to the waiving of subscriptions of members on Active Service, waiving of the R.I.B.A. moiety and the heavy levy payable to the Central Council. Only essential expenditure has been incurred during the year and economies effected wherever possible.

The amount of investment with the Natal Building Society as at 31st December, 1942, stands at £324 4s. 5d.

As foreshadowed in the last Annual Report, it had been found necessary to draw on the investment account to the extent of £100. The Revenue Account at the end of the year stands at £383 19s. 3d.

CENTRAL COUNCIL. The 1942 Session of the Central Council took place at Johannesburg, in March last ; Mr. W. W. Tonkin, the retiring President-in-chief, occupied the Chair, Mr. B. V. Bartholomew, Vice-President-in-chief, this Institute's representative, attended the meeting.

As usual a wide range of subjects of interest to the profession were dealt with. Among them being " Cost-plus " Contracts on Defence Works ; Control of Building in relation to the professions ; National Planning ; Reconstitution of the Board of Education, etc., etc.

Mr. B. V. Bartholomew was elected President-in-chief, and Mr. C. L. F. Borckenhagen was elected Vice-President-in-chief, for the session 1942-1943.

Congratulations are extended to Mr. Bartholomew on his election to the office of President-in-chief of the Institute.

Your Committee places on record its deep appreciation of the excellent work done by the members of the Central Council and for giving so much of their valuable time in promoting the interests of the profession.

Your Committee desires to take this opportunity of wishing all those members serving with the Forces every success in their military undertakings and a safe return.

Thanks are extended to the " South African Architectural Record " for its Journal, which has been circulated to our members during the year.

NATAL PROVINCIAL INSTITUTE OF S.A. ARCHITECTS.

MINUTES of the Sixteenth Annual General Meeting of Members held in the Institute's Room, No. 2, Poynton's Chambers, Smith Street, Durban, on Friday, 12th March, 1943.

PRESENT. The President, Mr. F. W. Powers, in the Chair, Messrs. D. C. McDonald, L. A. Peyton, Col. G. T. Hurst, G. E. Le Sueur, A. G. Frolich, S. N. Tomkin, H. E. Chick, E. M. Powers, G. A. Gundersen, W. Hirst, C. S. M. Taylor, C. R. Fridjhn, W. S. Payne, and T. H. Chaplin, Secretary.

Apologies for absence were received from Mr. Bartholomew (President-in-chief), and Mr. Murray-Jones.

The Chairman read to the meeting a telegram reading : " Best wishes successful General Meeting," from Mr. E. S. Powers (on active service).

NOTICE CONVENING MEETING. Taken as read, and the President declared the Sixteenth Annual General Meeting duly constituted.

WELCOME BY PRESIDENT TO MEMBERS. The President extended a cordial welcome to members present, and particularly to Mr. Gundersen our new member.

CONFIRMATION OF MINUTES. The Minutes of the Fifteenth Annual General Meeting held on 13th March, 1942, were read and confirmed, and signed by the Chairman.

ANNUAL REPORT AND STATEMENT OF ACCOUNTS. The Annual Report and Statement of Accounts, a copy of which had been duly circulated to members, were, on the motion of the Chairman, taken as read, and laid on the table for discussion.

In moving the adoption of the report and accounts the Chairman said :

Gentlemen,

I do not wish to take up a lot of time in what is probably correctly called the address of the Retiring President, but there are one or two items of the Annual Report, which has been circulated to all members, on which I want to touch as briefly as possible.

At the outset I would like to take this opportunity of thanking all members of the Committee and the Sub-Committees, and also our Secretary, Mr. Chaplin, for their loyal and energetic support throughout the whole year, which is reflected in their attendances at the various meetings ; a year that has been strenuous owing to the difficulties arising from War conditions, and Finance.

Our very sincere thanks are also due to Mr. Bartholomew, the Architect representative, also Mr. W. G. Thompson, the Quantity Surveyor representative, who have given so much of their valuable time to the Local Advisory Committee in connection with the Control of the Building Industry.

I understand that the three members of this Institute who were nominated and voted for by a secret ballot of this Committee, to act in the capacity of Consultant to the S.A.R. and H. Administration, in respect of the proposed New Railway Station for Durban, have been interviewed by High Officials of the Administration and the Durban System Manager, Mr. Ritchie, although up to the present no selection, as far as I know, has been made.

It will be of interest to members that the Administration has very recently adopted the same procedure in Capetown and Port Elizabeth for proposed new Railway Stations to be erected at both those centres.

COST-PLUS-PROFIT CONTRACTS. With reference to the "Cost-plus-profit" Enquiry, the findings of which have been announced in the local press, it was probably observed by the members that the Prime Minister instructed the Quartermaster-General to convene a Conference between Works, including the P.W.D. and Fortifications on the one hand, and the representatives of the Architectural and Quantity Surveying professions, and representatives of the Master Builders on the other; with a view to determining, firstly, how far it is possible for the professions to be of increased assistance to Defence in the planning and execution of its building programme, and, secondly, to examine how far it is possible to introduce the schedule of rates system into this country on the lines now followed so largely in Great Britain.

The Conference was held at Defence Headquarters in Pretoria on the 27th January, and after a lengthy discussion the meeting agreed to the following resolution:

"That, after a full and general discussion, this meeting is of the opinion that the only way to enable a decision to be arrived at as to the possibility or otherwise of introducing the schedule of rates system into this country on the lines now followed in Great Britain, is to appoint a Committee representative of Architects, Quantity Surveyors, Master Builders, and the Government to investigate and report."

DEFENCE BUILDING WORK. The military work handed out to members by the local Defence Authorities appears to have drawn to a close, and the amount of work that was taken on by the private practitioners was a little disappointing as your Committee were under the impression that the Defence Authorities were unable to cope with their very big programme, and hoped to receive considerable assistance from the profession. In all seventeen architectural firms practising in Durban were entrusted with military work, the fees being charged at the agreed figure of half-a-guinea per hour, amounted to a total of £475 10s. 3d. an average of £19 for 15 architectural firms.

Gentlemen, you will be interested to hear that one of the resolutions you unanimously adopted at the last Annual General Meeting is now bearing fruit.

The resolution I refer to is "That in view of the serious amount of architectural work which is being diverted from the practice of private architects, the Minister be approached to provide means whereby Municipalities shall promulgate a Building Bye-law to the effect that all building plans submitted for approval shall be prepared and designed by registered architects."

A deputation from the Central Council was granted an interview by Senator Clarkson in December last year. It was stressed by the architect representatives that the architectural profession was being undermined due to the absence of statutory protection, and the Minister was asked to consider the possibility of assisting the profession in this regard by means of Building Control Regulations and War Emergency Regulations. The outcome of the meeting was that a further Deputation was granted an interview by Mr. Rhodes, Secretary for Public Works, at Pretoria, on December 22nd.

The Central Council have now been asked to submit a memorandum to the Minister of Public Works, and have made a request to each of the Provincial Committees to submit records of plans passed by their Municipalities in various categories, such as value up to £2,000, between £2,000 and £5,000, between £5,000 and £10,000 and over £10,000. Also those plans in the aforementioned categories submitted by registered architects, and those submitted by non-architects for the years' 1938 up to and including 1942.

These figures have recently been submitted to the Central Council.

As a matter of interest to the meeting the figures are as follows:—

SUBMITTED BY NON-ARCHITECTS:

	1938	1939	1940	1941	1942
Under £2,000	70%	74%	65%	65%	67%
£2,000 to £5,000	27%	23%	38%	26%	30%
Over £5,000 to £10,000	11%	15%	35%	16%	7%
Over £10,000	2%	4%	8%	10%	14%

It is thus clearly seen that for the last five years an average of 68% of the plans passed by the Durban Municipality for work value up to £2,000 have been submitted by non-architects, and will readily be appreciated how the profession has suffered during the last two years when projects have more or less been permitted to go on up to the £2,000 mark, and in these last two years 66% of the plans passed were submitted by non-architects.

SOLDIERS' PAY. You are all fully aware that Select Committee was set up by the Prime Minister to fully study the rates of Soldiers' Pay.

Your Committee saw the opportunity of increasing the status of qualified architects in the forces serving in a professional capacity and immediately submitted a Memorandum

summarising the two main points to be considered by the Select Committee.

(a) That every qualified architect, civil engineer and quantity surveyor be given commissioned rank on joining the army when serving in a technical or professional capacity, and

(b) That professional pay be established for the above qualified men on a similar basis already applying to the Medical Services.

A copy was forwarded to the Central Council who accepted it in the main, and handed it over to the Cape Provincial Institute to submit to the Select Committee sitting at Capetown, and to send a deputation, if necessary, to wait upon the Committee and powers to appoint a Solicitor to argue the Institute's case if need be.

