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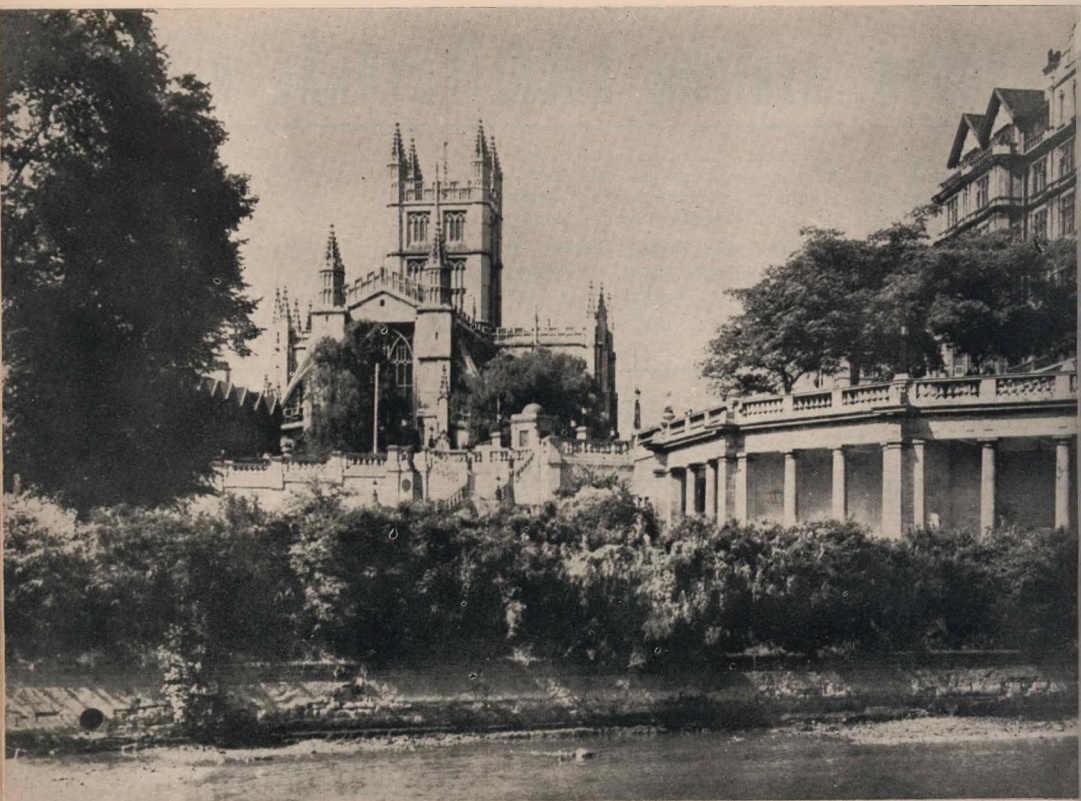
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Bath's glorious Abbey, with the gardens and colonnades that adjoin it, forms part of the fine succession of buildings, terraces and porticos along the River Avon, that have delighted so many generations of her admirers all over the world. They breathe the spirit of stately calm that characterises the classic city.

# BATH ABBEY

## A UNIQUE EXAMPLE OF ENGLAND'S GOTHIC HERITAGE

By H. A. Brockman, L.R.I.B.A.

The city of Bath is set amidst the green wooded hills of the West of England and is wrapped and knit together by the silver winding of the River Avon. A recent writer has described the viewpoint from the top of Beechen Cliff as "like being on the Mount of Olives, with the sacred city lying at our feet." His was not the only voice which has been raised in praise of this beautiful place; a city which has drawn to itself and has expressed in its life and appearance the culture of centuries, from Roman occupation to the present time.

The Romans were the first to transform Bath into a place for the enjoyment of health and pleasure. The Saxons followed and were succeeded by the mediaeval patronage of the Church. Its greatest era was during the eighteenth century, when the famous Beau Nash drew rank and fashion to its healing springs.



Then it was that the cathedral became the focal point of the great developments in architecture that were to enrich the city. Royal patronage stimulated the building of fine streets and squares and Bath stone was fashioned into the gracious forms of the renaissance for which the city is so famous. The Circus and the Royal Crescent adapted and modified the bold classic orders of Palladio to encompass the curved or circular terraces of single houses into grand palatial compositions set into the slopes and green hills. They overlooked the Gothic centre in its river setting below as though from the tiers of a vast amphitheatre. The proscenium is the sky itself and the stage is held by the physical expression of the city's past, temporal and spiritual: the tonic waters in their Roman frame beside the mediaeval fane of the ancient cathedral church.

