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South African Architectural Record: Journal of the Cape, Natal, Orange Free State and Transvaal Provincial Institutes of South African Architects and the Chapter of South African Quantity Surveyors

1941

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

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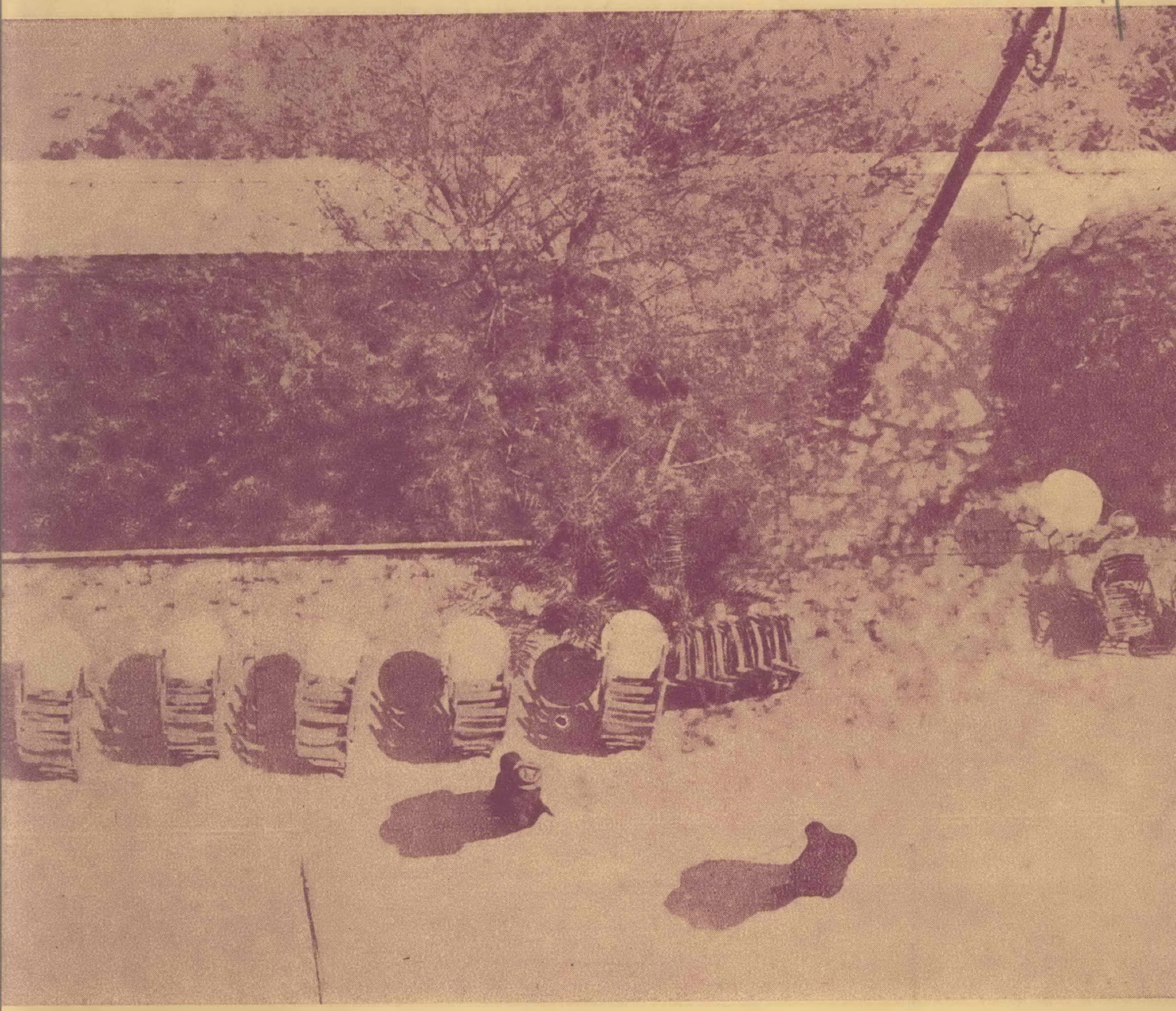
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CONCRETE ASSOCIATION OF SOUTH AFRICA

REPORT ON HOLLOW CONCRETE BLOCKS

The hollow concrete block is a standard building unit all over the world.