FINANCE. As was intimated at the last Annual General Meeting, the shortage in revenue has necessitated our drawing on the reserve, which has been built up in the past, amounting to the sum of £100. This is mainly due to the remission of subscriptions to members on active service, amounting to the sum of £123 18s. 0d.

Before moving the adoption of the Annual Report and Balance Sheet, I wish to thank the members for the honour of being your President for the past year, and I also again wish to thank my colleagues on the Committee for their very loyal and untiring support during my term of office, and lastly, but no means least, on behalf of the Committee and members of the Institute I wish to thank you, Mr. Secretary, for the efficient and able manner in which you have carried out your duties.

It is, therefore, my privilege, Gentlemen, formally to move the adoption of the Annual Report and Balance Sheet.

The adoption of the Annual Report and Balance Sheet for the year 1942 having been duly seconded was carried unanimously.

ELECTION OF AUDITOR. Mr. G. C. Saunders, Chartered Accountant, was re-elected Auditor for the ensuing year. Fee was fixed at four guineas.

ELECTION OF NEW COMMITTEE, 1943-1944. The Chairman declared the ballot for the new Committee closed, and the ballot papers having been dealt with in accordance with the regulations, the two scrutineers appointed by the meeting retired to count the votes.

The result of the ballot was handed to the Chairman, who thereupon declared the following nine members duly elected to the new Committee for the ensuing year:—Messrs. B. V. Bartholomew, F. W. Powers, Col. G. T. Hurst, C. S. M. Taylor, D. C. McDonald, W. Hirst, W. S. Payne, S. N. Tomkin and C. B. Fridjhon.

A vote of thanks was accorded the scrutineers for conducting the ballot.

BUILDING INDUSTRY CONTROL: REPRESENTATIVE'S REPORT. The Chairman read to the meeting a letter addressed to the Secretary from Mr. Bartholomew (President-in-chief) apologising for his absence from the meeting, as he had to attend a Central Council Executive Meeting at Johannesburg.

Mr. Bartholomew enclosed his report as representative on the Advisory Committee of the Building Industry Control, which was read to the meeting by the Chairman.

It was agreed that Mr. Bartholomew be cordially thanked for his comprehensive and interesting report.

MATTERS DELEGATED TO THE NEW COMMITTEE. Arising out of the discussions of the foregoing, it was resolved that the following matters be dealt with by the incoming Committee:

(1) "That in view of the records in connection with the passing of building plans which was submitted to the Central Council a deputation be appointed to meet the City Council to discuss this matter."

(2) "That a deputation be appointed to interview the Post-war Work and Re-construction Commission now meeting in Pietermaritzburg."

(3) "That the Central Council be approached by the Provincial Institutes for some relief by way of a reduction of the levy payable to the Central Council, which is considered excessive in these abnormal times."

It was also suggested that powers be sought to strike off the membership roll the names of members whose subscriptions are in arrear, or whose addresses are unknown.

NEW RAILWAY STATIONS AT CAPETOWN AND PORT ELIZABETH. Vide Central Council Executive Committee Minutes, Vol. XV, pages 91-92, sub-paragraphs (c) and (d).

In accordance with the invitation conveyed in the above sub-paragraph (d) the meeting fully discussed this matter, and was unanimous in the opinion that the principle adopted by the Railway Administration in confining the appointment of consulting architects for the proposed new Railway Stations to local practitioners is the correct one.

It was agreed that a reply to this effect be conveyed to the Central Council.

UNDER GENERAL. It was unanimously resolved to address a letter of congratulation to the Hon. G. Heaton Nicholls on his appointment to the office of Administrator of Natal.

VOTE OF THANKS. On the President declaring the business of the meeting completed a hearty vote of thanks was accorded him on his successful term of office.

Meeting terminated at 6.10 p.m.

THE O.F.S. PROVINCIAL INSTITUTE OF SOUTH AFRICAN ARCHITECTS

President's Report for the Year Ended 31st December, 1942

Gentlemen,

I have pleasure in welcoming you to the Sixteenth Annual General Meeting of the O.F.S. Provincial Institute of Architects.

MEMBERSHIP, DECEMBER, 1941. Our membership is 21, made up as follows: Practising 11, Salaried 9, Retired 1.

COMMITTEE WORK. The Committee has carried out work for the welfare of the Institute as required and has endeavoured where possible to restrict the encroachment of non-registered men doing Architectural work: it is, however, almost impossible to obtain the appearance of witnesses or affidavits in spite of a great deal of time being given to this end by our Hon. Secretary.

FINANCE. The Revenue and Expenditure Account and the Balance Sheet have been circulated to all members.

Our books are kept on the Membership and Sums accrued Book-keeping System, our account with Central Council is on a Cash Basis.

Members will note we have invested a portion of our money in Union Loan Certificates.

In spite of our large outstandings much of which I am afraid are due to procrastination on the part of many of our members we have been able to show a surplus for the year of £12 5s. 10d. I believe in only one year and then under extraordinary circumstances have we had a deficit.

We are advised by our Auditor to ask permission of Central Council to write off a sum of £27 6s. 0d. representing subscriptions mainly owing from persons on our books whom we have been unable to trace over a long term of years. If this is allowed and last year's normal subscriptions come in our outstandings will become trivial.

WAR SERVICE AND MEETINGS. We have three members serving with the Forces; one in the N.V.B., and others have joined the C.P.S.

HON. SECRETARY. Members are asked to assist our Hon. Secretary in his work. Some of our members forward their subscriptions in the first month of the year without waiting for their accounts to be rendered. Reminders consume a large amount of time. There is a considerable amount of general correspondence which must be done and our Secretary has to become intimately acquainted with all Central Council Circulars and Minutes (some 200 pages) dealing with hundreds of items many of them needing extracts and notes to be made therefrom. Beyond that there is the usual Book-keeping to be carried out, and filing. Our Institute is the only one with

an Hon. Secretary. He also bears the telephone account except for trunk calls.

WAR EMPLOYMENT. Our Nation still being at War along with Great Britain, the United States of America and other Allied Countries in the cause of freedom results in an almost complete cessation of the supply of building material for anything other than war purposes. Our profession which is largely, but not entirely, a Peace one has suffered sadly owing to lack of private architectural work. Many feel that greater use of our professional services might have been made in designing buildings under war construction and our Central Council must be thanked for the many efforts it has made to place this view before the proper authorities.

GOVERNMENT CONTROL OF BUILDING MATERIALS. The necessity for controlling the issue of building material everyone must recognise. The work of the Deputy Building Controller and that of the Department for Labour is immense but is being undertaken in a careful and painstaking and far-seeing manner.

On our local Advisory Board we have Mr. W. W. Tonkin as Architect, Mr. F. W. Masey as his alternate, and Mr. W. Rhodes Harrison represents the Quantity Surveyors.

CENTRAL COUNCIL. This Institute has maintained its cordial relationship with Central Council and our thanks are due to the Central Body and its Executive and sub-Committees for the great efforts made in the last twelve months (and still continuing) in the cause of the two professions: some of its activities relate to: Cape Town, Durban and Port Elizabeth Railway Stations; Cost-plus-profits Building; Students in the Union Forces; National Planning; Employment of Architects and Quantity Surveyors in Defence Works; Research for alternative Building Materials; Allocation of Provincial Work.

BOARD OF EDUCATION. The Standing Committee on Education and Examinations has been reconstituted with the above title; copies of its Minutes are filed in our Secretary's Office (along with Central Council Minutes), they are a record of an immense amount of vital work this Board carries out and the part it bears in shaping the high degree of knowledge necessarily possessed by the members of our Institute in the present and future.

Our Provincial Committee is a local sub-Committee of the Board.

MR. W. W. TONKIN. Our congratulations must be given to our Vice-President, Mr. W. W. Tonkin, L.R.I.B.A., M.I.A., Past President-in-chief, who received the nomination of Central

Council to be elected a Fellow of the Royal Institute of British Architects, London. Mr. Tonkin's name passed the Council of the R.I.B.A. and the title of Fellow has been conferred upon him.

O.F.S. TECHNICAL COLLEGE. Our Hon. Secretary continues as a member of the Council of the Orange Free State Technical College.

CERTIFICATE BOOKS, ETC. Standard Progress Certificate Books, 2/6 each; Conditions of Contract Forms, 1/-; Scale of Fees Pamphlets, 3d.; Building Variations Order Books, 3d.; The Architects Act and Regulations, 2/6, are obtainable from the Hon. Secretary.

THANKS. I desire to thank the Vice-President, Committee Members, and the Hon. Secretary and Treasurer for their assistance during the last twelve months and to the Management of the "S.A. Architectural Record" for the copies of the same sent free to Practising Members.

I further wish to record the pleasure it has been to me to occupy the position of President in the past year.

(Signed) H. G. E. de la Cornillere. President.

MINUTES OF THE SIXTEENTH ANNUAL GENERAL MEETING OF THE O.F.S. PROVINCIAL INSTITUTE OF ARCHITECTS HELD IN No. 31 NATIONAL MUTUAL BUILDINGS, BLOEMFONTEIN, ON SATURDAY 13th, MARCH, 1943.