It is supposed that a Roman temple stood on the site of the cathedral, but the earliest known religious house in Bath seems to have been a nunnery founded in 676. In 758 the King of Wessex established a monastery there and in 973 Edgar, first King of all England, was crowned in the Abbey Church. The Abbey became a cathedral in 1091, the status having been transferred from the city of Wells, not far away, and about 150 years later the two foundations were united as a diocese.

Since that time the Bishopric has carried the title of Bishop of Bath and Wells.

The present building was begun by Bishop King, in the closing years of the 15th century and in the reign of Henry VII (whose wonderful chapel at Westminster it resembles). During the next 400 years, in fact, right down to the present day, various additions, restorations and rebuildings have been carried out, the most considerable having been the vaulting of nave and aisles by the famous architect, Sir Gilbert Scott, in the 1860's. This continuous renewal of the Church's fabric has been held up as a symbol of the spiritual renewal necessary in the living Church.



From within the town one comes upon Bath Abbey suddenly, as should always be the case with a good Gothic cathedral. It is surrounded closely by buildings which occupy sites that have crowded up so typically through many centuries to the sacred walls. It appears as a homely building constructed entirely of the local Bath stone, which has weathered in the passage of time to light brown, grey and velvety black. The symmetrical west front consists of a giant window of seven lights flanked by turrets finished with open spires. Upon their faces are sculptured ladders, extending to nearly their full height, with angels ascending and descending; a story in stone of a dream of Bishop King. Behind the west front the nave, with its flying buttresses, goes back to the oblong tower, an unusual but impressive focal point of the whole Church, supported in turn by the shorter choir and the small, though architecturally adequate transepts.

Entering the great west door, the glory of the Church is revealed as the eye is carried upwards, past the clerestory windows, to the magnificent vaults of the nave and choir roofs. Nothing impedes the vista but the emphasis of the two arches of the crossing. The final stop to this initial view is provided by the intricate but ordered detail of the dazzling east window. At the crossing, the two transept windows add their contribution to this beautiful setting, and the view backward again



Photo: Paul Popper

towards the west door reveals the glowing magnificence of the west window.

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The plan of the building is that of a Latin cross, the nave consisting of five bays, succeeded by the crossing and finally the choir, which has but three. The narrow transepts, consequent upon the oblong plan of the tower, which from west to east only takes up the space equivalent to one of the bays, gives an impression of great height to the Church and renders even more impressive the beauty of the vaulting, which extends to all parts of the building. The vaults in the nave and south transepts are modern, being adaptations in the original style, but those in the choir and north transept and in the aisles are all original and exhibit astonishing and complicated variation of this type of work which are well worth studying in detail. The Church is rich in its monuments, chief of which is the

sole remaining mediaeval chantry chapel of Prior Bird, and include also more than 600 mural tablets.

Architecturally the building is of great significance, being the only cathedral erected in the complete and peculiarly national perpendicular style; it is also the last great English Church of the Middle Ages. To appreciate what this means, it is only necessary to realise that the vaulting of the choir, which was carried out some time subsequent to 1504, was approximately contemporary with the work of the Italian master Torrigiano, whose tomb of Henry VII at Westminster erected in 1512, marked the beginning of the English renaissance which held the stage for the next 300 years. Though all around there is much evidence of the destruction caused by aerial bombardment in World War II, the cathedral still stands, a cherished and unique example of England's Gothic heritage.

# DR. G. E. GORDON LEITH, M.C., A.R.I.B.A., M.I.A.

*The first Doctorate in Architecture to be awarded in this country was conferred upon George Esslemont Gordon Leith at the Winter Graduation Ceremony of the University of the Witwatersrand, Johannesburg, in August, 1946. In honouring an architect who has spent a lifetime in the service of Architecture, here and overseas, the University paid a tribute to the profession which assisted in founding the first Chair of Architecture in South Africa twenty-five years ago.*