In the U.S.A. over 30 per cent. of all masonry construction is built with concrete units and there are more than 3,000 plants producing them.

In England it is an accepted building unit for which a British Standard Specification is issued. Throughout European countries the hollow building unit is standard practice and solid brick houses are rarely seen.

In South Africa there are many examples of hollow concrete block houses, some 20 years old, and there is considerable demand for information on this type of house.

In Johannesburg and the neighbouring Reef towns the manufacture of an economical hollow concrete building unit is prohibited because of the existing Municipal Building By-Laws, No. 54, which states that "The external walls of single storied domestic buildings . . . . , may be built of cement concrete slabs or hollow blocks with an inner and outer part of each not less than 3-in. in thickness separated by a space 3-in. in width." Also, " . . . , and the substance at the sides of any cavity in any such block must not be less than 3-in. in thickness nor more than 18-in. apart."

In the by-laws also are restrictions as to the height, number of stories and use as party and fire walls.

A concrete unit, manufactured in accordance with the by-laws, is not economical and is too heavy to handle. The consequence is that the concrete block industry has never been developed to any extent, so that the public, architects, officials of building departments, etc., are not acquainted with the advantages and merits of this building unit.

Evidence that a restriction on the thickness of the concrete of hollow block is unnecessary is shown by the Specification of other countries.

The British Standard Specification No. 834-1939, relating to precast concrete blocks for walls, states in the foreword "It will be noted that no requirements as to core space and thickness of web have been included. It was considered that the provisions of the test for compressive strength were such that,

provided blocks complied with this test, it was unnecessary to lay down any restrictions on the dimensions of the core space or the web thickness.

This strength specification, based on the gross area, is for blocks weighing 50 to 75 lbs. per cu. ft. of block, 300 lbs. per sq. in.; blocks weighing 75 to 100 lbs., 400 lbs. per sq. in. It is also specified that the block shall not contain more than 1 part by volume of cement to 6 parts of combined fine and mixed aggregates.

Commercially made blocks weighing 89 lbs. per cu. ft. tested at Witwatersrand University averaged 1913 lbs. sq. in. for a 1 : 6 mixture, 1762 lbs. per sq. in. for a 1 : 8 mixture and 1332 lbs. per sq. in. for a 1 : 10 mixture, all far above the British Standard Specification requirements.

The London County Council 1938 By-Laws states " When such bricks or blocks are formed with cavities, hollows or perforations they shall contain a proportion of solid materials not less than one-half of their gross over-all volume, so disposed that the aggregate width of solid material (measured horizontally at right angles to the face of the brick or block as laid) shall nowhere be less than one-third of the total over-all width of the brick or block."

This would allow a concrete thickness of $1\frac{1}{2}$-in. in a 9-in. block.

In an economical concrete block the volume of concrete is 2/3rds. the gross volume compared with one-half allowed.

In the U.S.A. there is no specification for the thickness of concrete web or core space, in practice the thickness varies from $\frac{3}{4}$-in. to $1\frac{3}{4}$-in.

TThe following American authorities all specify that the blocks shall have a compressive strength of 700 lbs. per sq. in. Federal, A.S.T.M., U.S. Dept. of Commerce and the Fire Underwriters. Two of these specify 1,000 lbs. per sq. in. when the concrete thickness is less than $1\frac{1}{4}$-in. and more than $\frac{3}{4}$-in. Forty towns with populations over 200,000, have similar specifications for strength only.

All these specifications allow an absorption of 15 lbs. per cu. ft. of concrete, while the blocks locally tested varied from 8 to 10 lbs. absorption. The by-laws of these towns also allow hollow concrete blocks to be used for fire and party walls, and for a height of 40 ft. compared with 15 ft. in the Johannesburg by-laws.

Both in the U.S.A. and England hollow concrete blocks have undergone exhaustive tests over many years

so that they are no new building unit of unknown properties.

Their advantages are briefly :

True machine made units.

Variety of textures, colour and wall effect.

Rapidity of laying, requiring only 1/3rd to $\frac{1}{2}$ the labour.

Fewer mortar joints, requiring $\frac{1}{4}$ the amount of mortar.

Resulting economy in construction.