PRESENT. Mr. H. G. E. de la Cornillere (President in the Chair); Mr. W. W. Tonkin (Vice-President); Mr. F. W. Masey (Hon. Secretary and Treasurer); Mr. W. Rhodes Harrison.

NOTICE OF MEETING. Notices of the Meeting were tabled and taken as read.

WELCOME. The Chairman welcomed those present.

APOLOGIES FOR ABSENCE. Apologies for absence were read from Mr. J. P. Hulshof and Mr. J. Willoughby Williams.

The Chairman expressed regret at the smallness of the meeting which was doubtless owing to so many members residing away from Bloemfontein and the stringent control of petrol; the numbers represented less than a quorum, however, he would carry on with the business given on the Agenda and leave it to be confirmed or otherwise at an Extraordinary Meeting to be convened at a convenient date before the end of the month.

Minutes. The Hon. Secretary read the Minutes of the last (Fifteenth) Annual General Meeting and these were passed by resolution of Mr. W. W. Tonkin.

PRESIDENT'S REPORT. The President's Report for the year 1942 was tabled and adopted unanimously with instruction to the Hon. Secretary to have the same bound with the Minutes of the Institute.

Arising out of the Report the President alluded to the continued membership of Mr. T. Moore, of Pretoria, which the Institute had enjoyed for some ten years and greatly appre-

ciated, and that of Mr. J. P. Hulshof who unfortunately was again unable to travel down from Kroonstad.

In regard to the proposed new Railway Stations for Cape Town, Durban and Port Elizabeth he desired to record the Committee's pleasure in the fact that the profession had been recognised by the appointment of local advisory Architects, but thought all South Africa was interested in these buildings and that Architects residing elsewhere in the Union might equally well have important knowledge on such planning which a Union-wide Architectural Competition could bring out.

Members present expressed their satisfaction on the activities of Central Council and its Executive Committee in their close watch on the welfare of the two Professions.

The local Committee was asked to again devote time to the injustice the O.F.S. Institute suffered under owing to the fact that no Government School work of the Province was given out to Practising Architects.

INCOMING COMMITTEE. The President declared the following to be the Committee for 1943-44: Messrs. K. E. Bull, H. G. E. de la Cornillere, F. W. Masey, W. M. Timlin, W. W. Tonkin, J. Willoughby Williams.

REVENUE AND EXPENDITURE ACCOUNT AND BALANCE SHEET. On the motion of Mr. W. Rhodes Harrison, seconded by Mr. W. W. Tonkin, this was adopted. The question of outstanding subscriptions was raised. The Hon. Treasurer stated that £19 19s. 0d. had since come in and if the amount of £27 6s. 0d. (nearly all being a book debt of a member not traceable for many years) was written off, the actual position could be regarded as fair.

HON. SECRETARY. The Meeting voted an Honorarium of £20 (as in former years) to the Hon. Secretary and Treasurer (Mr. F. W. Masey), who was thanked for his services.

AUDITOR. The auditor's fee of £5 5s. 0d. was passed and Mr. Lewis Harrison was re-appointed.

GENERAL. Mr. H. G. E. de la Cornillere stated that he would be leaving the O.F.S. Province for a time and it was decided the incoming Committee would elect another member of Committee in his place as his departure necessitated his resignation from the Committee.

All present expressed their indebtedness to Mr. de la Cornillere for his past services as Committee Member since the foundation of the Institute, and the many occasions when he had accepted the office of President.

On the matter of a small local competition of an honorary nature the Secretary was instructed to communicate with the Registrar as to its being permissible.

Several other matters were voiced with the request that the incoming Committee would give them close attention.

VOTE OF THANKS. A vote of thanks to the Chairman was proposed by Mr. W. W. Tonkin and was passed with acclamation.

There being no further business the meeting was declared closed.

THE TRANSVAAL PROVINCIAL INSTITUTE OF SOUTH AFRICAN ARCHITECTS

Address of the Retiring President Mr. W. Gordon McIntosh, A.R.I.B.A.

In reviewing the work carried out by your Committee during the past year, I wish, in the first place, to thank all the members of the Committee and those members who have served on the many sub-Committees of our Institute for all they have done in the interests of the profession.

This last year has been a very trying one for all concerned, and I, as Chairman, have been unable to do as much as I would have liked, and have depended almost entirely on the members of the various committees for guidance and advice.

Here I would like to mention for the benefit of those who have not had the pleasure of working with us, that the Provincial Committee and its sub-Committees have had a very strenuous year. Some of our committee members have acted on as many as four, five or six separate committees. Most of these committees have met each month during the whole year, and have done a tremendous amount of work.

To those members I want to say how much I appreciate all they have done. To the acting secretary I also wish to express my appreciation and thanks—her work is directly proportional to the work of the committees.

You will note from the annual report submitted by the Provincial Committee, that this past year has been marked by the passing of many of our colleagues. Among them Mr. N. T. Cowin, a past president of this Institute, who for so many years guided the finances of our Institute, will be missed by all, especially here at the Annual General Meeting; Professor Bell-John, whose interest in the education of the quantity surveyor has been unsurpassed, and who, to a great extent, was responsible for the development of quantity surveying education in this country; and Dr. Rex Martienssen, also a past president, so well known for his work, not only as an Editor of the "South African Architectural Record," but as an educationalist and research worker. His studies on Greek architecture as well as those of contemporary architecture brought him recognition from many parts of the world. His clear and logical outlook and his idealism did much to guide the profession. His loss to the profession will be greatly felt.

I would also like to mention the loss of the following members on active service: Lieut. C. F. Drake, S.A.A.F., and Lieut. T. van Niekerk, S.A.E.C.

At the last annual general meeting your President, Mr. Furner, addressed you on the position of the architect to-day. He indicated to you at the time that the profession was at the cross roads—that the time had come for the profession to prove itself worthy of the position it should hold in relation to society to-day—that profession should consider carefully how best its services may be utilised as a whole.

Mr. Hanson in his paper on "The Architectural Profession and South Africa's War Effort," put forward concrete suggestions as to how the profession could be utilised in the interest of our country. Though these matters were referred to your incoming committee last year and though they were put forward to the Central Council who approached various authorities in this connection—up to the present very little has resulted. Let us hope that the Institute's representations may bear fruit during the coming year.

What of the future? How can the profession prepare itself to play its part in the future building up of this country. At present our profession lacks cohesion—a mixture of good stone and good sand without the cement to bind it. We have, I am sure, the ability among individuals, but there is no common link—we are each moving along our own paths with no clear view as to where we really want to get to. Our individual efforts, however great, will take the profession nowhere unless these efforts can be co-ordinated in such a way as to build up a force sufficient to overcome not only the inertia stored within the profession itself but also what may really be, psychologically speaking, a professional inferiority complex.

In the past 20 years, a great deal has been done by the profession. Those older members of the profession have established schools of architecture throughout the country. Last year the School of Architecture of the University of the Witwatersrand passed its 21st year. Professor Pearce and his staff are to be congratulated on all they have done in the interests of architectural education. Here, too, we must voice our appreciation to all those who assisted Professor Pearce through this early and difficult period, when members of the profession devoted a considerable amount of their time and energy to help in the training of the future members of their profession. Until the end of last year the University of the Witwatersrand, often at great inconvenience, assisted the Department of Architecture in Pretoria by allowing members of its staff to lecture to students there, and conducted examinations for their Diploma in Architecture.

This year the University of Pretoria is conducting its own courses and examinations qualifying for both the Degree and Diploma in Architecture. Professor Meiring, who is with us to night, has recently been appointed to the Chair of Architecture at Pretoria. On behalf of the Transvaal Provincial Institute of Architects, I wish him the best of luck in this new venture. His task will not be an easy one, and I would like to ask the profession to give him all the help it can. Let us hope that a friendly rivalry will grow up between the two

schools, which will benefit both the students and the profession. I have no doubt that if the profession gives the help to this young school as freely as it gave its help in earlier years to the school in Johannesburg, Professor Meiring's task will be very much eased.

May I express my appreciation to all those members of the profession who were far-sighted enough to see the need and who encouraged the establishment of the training centres throughout the country.

The time has now come, when the profession should seriously consider its own future. The profession has generously devoted its energies to providing sound architectural education in this country. Education is in good hands.

Let us now apply ourselves to consolidating the profession in order that it may play its full part in the reconstruction and development of this country.

It is our duty to see to it that the men and women who are trained in our schools find a place in the future scheme of things. Do not think that I am criticising what has been done in the past—it is only on the lessons of the past that we can safely prepare our plans for the future.