*This month Dr. Gordon Leith was the guest of honour at a banquet given by the Central Council of the Institute of South African Architects, at which, among the distinguished guests present were the Honourable the Minister of Health and Housing, Dr. H. Gluckman, the Honourable the Minister of Public Works, Mr. J. W. Mshel, the Mayor of Johannesburg, Councillor James Gray, the Vice-Chancellor of the University, Mr. Justice Feetham, Principal Raikes and the Dean of the Faculty of Architecture, Professor G. E. Pearse, and some seventy Architects and Quantity Surveyors.*



In presenting Dr. Gordon Leith at the Graduation Ceremony, the Dean of the Faculty, Professor G. E. Pearse, said:—  
Mr. Vice-Chancellor,

I have the honour to present for the degree of Doctor of Architecture, *honoris causa*

## GEORGE ESSELMONT GORDON LEITH.

George Esslemont Gordon Leith was born at Knysna, C.P., in 1886, and was educated at the Staats-Model School, Pretoria. After matriculation he studied sculpture under the late Anton van Wouw, and eventually went to London to read architecture at the Architectural Association School. He obtained their Diploma in 1907, and was elected an Associate of the Royal Institute of British Architects in the same year. He returned to South Africa in 1908 and joined the staff of the Public Works Department in Pretoria. In 1910 he joined the staff of Herbert Baker and Fleming and during that period prepared many of the preliminary perspective drawings for the

Union Buildings, Pretoria. He was the first holder of the Herbert Baker Scholarship, which he won in competition in 1911, and spent two years at the British School at Rome under Professor Ashbye. His surveys and subsequent restorations of the Flavian Palace created world-wide interest, and are worthy of publication. On his return to this country in 1913 he worked with Baker on the preliminary drawings for the Government Buildings at Delhi, and at the same time lectured on architectural subjects in the South African School of Mines and Technology, predecessor of the University.

During the War of 1914-1919 he served with distinction in the Royal Artillery and gained the Military Cross.

After the war, Gordon Leith was appointed by the Imperial War Graves Commission, with a number of other ex-service architects, to lay out and design the memorials of many cemeteries in France. In Sir Herbert Baker's opinion, Gordon Leith was the ablest of the group.



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Photos: Alan Yates

Gordon Leith's earlier practice showed a preoccupation with domestic architecture in its various forms. As his interests changed there is apparent a corresponding variation in the character and style of his work, which in all its ramifications shows a scholarly handling of form and details and his characteristic play of materials. The residence built for Mr. Manley Anstey in Johannesburg, 1 and 2, with its calm dignity and attractive setting is indicative of his early interest in the work of the Dutch settlers at the Cape. While the approach elevation 1 has touches of the broad roofed English vernacular cottage—a style in which he designed a number of attractive small houses in Johannesburg and Pretoria, yet the details and particularly the gables and archade of the garden front 2, have their origin in the early architecture of the Cape. Similar elements are to be seen more positively in the house designed for Judge Curlewis at Waterkloof, Pretoria, 3, while a further phase with a decidedly Mediterranean note is seen in his own house "Esslemont," at Houghton, Johannesburg, 4.



Since 1920, Gordon Leith has been practising in Johannesburg and has made a great name for himself and the profession in the annals of Architecture in South Africa.

Soon after the Chair of Architecture was established at this University he assisted as a part-time lecturer and for many years was one of the senior examiners in the advanced subjects of the course.

His architectural work is to be found in many towns of the Union and as far afield as Northern Rhodesia and Portuguese East Africa, and amongst his most important works are the War Memorial and Barclays Bank, Pretoria, the Reserve Bank, General Hospital, and Railway Station, Johannesburg, and the Town Hall and Municipal Offices, Bloemfontein. From time to time he has lectured at the University and has contributed articles on the theory and practice of architecture to technical journals. He has also proved himself keenly interested in research, despite the exigencies of his large practice.

He was elected a Fellow of the Royal Institute of British Architects in 1930, and in 1934, President of the Transvaal Provincial Institute of Architects and a member of the Central Council of the Institute of South African Architects.

This year, 1946, marks the twenty-fifth anniversary of the foundation of the Chair of Architecture at this University, and, as a tribute to the profession which contributed to its foundation and has supported it so well, it is fitting that the

first degree of Doctor of Architecture should be conferred upon the most distinguished South African architect of the day.

I therefore have to request you, Sir, to confer the degree of Doctor of Architecture, *honoris causa*, on George Esslemont Gordon Leith.