Require less plaster and give better bond.

Insulation value against heat loss and sound transmission.

Greater and increasing strength. Concrete unit walls have a strength of 55 per cent. the unit strength, while the proportion for brick walls is 28 per cent., and they are twice as strong as brick walls of the same unit strength.

We cannot give a better reason for asking the Authorities to revise an ancient by-law than is given in the Foreword to the revised London Country Council by-law relating to the construction of buildings in London, " While considerations of safety must at all times be regarded as of paramount inportance in the public interest, it is also in that interest that the very important industries participating directly or indirectly in building should be given the fullest degree of freedom consistent with safety in order that enterprise, progress and economy may not be hampered."

TRANSVAAL PROVINCIAL INSTITUTE

THE COMMITTEE'S ANNUAL REPORT

For the Year Ended 31st December, 1940

To the Members of the Transvaal Provincial Institute.

Your Committee has pleasure in submitting this, the Fourteenth Annual Report, together with the Annual Balance Sheet and Accounts, for the year ended 31st December, 1940.

MEMBERSHIP

The membership at the close of the year consisted of 175 Practising, 124 Salaried, 11 Absentee and 36 Retired, a total of 346 members, equal to 57 per cent. of the total membership of the Institute of South African Architects.

During the year under review 11 new members were enrolled, six members died, one resigned and three were transferred to, and one transferred from, other Provincial Institutes, the increase in membership as compared with the previous year being two. The new members enrolled during 1940 were : Miss D. Z. Curwen and W. J. Munks, Messrs. R. M. Ellenberger, S. W. R. Gildenhuys, C. Hillebrands, C. C. Irvine-Smith, D. Kaplan, M. Kirchhofer, F. H. Moerdyk, K. A. Richardson and J. W. van Gemert.

OBITUARY

It is with regret that your Committee has to record the deaths of Messrs. T. Gordon Ellis, F. F. Freeman, J. L. Henderson, John Pike, A. J. Thompson and R. Wild.

It is with deepest regret that we have to record the death of our worthy Secretary. Mr. Pearse had been with us for some thirteen years and done his work faithfully and well.

We regret to announce also the death of Mr. Carpenter who was our Secretary previous to Mr. Pearse. Mr. Carpenter was Secretary during the period of the passing of our Act and Regulations.

COMMITTEES AND MEETINGS

Following the election of the Committee at the annual meeting in March, 1940, Mr. Robert Howden was elected President, Mr. A. Stanley Furner Senior Vice-President and Mr. W. Gordon McIntosh Junior Vice-President for the ensuing year.

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

R. Howden (President)	10
A. S. Furner (Senior Vice-President)	7
W. G. McIntosh (Junior Vice-President)	8
N. T. Cowin	8
S. C. Dowsett	8
N. M. Eaton	7
D. S. Haddon	13
G. E. Gordon Leith	1
A. J. Marshall	11
Rex Martienssen	7
Professor G. E. Pearse	10
H. G. Tomkyns	4

During the year Messrs. Furner, Howden, Leith, Martienssen and Tomkyns were absent on leave for various periods.

Your Committee has been assisted throughout the year by Sub-Committees on Enquiries, Finance, Practice, The Journal, The Architects Catalogue Service Bureau and the South African Academy; and the thanks of the Institute are tendered to members of those Sub-Committees for the valuable services rendered by them.

CENTRAL COUNCIL

The 1940/41 Central Council met at Johannesburg on April 24th, 25th, and 26th, 1940.

At this meeting Mr. D. S. Haddon (Transvaal Provincial Institute) was elected Presi-

dent-in-Chief, and Mr. W. W. Tonkin (O.F.S. Provincial Institute) Vice-President-in-Chief.

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

Mr. R. Howden	alternate	Mr. A. J. Marshall
Mr. A. S. Furner	"	Mr. S. C. Dowsett
Mr. N. M. Eaton	"	Mr. W. G. McIntosh
Mr. D. S. Haddon	"	Mr. Gordon Leith
Professor G. E. Pearse	"	Mr. Rex Martienssen

FINANCE

The Revenue and Expenditure Accounts and Balance Sheets as at 31st December, 1940, of the Institute account, the "South African Architectural Record" account, the Catalogue Service Bureau account and the Benevolent Fund are attached to this report.