Architecture, during the last 20 years, has made rapid progress—but individual progress—the profession has been busy carrying out a vast amount of building work and perhaps has overlooked the future in its anxiety to keep pace with the present. It is for us now, however busy we may be, to prepare for the future—many of us in the present crisis feel we want to wait and see what the future brings—rather let us have faith in a future for which we can now prepare. The future lies in our own hands.

The profession in the past has allowed itself in times of stress to become dependent on too many external agencies—with the result that we have lost our hold and gradually our services are being dispensed with. Surely this is wrong—but we must ourselves seek a solution.

If the profession cannot as a whole become proficient in all the technicalities of building (and I quite realise that it is not possible for every architect to have a specialised knowledge of all the intricacies of modern building—from structural design to electrical equipment from National Regional Planning to National Housing) at least certain of our members could specialise in separate technical aspects of building and their services and experience could be used within the profession,—that is, collaboration within the profession.

Combined with this internal collaboration among architects themselves, the profession should prepare itself to collaborate with the other technical professions—so as to enable architects to take a definite part in the future reconstruction. We have been fortunate in having Professor Pearce elected President of the Associated Scientific and Technical Societies for the year 1942. For the first time our profession has been represented in the Presidential Chair of this body. Professor Pearce's lectures on "National Planning" and "The Architect in Relation to Science and Industry" have done much to show how our profession can and should play its part in this work of reconstruction.

Our members on the Central Council have shown their interest in this work and in the work of the National Social and Economic Planning Council formed last year by our Government. They have been in close touch with the Planning Council and a great deal has been done to show how the services of the profession can be used.

In the reconstruction of war scarred Europe I cannot see how the architectural profession can as individuals ever hope to cope with the work to be done—a complete reorganisation of the profession and the building industry will be necessary before any concrete work can be carried out.

Though we in South Africa have not suffered at all from the destruction of war, any change in the organisation of building in Europe is bound to have its repercussions here and though individual practice may exist within certain private limits as it did during the past 20 years—the question of national reconstruction will be found to be essential here too. If then our profession can be organised to collaborate among themselves as well as with other technical professions, we will be going a long way to preparing ourselves to take our part in the future reconstruction of this country.

Such collaboration, first in groups, will enable the profession to absorb those members on active service directly into collaborative practise without having to go through those long and difficult and depressing periods to which all of us in starting practise have been subjected.

Organisation within the profession will establish the profession as a body and collaboration both internally and externally will enable it once again to take its rightful place in South Africa.

THE TRANSVAAL PROVINCIAL INSTITUTE OF SOUTH AFRICAN ARCHITECTS

The Committee's Annual Report for the Year Ended 31st December, 1942

To the Members of the Transvaal Provincial Institute.

Your Committee has pleasure in submitting this, the Sixteenth Annual Report, together with the Annual Balance Sheets and Accounts for the year ended 31st December, 1942.

The Provincial Committee wishes to draw the attention of members to the fact that owing to the necessity of conserving paper supplies, the Annual Accounts have not been sent to all members as heretofore.

MEMBERSHIP. The membership at the close of the year consisted of 169 Practising, 129 Salaried, 8 Absentee, and 36 Retired, a total of 342 members, equal to 56 per cent. of the total membership of the Institute of South African Architects.

During the year under review, 11 new members were enrolled, nine members died, two resigned, and one was transferred to another Provincial Institute, the decrease in membership as compared with the previous year being one.

The new members enrolled during 1942 were: R. Schmickl, J. van Dreven, E. B. Youldon, G. Candiotes, G. Christos, J. Friendly, R. E. G. Hope, D. Pinshow, A. B. Smith, Miss B. Spence, U. Tomaselli, E. J. Trope.

OBITUARY. It is with deep regret that your Committee has to record the following deaths: Messrs. H. Bell-John, N. T. Cowin, W. Douthwaite, A. J. Stewart, J. C. Humphreys, Dr. R. D. Martienssen, Lieuts. C. F. Drake, and T. van Niekerk.

COMMITTEE MEETINGS. Following the election of the Committee at the Annual Meeting in March, 1941, Mr. W. Gordon McIntosh was elected President, Mr. N. L. Hanson, Senior Vice-President, and Mr. A. C. Fair, Junior Vice-President, for the ensuing year.

Owing to the resignation of Mr. R. Howden, your Committee co-opted Mr. C. D. St. Leger, as a member of the Provincial Committee in June, 1942.

During the year 12 ordinary, and three special meetings of the Committee have been held, and the following is a record of members' attendances thereat:—

W. G. McIntosh (President)	13
N. L. Hanson (Senior Vice-President)	14
A. C. Fair (Junior Vice-President)	10
D. M. Cowin	12
S. C. Dowsett	8
N. M. Eaton	13
A. S. Furner	6
D. S. Haddon	14
R. Howden (Resigned)	1
W. A. Macdonald	12

Dr. R. D. Martienssen	5
Professor G. E. Pearse	10
C. D. St. Leger (co-opted)	3

During the year Mr. A. S. Furner was granted indefinite leave of absence owing to his work in connection with the Building Control.

The following members were granted leave of absence during 1942: S. C. Dowsett, A. C. Fair, A. S. Furner, R. D. Martienssen, G. E. Pearse.

Your Committee has been assisted throughout the year by Sub-Committees on Finance, Practice, Journal and the S.A. Academy, and the thanks of the Institute are tendered to members of these Committees for their valuable services.

GENERAL MEETINGS. In addition to the Annual General Meeting, one Special General Meeting was held in March, 1942, dealing with Air Raid Precaution work.

PROVINCIAL WORK. A Sub-Committee was formed during 1942 to interview the Provincial Administration in connection with the memorandum on this subject which was discussed at the last annual general meeting. A deputation was received by the Executive Committee of the Transvaal Provincial Administration dealing with this matter.

BUILDING CONTROL. The Institute's Representative, Mr. Fleming, has been attending meetings of the Advisory Committee to the Controller of Man-Power throughout the year, and reported to your Committee thereon frequently. The Institute owes a debt of gratitude to Mr. Fleming for all the work he has done in this connection.

CENTRAL COUNCIL. The 1942/43 Central Council met in Johannesburg on 31st March and 1st April, 1942.

At this meeting Mr. B. V. Bartholomew (N.P.I.) was elected President-in-Chief, and Mr. C. Borckenhagen, Vice-President-in-Chief.

Your Institute's representatives on the Council during the past year were:—

W. Gordon McIntosh, alternate, N. M. Eaton.
A. S. Furner, alternate, Professor G. E. Pearse.
S. C. Dowsett, alternate, D. M. Cowin.
D. S. Haddon, alternate, A. C. Fair.
N. L. Hanson, alternate, Dr. R. D. Martienssen.

FINANCE. The Revenue and Expenditure Accounts and Balance Sheets as at 31st December, 1942, of the Institute Account, S.A. Architectural Record, Catalogue Service Bureau and the Benevolent Fund Accounts are attached to this report.

Institute Account. It will be noted that the excess of Expenditure over Revenue for the year amounted to £67/14/8.

Subscriptions paid during the year were less than the previous year by £234.

Administrative Expenses show £158 decrease as compared with 1941.

S.A. Architectural Record Account. This account showed a loss for the year of £164/17/9, due to cancellation of several advertisements on account of war conditions.

Catalogue Service Bureau. In this account the excess of revenue over expenditure was £285/1/3.

Benevolent Fund. During the past year the total revenue amounted to £47/17/6, the grants-in-aid totalled £55. Accumulated funds were increased by £2/7/6, and the total Funds at the end of the year amounted to £999/3/7.

Subscriptions. The Institute wishes to express its appreciation for the way in which members responded to the request for payment of subscriptions during a very difficult period.

Remission of subscriptions granted to members on Active Service during 1942 amounted to £342/6/-.

PRACTICE. Several meetings of this sub-committee were held during the year and enquiries from members dealt with.

"S.A. ARCHITECTURAL RECORD." The Committee wishes to record its appreciation of the work done by the late Dr. R. D. Martienssen during the many years he served as an Editor of the "Record," and also wishes to express its thanks to Professor G. E. Pearce and Mr. W. D. Howie, co-editors of the journal. On the death of Dr. Martienssen, Mr. Howie was invited to undertake the co-editorship of the journal. Professor Pearce and Mr. Howie are to be congratulated on the November, 1942, issue of the "S.A. Architectural Record" which is in memoriam to the late Dr. Martienssen.

BENEVOLENT FUND. During the past year the following members have made donations to this Fund, for which the Institute is most grateful: D. M. Burton, S. B. Cunningham, C. J. Crothall, N. W. Gallagher, F. A. Jaffray, and D. S. Haddon.

S.A. ACADEMY. The 23rd Annual Exhibition was held in Duncan Hall, Johannesburg, from 10th to 22nd August, 1942,

inclusive, and was most successful. The thanks of the Committee are expressed to Mr. C. D. St. Leger, the Chairman of the Academy Committee, and all those who helped to make the Exhibition a success. The Committee wishes to thank the Transvaal Art Society, the Judges, the Hanging Committee, and Mr. King who received and dispatched all the pictures during the Exhibition.