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Mr. Vice-Chancellor; Mr. Chairman and Members of the Council; Mr. Principal and Members of the Senate; Members of the Staff—Students—Ladies and Gentlemen:

I desire—with all humility—to express to you my sincere appreciation of the Great Honour you have conferred on me this afternoon.

I am indeed happy to be the recipient of this high Degree in Architecture and, in particular, to become a *bona fide* member of your University; as such, I hope to take a special interest in its welfare and to uphold—as far as in me lies—its honour and dignity.

In congratulating the School of Architecture on its 25th Anniversary, I would like, in particular, to refer to the work of my old and dear friend, Professor Poarse.

From its inception he has been the Master Builder under whose astute guidance the School of Architecture has developed from a nucleus of two or three students into one of the greatest of its kind in the Southern Hemisphere.

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The development of Dr. Gordon Leith's practice saw an increasing number of larger works of many and varied kinds emanating from his office. With the advent of these works, many of which were won in competitions, he turned from his domestic practice to the more complex problems of design. It was in these buildings that his love of classic architecture found expression, and it is in these works that the fruits of his studies in Rome, together with the influence of his great friend and "Master," Sir Herbert Baker, may be seen. The Pretoria Technical College 5 foreshadows much of the feeling and treatment of the Main Entrance of the Johannesburg Railway Station 7, while the Rand Water Board Building 6, in Johannesburg, is characteristic, in its careful classic detail of many of his later bank buildings.

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While keeping abreast of the times, he has allowed and encouraged the widest latitude of thought in the concepts of his student, and has imbued them with a spirit of loyalty and devotion to their honourable calling.

Above all, he has endeared himself to one and all who have come into contact with him, and in this way has promoted mutual respect and harmony—not only among his students—but among the older members of our profession as well.

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Those among us who still cling to the earlier concepts of the Romantic School of Architecture may, at times, have looked upon the modern creations of some of our younger colleagues with a certain degree of scepticism; and asked ourselves whether Rationalism in Architecture was leading us?

The answer comes when it is realised that Architecture, like so many things in life, is subject to evolution.

Economics, modern invention, and changing conditions of life, have demanded new basic principles; hackneyed and ideological *motifs* have had to be discarded leaving the Modern Architect with less of that which is Romantic with which to clothe his concepts.

As every new phase in Architecture is inclined to suffer from over-emphasis, it is reasonable to conclude that Rationalism is being over-expressed to-day.

If, in the past, it therefore appears to have been lacking in *spiritual* qualities, there is no reason why it should continue to do so.

There can be no doubt that the *new expression* in Architecture is not a passing phase — it has come to stay — and in course of time must lend itself to *Spiritual Expression*. When this is achieved, I doubt not that it will constitute yet another great step in the Stylobate of Architectural History, and qualify as what Sir Herbert Baker described as "*Pertaining to the Eternal.*"

Nor should it be long before this happens: time and space are becoming increasingly precious, distances are being annihilated by speed, and changes occurring with ever increasing rapidity.

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Indeed it would seem that changes that have taken place during the last half century are nothing like those that will be seen in the half century to come: what life may have in store for the present generation of men and women can hardly be conceived. One thing is certain and that is, with the speeding of time, planning will become more and more necessary. In this sense we think not of building, but the planning of every undertaking that has to function or form a part of the great cycle of development that the human race requires for its existence.

As no plan can be carried out without sacrifice—and without discipline—we pause to consider whether our Democratic system — with its unassailable rights for the individual—will permit of it!

Vested interests already form the stumbling block to great development schemes for human benefit, and it would seem on the face of it that countries where the rights of individuals do not exist are likely to emerge from the contest of National Welfare more successfully than ourselves.

Our hope appears to be in the ability of the Democratic State to utilize to the greatest possible extent its captains of Art, Science, and Industry, since it is becoming increasingly apparent that a great state run by dictators and bureaucrats cannot hope to be as efficient as one in which selected experts from every branch of life are called in to plan and advise.

Complaints are being voiced that our country is being overburdened with politically appointed commissions — and by a Civil Service that has become too ponderous and too involved to function quickly and smoothly. It would, therefore, seem that one of South Africa's foremost planning projects should be the remodelling of the machinery that runs the State and this on simpler and more economical lines.