Institute Account: It will be noted that the excess of revenue over expenditure for the year, amounted to £15 7s. 2d.

This declining revenue is disquieting and members are urged to pay their dues and in many cases arrears also, and bear in mind their obligations to their Institute.

Subscriptions paid during the year were less than in the previous year by £179 16s. 0d.

Administrative expenses show a reduction of £44 as compared with the previous year's expenditure.

South African Architectural Record Account: This account showed a loss for the year of £166 16s. 9d. due to the cancellation of several advertisements on account of the war. An amount of £38 1s. 9d. was written off as bad debts.

Catalogue Service Account: In this account the excess of revenue over expenditure from the date of inception to 31/12/40 was £78 13s. 9d.

EUROPEAN WAR

Your Committee wishes to express its appreciation in connection with the number of Architects who have volunteered for service, and intend, in due course, placing their

names on a Roll of Honour.

It is, however, to be regretted that more advantage has not been taken by the Military Authorities of the abilities of those Members who have enlisted, and in the interests of the Country this is a position that should be rectified.

It is to be noted that every provision possible is being made by the Institute for those at the front. Remission of subscriptions will be granted to those members On Service who apply for same, and those at the Universities will have their interests protected.

JOINT COMMITTEE—ARCHITECTS AND QUANTITY SURVEYORS

Meetings of the Joint Committee have been held during the year, and on occasions the Committee met representatives of the Witwatersrand Master Builders' Association. Circulars have been sent to members regarding matters on which agreement was come to at these joint meetings.

One of the most important Joint Meetings was in connection with the New Contract, and agreement was reached on many amendments and all parties agreed that those should be made at the earliest opportunity.

ENQUIRIES

Several enquiries were made by the Committee into alleged cases of unprofessional conduct during the year, and the Committee take this opportunity of thanking those members who gave up so much of their time in conducting these enquiries.

ARCHITECTURAL EDUCATION

Architectural education is well established at the Universities of the Witwatersrand and Pretoria.

With reference to a suggested alteration to the understanding between the Universities of the Witwatersrand and Pretoria regarding the teaching of Architecture and Quantity Surveying in the respective centres, it has been decided to carry on the existing arrangements till the end of 1942.

The Witwatersrand School has now 156 students taking Architecture and Quantity

Surveying. At the Pretoria School there are 36 students taking Architecture.

The Sixteenth Annual Exhibition of Students' Work and Prize-giving of the School of Architecture, University of the Witwatersrand, was held in April last.

Prizes were presented by your Institute, Mr. D. M. Burton, Mr. A. S. Furner, Mr. Gordon Leith and Messrs. Farrow and Laing.

PRIZES AND SCHOLARSHIPS

The winner of the last Baker Scholarship, Mr. D. L. Watson, has been unable to leave this Country on account of the War, and as he was expected to spend much of his time in Italy it is quite evident that he will be unable to leave for some time.

The winner of the Robert Howden Prize was Mr. F. W. Powers, of Durban, to whom the medal was presented. As the next competition is to be for Quantity Surveyors, at the request of the Board, it has been decided to postpone this competition till the end of the war.

THE JOURNAL

The Committee expresses its thanks to Professor Pearse and Mr. Rex Martienssen, the Honorary Editors.

The thanks and appreciation of the Institute are also extended to the advertisers, whose support enabled the continuation of this publication at its high standard of excellence. Articles appearing in the " Record " have been reproduced or quoted by publications in various parts of the world.

CIVIL PROTECTIVE SERVICES

At the request of the City Engineer representing the Local Authority, to whom the Government has entrusted this work, a Committee of Architects and Quantity Surveyors was formed to assist the Local Authorities.

It is gratifying to state that the work done by the Committee in obtaining plans and reporting on every basement in Johannesburg was highly appreciated by the Authorities.

The Committee is further investigating Casualty Posts and First Aid Stations at the

request of the Authorities.

The Committee feel that every member of the Institute and Chapter will support them in offering the services of the members in a voluntary capacity.

PROVINCIAL WORK

A deputation waited on the Administrator regarding the giving out of as much work to Practitioners during the war as possible.

A suggested method of distributing this work so that those at the front would benefit was welcomed and appreciated by the Administrator.