ARCHITECTURAL EDUCATION. During the year 1942 there were 89 students taking Architecture at the Witwatersrand University and 60 students at the Pretoria University. Your Committee donated £15 15s. 0d. towards prizes for Architecture at the University in 1942.

The year 1942 marked the coming-of-age, the 21st year of the Department of Architecture of the University of the Witwatersrand. The Committee wishes to congratulate Professor Pearce and his staff for all they have done in building up the school to its present stage. This coming of age was celebrated on the 18th and 19th May, 1942, by an Exhibition of Architectural work held at the Witwatersrand University.

OFFICE ADMINISTRATION. At the end of February, 1942, Mr. G. J. McHarry was appointed Advertising Manager for the "S.A. Architectural Record," and the Committee wishes to thank Mr. McHarry and his staff for the business-like way in which the advertising is now being carried on.

A.R.P. LECTURES. Lectures in Air Raid Precautions were conducted by Capt. Stern during May, 1942, which were attended by many members. Your Committee thanks Capt. Stern for all his work and time spent in this connection.

MILITARY CROSS. Your Committee has pleasure in announcing that the award of the Military Cross has been made to Lieut. Cole-Bowen, and to Lieut. John Shaw.

MEMBERS ON ACTIVE SERVICE. There are now 101 members of the Transvaal Provincial Institute on Active Service.

By Order of the Committee,

B. MURRAY,

Acting Secretary.

March, 1943.

MIND YOUR STEP

By B. V. CLARKE

It seems a curious fact that in pre-historic times man solved one mechanical problem with such success that in all the centuries since, he has never bettered his invention. I am, of course, referring to the stairway which to this day remains our best device for moving one level to another by one's own effort. The method of accomplishing this in a building is fundamentally to divide the floor slab into narrow strips and so lower it by intervals until the desired level is reached.

Through untold ages man has stumbled up and tumbled down, skinned his knees and broken his bones because he has never troubled to find out just what proportion a stair should have. His entire knowledge is summed up in three arithmetical rules, all of which give a widely different set of answers.

These old rules have done a great deal of harm as without exception they give very bad proportions for all stairways whose risers are less than about six inches. This then has become the minimum value used and as a result the architects' mind has developed a fear complex of low rake stairs and man is compelled to climb up granite ladders holding on grimly to a heavy balustrade to prevent himself from falling.

In approaching one of these stairs at a normal walking speed, he finds he must suddenly change his motion in one of three ways, viz.: (1) curtail his stride, maintain his rhythm and lose speed; (2) maintain his speed at a curtailed stride by accelerating his rhythm, or (3) increase the whole scale of effort by taking two steps at a time.

It must be remembered that in ascending a flight of steps, one has to raise one's weight of say 180 pounds vertically through a distance of say 10 feet. If 12 inch risers are used, an effort of 180 foot pounds has to be exerted at every step, while if the risers are reduced to 4 inches it is only necessary to perform a work of 60 foot pounds.

Except in the case of a vertical ladder, all walking is associated with a forward movement and the relationship between upward and forward motion determines the amount of effort required. From this it will be seen that the rake of the stair is the most important factor in design and for every rake there is one riser height best suited to the human scale.

The riser height varies directly as the angle of rake, thus when the problem of a steep flight arises, it is not solved by making the risers low and so forming small "easy" steps.

The rake is decided by the total rise from floor to floor and the total width of going available. It is important to add onto the going the estimated equivalent of one tread in order to get the true gradient, and an additional tread for each landing.

The formulae in general use only approach the correct values for tread and riser dimensions when the riser is from 7 to 9 inches, so that for the 6 to 7 inch risers which are commonly used, the values given are entirely out of scale. Jaggard and Drury, that stand-by for all architects, give the formula "Twice riser plus tread = 23 or 24 inches. There is the formula which makes the sum of risers and tread = 17 and another which gives their product as 75.

$$\text{The correct formula for the tread is: } T = \frac{R}{\tan [R-3]^\circ}$$

where R is the riser.

Each degree change in the rake represents $\frac{1}{8}$ inch change in the riser, so that calculations are very convenient, especially if an average figure is memorised; e.g., a 28° rake goes with $6\frac{1}{8}$ inch riser giving a tread of 12.2 inches.

In the table adjoining, values have been given for risers from 4 inches to 9 inches. Risers below 4 inches are undesirable as they are not definite enough and would form dangerous obstructions for the unwary. Anything below this figure (which represents an incline of 8°) should be divided into short flights and levels or left as a ramp.

Towards the other extreme the law still holds good. As the rake increases beyond 45°, the stairway begins to lose its own character and takes on the form of a ladder. At 72° the formula prescribes 12 inch risers and 4 inch treads which are the proportions of the ordinary folding step ladder at 88° the form of the true ladder is reached. The risers become 14 inches while the tread almost disappears. The standard fireman's ladder has rungs 14 inches on centres. The curve plotted for the formula passes out of the quadrant at the riser height of 14½ inches.

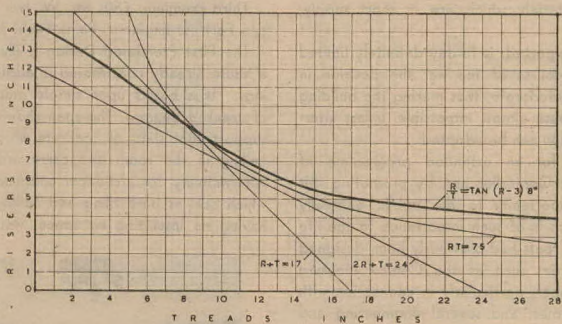
The old rules, if applied to a ladder with 1 inch set-back of rungs, would give the spacing as 11 inches or 11½ inches in the first case, 16 inches in the second and the other as 6 feet 3 inches.

As the mechanical process for ascending and descending stairways is the same for all human beings, these proportions always apply. In nursery and primary schools these dimensions should be reduced by a ratio directly proportioned to the average length of stride.

The use of nosings on treads is also a matter of question. On most staircases they are necessary because of the clumsy proportions used, but it is quite probable that in using the new formula, they can be dispensed with entirely, excepting in the case of ladder-like rakes of over 45°.

If you are interested in trying out a formula, the Public Library steps, laid out according to the first formula, are $4\frac{1}{2}$ inches x 15 inches and are extremely uncomfortable. Try,

however, walking up and down diagonally so as to gain a width of going of two feet.
Notice any difference?



$$T = \frac{R}{\tan(R-3)8^\circ}$$

TABLE OF STAIR PROPORTIONS

RISER INCHES	TREAD INCHES	TANGENT $\frac{R}{T}$	RAKE DEGREES
4	28.3	.1405	8°
4½	24.1	.1763	10
4¾	21.2	.2126	12
5	19.1	.2493	14
5¼	17.4	.2867	16
5½	16.2	.3249	18
5¾	15.1	.3640	20
6	14.2	.4040	22
6¼	13.5	.4452	24
6½	12.8	.4877	26
6¾	12.2	.5317	28
7	11.7	.5774	30
7¼	11.2	.6249	32
7½	10.7	.6745	34
7¾	10.3	.7265	36
8	9.9	.7813	38
8¼	9.5	.8391	40
8½	9.2	.9004	42
8¾	8.8	.9657	44
9	8.5	1.0355	46
	8.1	1.1108	48

ND. TREAD WIDTHS DO NOT INCLUDE NOSINGS B.V. CLARKE

BUILDING CONTROL INVESTIGATION COMMITTEE

REPORT ON COMPETITION FOR ROOFS OF DWELLING HOUSES

At the beginning of the year the Building Controller promoted a Competition open to all members of the public for a design for a roof suitable for small houses. The designs sought were basically those which are limited to the economic use of local materials, and to those which avoid the use of imported materials or materials which are in short supply, such as timber.

Timber, both local and imported, is to-day definitely limited and depending upon the course of the war the position in this respect may seriously deteriorate, thus making the building of the better class small house almost impossible, unless alternative methods of construction can be adopted.

Realising the necessity for an extended programme of house building the Building Controller has, by promoting this Competition, given an opportunity to the public generally to assist in this matter which is of such importance to the life of the community. Various roofs had previously been designed and developed by authorities such as the Central Housing Board using little or no timber, particularly in connection with sub-economic housing schemes, and several engineering and building firms have also been experimenting for some time past in this direction with considerable success.

It was realised at the outset that this Competition would not be attractive to such firms but it was hoped that ideas might be produced from those who were not in a position to develop their ideas on a commercial scale.

In this respect the Competition has been successful and good suggestions have been put forward by various competitors. The Building Controller, some few months ago, established an Investigation Section in connection with the Control with a full-time technical staff. In many cases the schemes put forward in this Competition were on similar lines to those considered by Building Control, and in several cases experimental work had already been done on them. No design submitted in the Competition can be considered as in any way revolutionary in character, but one design in particular is considered by the Assessors to be of real merit and value, and several others must be considered as good solutions of the problem.