There has, in recent years, been a tendency for young men who have proved their ability at Universities, to covet posts in large, well-established firms, or to seek a future of safety in the Civil Service. This may be said to be undemocratic since it results in a limited number of powerful industrial concerns and an overpowering Civil Service.

If the young men of to-day with proved ability would launch out on their own, if they would start a small industry, however small it be, instead of swelling the ranks of employees, in whatever branch of life, they would add to the competition that is the basis of healthy Democracy. It needs courage to do so, but it is just that courage that makes for better men, and better countries.

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It has come as a shock to us that this vast country of ours is unable to support itself in food, and many of you here this afternoon are preparing yourselves for the conquest of the soil. As one who, for many years has been interested in the subject, I would ask you to consider our waterways as a factor of special interest in your study of Soil Conservation.

Many of you have doubtless become aware of the rapid escape of our rainfall to the sea, and other occurrences, such as the siltation of our great conservation dams and their canals, the salinification of soils through over irrigation or their *ultimate* salinification after many years of *controlled* irrigation, and have asked yourself whether these occurrences, and the processes that have caused these anomalies, are the complete answer to our soil and water conservation problems? While the Veld Trust is doing wonderful work in making the people soil



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The South African Reserve Bank in Johannesburg, 8, one of Gordon Leith's most recent bank buildings, in its firm classic dignity, strikes a simpler note. The element of Romanticism is strongly apparent, the familiar play of materials and scholarly detail, but also a freer interpretation of classic elements emerges. Although for many years antagonistic towards "modern" trends, later work from his office, like the Johannesburg General Hospital, 9, and the Chamber of Mines Hospital, 10, designs symptomatic of the "new expression" have resulted from the peculiar and complex demands of hospital planning. This phase of evolution is further evidenced in the Union Corporation Building, 11, in which, but for the vestiges of classic form in the columns, little remains of Dr. Gordon Leith's earlier Romanticism.

conscious, it has not as yet been authorised to protect and control our waterways.

Mountains are spoken of as the sponges of our water supply—you might ask if they could not be more accurately described as our Soil Factories. Are not the sponges the waterlogged soil in our vleis? Or the deep moist alluvial soil in our valleys? Do these not conserve both soil and water and filter the runoff. *Unless*—and this is important—unless they are drained by a donga, and as dongas develop from waterways that have been depressed, is it not rational to conclude that the preservation of nature's "Sponges" depends on raising the bed level of our depressed rivers?

An added benefit to such a measure would be the increase of water absorption by the soil, which would in time reduce the runoff. Indeed, it is conceivable that by the saturation of valley soil and by gradual percolation of water into the river bed during periods of drought, our rivers could be induced to flow perennially as of old.

Whether rivers and their tributaries are depressed by man-made bridges, culverts or by geophysical bottlenecks, the fact remains that our waterways, as well as those in other intermittent rainfall zones, are highly vulnerable to the disruption of their normal regime. Like the river beds in desert zones, they run on rock bottom and most of them are waterless in winter.

When a river ceases to be a means of establishing and maintaining soil-water contact, it becomes a means of extracting moisture from the soil—in other words—a dry bedded river is no more than a large scale donga, both are warnings of an insufficient moisture content in the soil—and a warning that any grazing permitted under such conditions is tantamount to *overgrazing*.

In the past, the only Government body authorized to deal with this fearful menace has been a branch of the Department of Agriculture—The Division of Soil and Veld Conservation.

Fortunately the State has realised that this important branch of the Department of Agriculture is incapable of dealing with the subject in all its aspects and intends establishing a new and independent body with adequate powers, in which the Departments of Agriculture, Lands, Native Affairs, Irrigation, Railways and, I trust, the Roads Board, will collaborate with civil technicians to combat this threat to man's existence. I sincerely trust that one of its avowed objects will be the protection and rehabilitation of the precious blood arteries of the soil—OUR WATERWAYS. Indeed I would suggest that this organisation be known as the "UNION SOIL AND WATERWAYS AUTHORITY."

The reason for introducing the word Waterways is that whatever soil escapes the expert conservation farmer will, under present conditions, find its way into the waterways—and from thence into the sea and become a total loss to the Continent.



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Photo: Architectural and Engineering Photographic Service



Photo: Architectural and Engineering Photographic Service

If, on the other hand, the soil reaches one of our great Irrigation Dams, it will serve no useful purpose until the dam is completely silted up when it will become a gigantic siltation weir with obvious benefits to the waterway that serves it.