It is hoped that when the funds are available that the Profession will benefit accordingly.

ARCHITECTURAL CATALOGUE SERVICE

This service has been launched during the year and promises to be a useful means of assisting all those connected with the Building Industry of becoming acquainted with the products actually on the market.

While it enables the producer and manufacturer to bring his goods to the notice of the Architect, Quantity Surveyor, Builder and Client, it, at the same time, assists the latter in knowing what is available and where it can be obtained.

THE SOUTH AFRICAN ACADEMY

The Twenty-First Annual Exhibition was held in the Selborne Hall in May, 1940. The thanks of this Institute are expressed to the City Council of Johannesburg for its generous grant-in-aid and to the Academy Sub-Committee, the Transvaal Art Society, the Judges, the Hanging Committee, and all those willing helpers who assist in making the Exhibition a success.

Appreciation and thanks are also extended to Messrs. D. F. Corlett & Co., W. F. Johnstone & Co., Mr. Coombes, Messrs. Sage & Co., Messrs. Trevail and Taylor and the Witwatersrand Technical College for assistance rendered and the loan of materials, etc., and to the local Press for their publicity support.

BENEVOLENT FUND

During the past year the total revenue to this fund amounted to £84 13s. 7d., whilst grants-in-aid totalled £78. Accumulated funds were increased by £6 13s. 7d., and the total funds at the end of the year amounted to £947 2s. 8d.

PUBLICATIONS

The Committee desires to draw the attention of members to the following publications which are obtainable at the Secretary's Office:

Conditions of Contract Documents	1/-
Scale of Professional Charges	3d.
Certificate Books	2/6
Variation Order Books	3/-

By Order of the Committee,

E. M. HOOKHAM,

Acting Secretary.

February, 1941.

OBITUARY - MR. ARTHUR PEARSE

We regret to announce the death of Arthur Pearse during January of this year. Mr. Pearse, who had been Secretary of the Transvaal Provincial Institute for the past thirteen years will be missed by many members who worked with him on committees not only concerned with the administration of the Institute but with such allied undertakings as the South African Academy and the South African Architectural Record for both of which he served as Secretary.

Mr. Pearse was born at Verulam, Natal, in 1875; was educated at Verulam and Ladysmith, and began his career at Barberton, in 1891, in the office of the Edwin Bray Gold Mine. He was subsequently assistant secretary on the Wemmer Mine, Johannesburg, until the outbreak of the South African War. During the war he served as assistant superintendent of the Native Labour Corps. Further appointments were Secretary of the Rietfontein Colliery, Springs, and Secretary to the Consolidated Mines Selection Company, in Johannesburg. In 1916 he was appointed resident agent for the Rand Selection Corporation, at Springs, and was a member of the Springs Town Council and J.P. for that district. From 1922 he practised in Johannesburg as a member of the South African Society of Accountants.

In 1928 Mr. Pearse was appointed Secretary of the Transvaal Provincial Institute and Secretary of the South African Academy. To this position he brought all his energey and experience, and the smooth running of the Institute and the continuity of its aims were in no small measure due to his sincere but unassuming interest in the affairs of that body.

Those who have worked in close collaboration with our late Secretary will have no difficulty in recalling his constant endeavour to maintain the status of the Institute and make it an active constructive force in the profession, and even during the informal moments of talk in the Institute Offices the subject sooner or later led to the possibility of making a better and greater organisation from which members could practise their profession.

Mr. Pearse was keenly interested in the progress of the "Journal" which he had seen grow from a slender quarterly to the monthly periodical which it now is. As Business Manager it was his responsibility to make ends meet; and his readiness to assist the Editors in providing full and varied issues made

work in that direction much less onerous than it would otherwise have been.

Outside his Institute activities Mr. Pearse was devoted to his garden, and spent much of his leisure time in this pursuit. He had hoped to retire eventually to Natal and there give his whole time to small-scale farming, but this was not to be.

Mr. Pearse married Miss Natalie Coates, in 1905; and is survived by a son, Morris Pearse, and three daughters, Mrs. J. A. Bell, Mrs. R. Dawson and Miss Rosemary Pearse, to whom we extend our deep sympathy.

R. M.

Journal of the SA Architectural Institute

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