Various types of roofs were included in the schemes submitted by the Competitors. Roofs and roof trusses constructed of asbestos cement, a pitched type of roof in which reinforced concrete was the main structural element, various types of flat roofs with vaults, roof trusses built up of gum poles and covered with various types of roof covering were some of the suggestions put forward.

The Assessors, Mr. A. Stanley Furner, Mr. W. Gordon McIntosh, and Dr. F. E. Kanthack have unanimously agreed that the premiums be awarded as follows:—

First Premium: £200: Mr. Edwin Pallett, L.R.I.B.A., Chartered Architect of the firm of MacGillivray and Pallett, of Manica House, Salisbury, Southern Rhodesia.

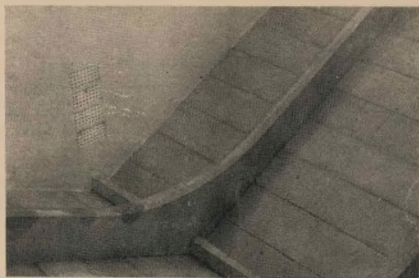
Second Premium: £100: Mr. W. E. Varrie, B.Sc. (Eng.), A.M.I.C.E., of 558, Glyn Street, Hatfield, Pretoria.

Third Premium: £50: Mr. W. Ivor Willies, A.R.I.B.A., M.I.A., c/o Fortress Engineer, Point Yacht Club, Durban.

The First Premiated Design is illustrated by photographs of a house already constructed in addition to the necessary drawings. It is based upon simple monolithic trusses in the form of cranked beams. The span shown is 14 feet. These trusses support light slabs of concrete which form an attractive open ceiling in the room and carry ordinary roofing tiles above. Alternatively, for a cheaper construction, a cement slab is used which acts as both tiling and ceiling. The latter construction, having no insulating air space, would probably be unsuitable



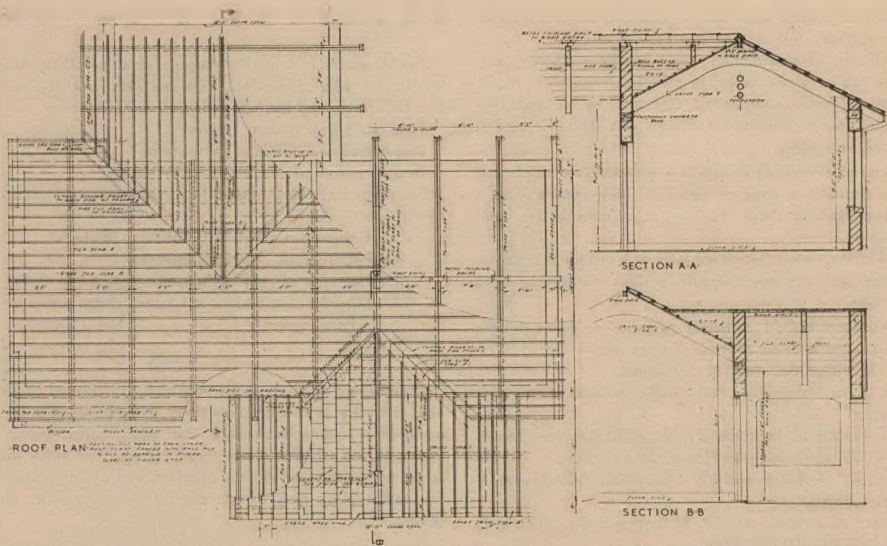
Exterior view of a dwelling in Salisbury in which this system of construction has been used.



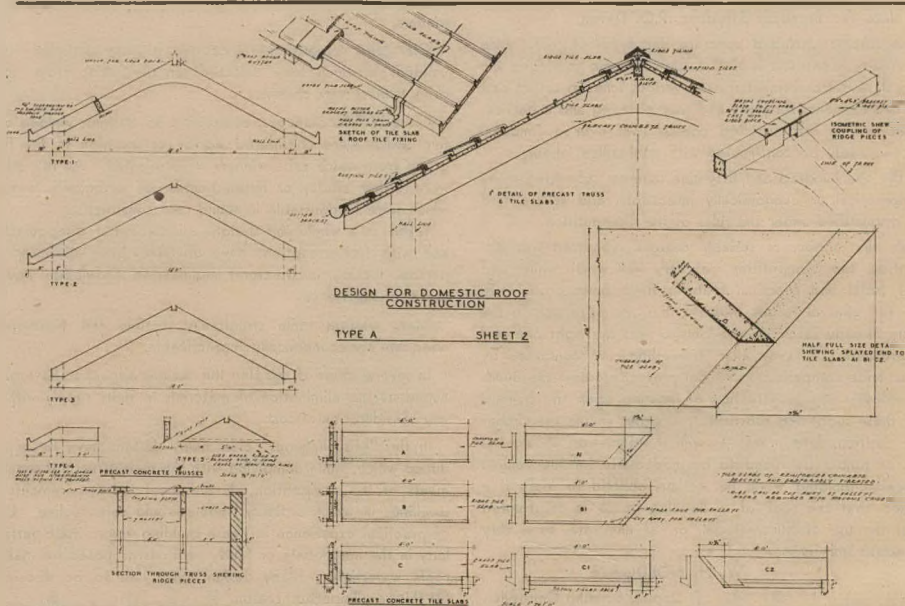
An interior view showing the underside of the tile slabs which form the open ceilings of the rooms.

Reinforcing steel designed by Mr. J. G. Stevens, A.M.I., Struct. E., Chartered Structural Engineer, A.M.(S.A.), Soc. C. E.

FIRST PREMIATED DESIGN



DESIGN FOR DOMESTIC ROOF CONSTRUCTION SHEET I
TYPE A



particularly in coastal areas due to excessive condensation on the lower surface.

The difficulty of constructing valleys has been cleverly overcome and this enables a variety of plans (rectangular, T, H, E, or U. shaped) to be used, limited, of course, by the span, thus giving considerable flexibility in design. No timber is used in the roof of this scheme.

The Second Premiated Design is a well-designed reinforced concrete truss for a span of about 30 feet and carrying a corrugated asbestos roof. No timber is used in this construction.

The Third Premiated Design is based on a system of concrete rafters and purlins in which wooden battens are used to carry the roof tiles.

The Assessors invited particular attention to other designs submitted. The Authors of these designs are:—

Mr. K. M. Fisher, P.O. Box 130, Bethlehem.

Mr. J. J. de Jong, 976, Park Street, Arcadia, Pretoria (2 designs).

Messrs. Harold H. le Roith, B.Arch., A.R.I.B.A., and Monte Bryer, 70/3, Washington House, Johannesburg.

Messrs. W. H. Burge and W. Oberhansli, P.O. Box 8613, Johannesburg.

Mr. Cecil A. J. Ensor, c/o W. S. Thomas & Co. (Pty.), Ltd., P.O. Box 507, Johannesburg.

Mr. A. E. Wynn, B.Sc., Assoc. M.Am. Soc. C.E., M.I.Struct.E., 228/30, Maritime House, Johannesburg.

Mr. Jack Tao Brondum, Strydpan, P.O. Devon.

These schemes included concrete slab types of roof [which have already been used in Native sub-economic housing in the Transvaal], asbestos cement trusses, various schemes of pre-cast reinforced members for joists and roof covering and a particularly interesting brick vaulted conical roof over a rondavel which can easily be constructed with semi-skilled labour.

Of the one hundred and fifty-nine schemes submitted many are impractical or economically impossible, and several had to be disqualified under the rules of the Competition.

While the number of suitable designs submitted was disappointing, the Competition was very well worth while, and several useful and practical features have been brought to light. The general results indicate that the approach to the problem already taken by the Control was the right one and it is satisfactory to know that its methods are confirmed by a nation-wide competition. At the present moment the Building Controller has no intention of insisting upon the general use of these suggested substitute roofs, but should the timber supply position deteriorate—as well it might—or, should the supply of timber be found to be inadequate for the volume of essential building work, he will be obliged to make it a condition that the roof of a dwelling house is constructed without the use of this material, or, at any rate, to a very great extent limit its use.

V. H. HOLDGATE,

Deputy Building Controller.

ASSESSOR'S REPORT

The Assessors met for the purpose of adjudicating designs on four full days on the 24th, 25th and 26th February, and on the 1st March, and for half a day on the 3rd March.

Total number of designs received	159
Disqualified under rules of competition	37
Designs examined	122

For simplification of adjudication, designs were divided into four classes:—

I. Carried out mainly with asbestos products	25
II. Pitched type of roof in concrete	26
III. Flat type of roof in concrete	16
IV. Miscellaneous designs not falling under previous three classes	55

Total 122

With regard to Class I, the Assessors experienced considerable difficulty in dealing with these designs, as most of the competitors assumed strength and other characteristics of South African asbestos cement products which are either known to be non-existent or are not substantiated by any authoritative tests, or by tests carried out by the competitors themselves.

Class II, comprising 26 designs, embodying reinforced concrete roofs of a pitched type covered with tiles, concrete slabs or corrugated sheeting, has produced all the prize winners.

Class III, comprising 16 designs for flat concrete roofs yielded six which were selected for the group from which prize winners were chosen.

Class IV Miscellaneous, comprising 55 designs, yielded only five which were considered worthy of inclusion in the final group from which prize winners were selected. All the others were either crude, or impracticable, or embodied features which were inadmissible in sound roof construction.

Taken as a whole the designs are somewhat disappointing, and with few exceptions have obviously been prepared by persons lacking in structural engineering knowledge and/or practical experience.

Many designs while structurally feasible and functionally adequate are economically impracticable.

In several cases of this kind the designs appear to have been aimed at the elimination of materials in short supply without any consideration of cost.

In the "Miscellaneous" class many designs have been produced which, while complying with the main structural requirements of the competition, do not meet the requirements of dwellings in which ordinary people would care to live. Lack of practical experience in house building shows itself particularly in the inadequate or faulty methods proposed for making roofs watertight. Many designs have had to be discarded for this very important reason.

investigation, which will involve full scale construction and testing.

No. 34 which illustrates an idea already developed Overseas and might be of considerable value to this country if fully developed.

No. 98, an interesting solution of roofing a rondavel without the use of timber.

In assessing the various designs we wish to emphasise:—

(1) That some of the designs submitted have also been evolved overseas and details have been published in the overseas technical press;

(2) That the adjudication has been based primarily on the principle of the design and not on small details, which, while obviously requiring a certain amount of revision, do not vitiate the conception.

(Sqd.) A. STANLEY FURNER.

(Sgd.) W. GORDON McINTOSH.

(Sqd.) F. E. KANTHACK.

AUTHORS' NOTES :

BETTER CLASS WORK.

The construction illustrates method adopted for better class domestic work.

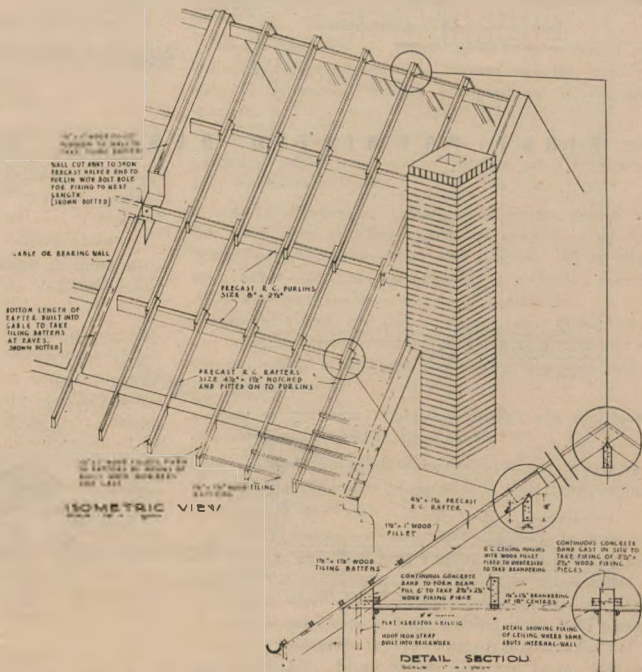
ECONOMIC HOUSING.

Rafters could be omitted, the purlins having wood fillets anchored on top edge and built in and spaced to receive corrugated asbestos sheets. By using corrugated asbestos the roof pitch could be reduced, thus reducing brickwork in supporting walls.

SUB-ECONOMIC HOUSING, OUTBUILDINGS, ETC.

For this class of work, as in the above only purlins would be used and roofs could have a very flat pitch or be lean-to roofs. If ceilings are required provision could be made to fix sheeting directly to underside of purlins.

NOTE.—It has not been possible to reproduce the complete drawings of the second and third premiated designs, owing to the loss of small detail in the reduction necessary.



WARTIME BUILDING

1

This supplement is the first of a series published by courtesy of the Building Control Investigation Section, with the object of keeping members informed of the developments of constructional methods, new and substitute materials, and tests, which have come about as a result of war conditions.

ECONOMY IN ROOF CONSTRUCTION, by H. Fyvie, A.R.I.B.A.

An interesting example of Economy in Roof Construction has just been completed at the new factory for the Premier Fertilizers, Nuffield, Springs. It is proposed in this article to describe the construction of this particular roof and to discuss the various aspects of this type of construction.

The roof is the design of Mr. O. Walters, a Director of the Company and has been constructed by the Contractors, Messrs. Church & Sons, under the direction and supervision of the Architects, Messrs. Fyvie & Eddy, of Springs.

It is not claimed as original, as this type of roof has been constructed before, and Mr. Walters constructed similar roofs to farm buildings in Natal 35 years ago, and which, I understand, are still standing.

As will be seen from the roof plan, Figure 1, the roof construction has regulated the lay-out of the factory. Figure 2 gives a section through the main roof of 30 feet span.

The wall plates are $4\frac{1}{2}$ inches by 3 inches splayed and well tied down to walls every 3 feet by hoop iron.

The corrugated iron was delivered on the site already bent by the suppliers to the curve required.

Each ring for the 30 foot span consisted of four 8 foot sheets and one 6 foot. The rings were made on the ground and the sheets being fixed together over a template as shown on photo No. 1.

The end laps are 9 inches with two rows of gutter bolts. The rings having been made up are hoisted into position; two Natives can lift each ring comfortably.

A 3 inch by 3 inch member runs along under the apex and forms a supporting line to the rings and is also useful for fixing electric light tubing, etc. This member is propped up till the iron is screwed to it. The side lap was the usual one and a half corrugations. The first ring having been placed in position and trued up, the remainder are hoisted or lifted into position, screwed to the wall plate and the 3 inch by 3 inch ridge piece by roofing screws every second corrugation and bolted together at the side laps by gutter bolts at 18 inch centres with lead and iron washers.

The bolt head with two washers should be on the outside with nut on the underside, requiring only a carpenter with a brace and spanner to tighten up.

The holes for the gutter bolts were made merely by punching. Some engineers consider that the sheets should be drilled, but this is unnecessary and inadvisable, firstly on account of the added cost and secondly because punching causes a certain amount of mushroom of the metal round the holes when punched which, by the tightening up of bolts, tends to squeeze into and fill the hole. Photograph No. 2 shows the rings being fixed in position, with the aid of a temporary truss to support each ring till it is fixed. As an

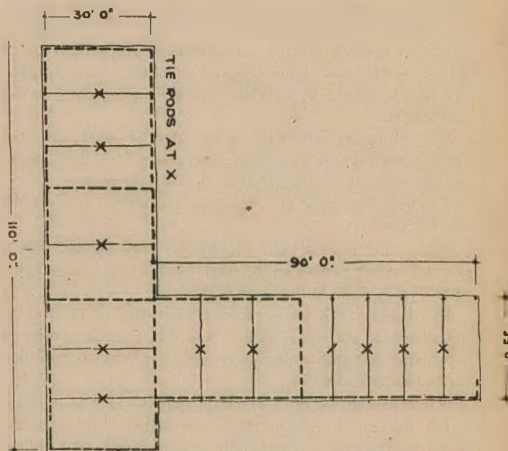


Figure 1. Roof Plan.

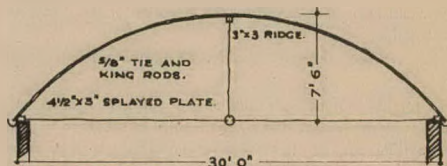


Figure 2. Section through Main Roof.

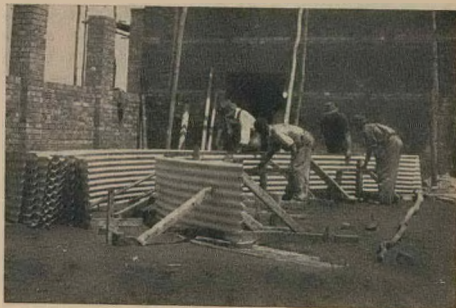


Photo No. 1. Fixing sheets together to form ring.

additional precaution against likely thrust to the walls, tie and king rods were placed where indicated on the roof plan, as shown in Figure 1. These were taken through the wall plates and ridge piece, and connected by a $2\frac{1}{2}$ inch diameter by $1\frac{1}{2}$ inch x $\frac{1}{4}$ inch ring in centre with nuts for tightening up.

It has been suggested by the owner that with the exception of that part of the roof which is an open verandah, the tie and king rods in the remainder could have been left out, and before the building is very much older, the owner intends to remove them and put them to better use.

I think, however, that as an additional precaution against thrusts on the wall plates they are required, especially when this can be caused by workmen on top carrying out painting and repairs.

The corrugated iron rings in the 25 foot span roof were composed of two 12 foot sheets and one 6 foot, being made up and fixed all as described for the 30 foot span.

An interesting piece of "economy construction" is where the two roofs meet.

Valleys are avoided and the smaller roof finishes with a spandril infilling resting on the larger roof, which finishes in the ordinary way down to the eaves gutter.

The 4 inch by 2 inch is scribed and hung to the iron as described for the ridge piece. A 6 inch by 2 inch rests on top of the corrugation of the main roof and the spandril thus formed is covered by iron.

It is estimated by the Contractor that the cost of this roof is half the cost if timber trusses and purlins were used, and when one thinks of the thousands of semi-permanent buildings in the form of Army huts, with the amount of timber involved, it is not difficult to realise the amount of labour and materials that could have been saved by the adoption of this method of construction.

Thus a timber shortage would probably have been unheard of.

To set the roof out, a radius of $\frac{5}{8}$ of the span is used. This figure is elastic and guided by the lengths of sheets to be used.

In setting out the sheets it is essential that a sheet should bridge the apex and that the horizontal joints break bond.

It is suggested that for temporary roofs, a side lap of one corrugation and end lap of 6 inches is all that is necessary. It is essential that for roofs up to 30 foot span 24 gauge corrugated iron be used, and it is possible to construct a 40 foot span on the same principle, provided the iron is not less than 22 gauge. It is suggested that for roofs over 30 foot span not only 22 gauge iron be used, but end laps of at least 9 inches with two rows of bolts and side laps of two corrugations with two rows of bolts at 2 foot centres and placed staggered be used.

A roof ventilator or skylight can be formed at either the ridge or at the side in the form of a dormer window by fixing a 2 inch by 3 inch on the underside of the iron and building on that, the iron being cut out. A ventilator or dormer thus used should not exceed two sheets in width with an intervening



Photo No. 2. Temporary truss supporting rings during fixing.

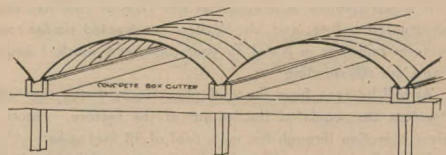


Figure 3. An indication of the manner in which this type of construction could be used over large areas.

space between of four sheets. Figure 3 shows how this type of construction could be adopted to cover a large area such as a factory or warehouse.

The 30 foot span roof described showed no signs of movement caused by a workman walking on top. The effect of wind pressure is similar to that on the pressure of a balloon and which goes back to its original shape on the release of the pressure. There may be a slight stretching of the bolt holes, but this is amply covered by the washers on top.

The same applies in regard to the tendency of wind to lift the roof. At the eaves the iron is securely fixed to the plate every second corrugation and if the plate is well tied down at least every 3 feet no danger will arise.

It must be remembered that in the ordinary timber roof the tie to the wall occurs at whatever spacing the trusses are. Thus with a 30 foot span with trusses at 10 feet we have a stress of 300 square feet multiplied by the wind pressure, exerted at two points at the walls.

The same pressure on the Barrel Roof is taken by 48" points, namely, the screws at every second corrugation.

It is the intention of Building Control to erect at Cottesloe a building with a section of the type of roof described, for the purpose of illustrating to the interested Building Community the advantages and economy that can be gained by this form of construction.

PROFESSIONAL NOTES AND NEWS

NATAL PROVINCIAL INSTITUTE

At the first meeting of the new Committee held on the 26th March, 1943, the following officers were elected for the ensuing year: President: Mr. F. W. Powers; Vice-President: Mr. B. V. Bartholomew; Representative on Central Council: Mr. B. V. Bartholomew; Alternate: Mr. D. C. McDonald; Representative on Board of Education: Mr. B. V. Bartholomew, Alternate: Mr. Robert Howden (Johannesburg).

O.F.S. PROVINCIAL INSTITUTE

At the First Meeting of the 1943-44 Committee the resignation therefrom of Mr. H. G. E. de la Cornillere was received, as he was leaving the O.F.S. Province for an indefinite period. Mr. W. Rhodes Harrison was elected in his stead.

The following officers were appointed: Mr. W. W. Tonkin, F.R.I.B.A., President; Mr. W. M. Timlin, L.R.I.B.A., Vice-President; Mr. F. W. Masey, R.I.B.A., Hon. Secretary and Treasurer, the other members being: Mr. K. E. Bull, Mr. W. Rhodes

Harrison, Mr. J. Willoughby Williams. Mr. W. W. Tonkin, representative on Central Council; Mr. F. W. Masey (alternate).

TRANSVAAL PROVINCIAL INSTITUTE

At the first meeting of the new Committee held on the 1th March, 1943, the following officers were elected for the ensuing year: President, Mr. N. L. Hanson; Senior Vice-President, Mr. D. M. Cowin; Junior Vice-President, Mr. S. C. Dowsett; the other members being Messrs. C. W. Brown, R. A. Bruce, N. M. Eaton, J. Fassler, D. S. Haddon, W. D. Howie, W. A. Macdonald, W. G. McIntosh, Professor G. E. Pearse, Professor A. L. Meiring (co-opted).

The representatives on the Central Council are:

N. L. Hanson, alternate, J. Fassler.
D. M. Cowin, alternate, W. D. Howie.
S. C. Dowsett, alternate, R. A. Bruce.
N. M. Eaton, alternate, W. G. McIntosh.
D. S. Haddon, alternate to be appointed.

UNION DEPARTMENT OF EDUCATION.

Reference No. Misc. 122.

Union Buildings,
Pretoria,
24th March, 1943.

The Secretary,
Associated Scientific and Technical Societies
of South Africa,
Kelvin House,
Johannesburg.

Sir,
I have to inform you that applications for Government Grants for Research for the year 1943/44 are now invited.

Applications must be made on the prescribed form, and should reach this office not later than the 30th April, 1943.

I shall be glad if you will bring the matter to the notice of the members of your Society.

I am enclosing a supply of application forms. Additional copies will be furnished on request.

Yours faithfully,

(Signed) D. BLECKER,

Secretary National Research Council and Board.

Copy of a letter forwarded to the Institute for the information of members.

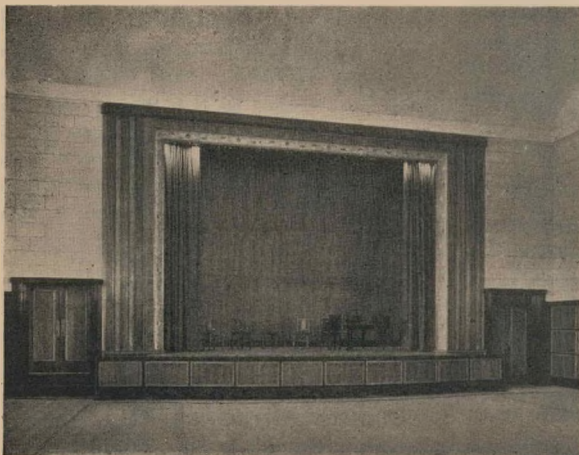
ERRATA.—We regret that in error the Deputy Building Controller's initials are given as W. H. instead of J. G. H. Holdgate on page 82.

THE SELBORNE HALL, JOHANNESBURG

ANOTHER EXAMPLE OF THE CRAFTSMEN'S INTERPRETATION
OF THE ARCHITECT'S DESIGN

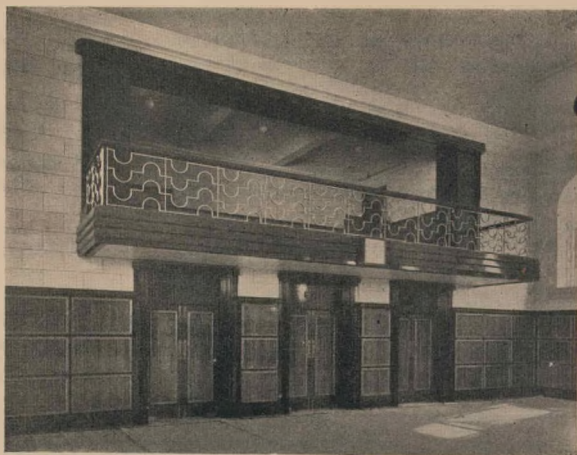
BY

SAGE



Proscenium formed with fluted polished Walnut pylons, Teak capping member, Zebrano architrave with the illuminated section of same faced with a polished Bronze Metal grille. The curved background is of Walnut with an eggshell finish.

The general wall panelling is of Teak and Walnut relieved with ebonised Mahogany and Yellow Wood mouldings. All exits are flanked with fluted ebonised Mahogany pylons and a moulded capping member of the same material. Doors are in Walnut relieved with Yellow Wood bolection moulds and Bronze door furniture. Balcony grille is of polished Bronze.



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