This being so, it may be prudent to ask if it would not be better to build 10,000 small weirs at an average cost of £2,000, than *one* costing two millions, which would take 10,000 times longer to silt up?

We know that rivers in the Polar Halves of the temperate zones are regimed. They flow perennially and react to Mild Flood Intensities. A sudden disruption of their normal behaviour is well nigh impossible, but in zones of intermittent rainfall—the zone in which deserts occur—and in which we exist, flooding is intense, powerful and destructive, scour at intervals sets retrogressive erosion in motion and river depression follows with desert conditions in its wake.

With our waterways in their present depressed and neglected state, it is obvious that the balance of nature has been upset—the waterplane has been lowered, we are left with two alternatives, to reduce the level of the soil to the existing water level, or to raise the water level to the soil. Nature is to-day

busy on the first alternative and I submit it is the duty of the coming generation to correct it by inducing her to adopt the alternative.

Like other human activities, Soil Erosion calls for planning, in which the collection and correlation of historical and technical data as well as observed phenomena are essential preliminaries.

Every avenue of thought on this subject should be explored and no expense spared in making full scale experiments of any device or measure that may help to save our soil and conserve our rainfall.

I have dealt with this subject at length for the simple reason that unless our Soil and Water Conservation Plan succeeds, other forms of planning must fail. The conservation of the Earth's natural resources and the production of food are not merely national problems, they are world problems to-day and it behoves the new generation of professional men in Art, Science, Engineering, Agriculture, Medicine, and Architecture, to have this subject in mind during their ordinary vocation in the hope that in one way or another they may contribute to the great endeavour that *has* to be made to preserve the Human Race.

## THE HISTORIC BUILDINGS OF JOHANNESBURG - 6

By Cyril A. Stoloff, Dip. Arch. III

### MEISCHKE'S BUILDINGS



Although there has been a previous double-storeyed wood and iron building on this site as far back as 1887, it is still deemed suitable to consider the present building as falling under the term "historic."

Situated on the corner of Market and Harrison Streets, it has as its neighbours many of Johannesburg's most historic buildings. It was constructed at the same time as the first portion of the City Hall opposite, in 1911, and according to available records, by the same builder, who used a similar type of stone in the window surrounds.

Meischke's Building is possessive of a certain dignity not found in other buildings of the same period, and this is no doubt due to the extensive use of the very fine red brick,

which has weathered extremely well. This mellow brickwork, together with vertical accents in the way of light grey coloured stone window surrounds and crowning arched pediments, has imparted a Swedish character to the façade.

The building consists of shops on the ground floor, and offices on the upper floors. In the early days of the city, just after Union, these offices were considered among the finest available, and were noted for their "elegant appointments and up-to-date fittings."

The original double-storeyed edifice faded into the famous Market Square and Market Hall, which have now given place to the City Hall, Cenotaph and Gardens.

# "ARCHITECTURE IN SOUTH AFRICA TO-DAY"

"Architecture in South Africa To-day," an exhibition arranged by the Students' Architectural Society, was displayed at the Johannesburg Public Library, and later transferred to the University of the Witwatersrand. The exhibition comprised photographs of some of the best contemporary architectural work in South Africa, and we feel that it compares favourably with optimum architectural standards the world over. It was the aim of this exhibition to survey and demonstrate the forms modern architecture is assuming, thereby enabling the public to appreciate the magnitude of the achievements of our country's architects: for it is only by this understanding that a unity of outlook between architects and the public can be achieved. Without this unity — the strongest bond between architectural producer and consumer — the architect is out of touch with society, and can never adequately fulfil his social function. Architecture is of a necessity a reciprocal phenomenon, and it was the aim of the exhibition to encourage this reciprocity between architect and public.

The part which Architecture plays in the development of Society and the growth of a "better world" is inadequately comprehended, and if the general public realized more fully the vital role architecture plays in their daily lives, their tolerance of dilettante architects, and their encouragement of jerry builders who will "draw you a plan," alike, would vanish. When it is realized what a tremendous influence architecture has upon the physical aspects of daily life, with its concomitant reactions upon our mental health and condition, that is to say when it is realized how the activities of architects affect our physical and mental well-being, the vast power of architecture for good, and, it must be emphasized, for evil, stands out in its stark reality. In our exhibition we have shown how, when given the opportunity, South African architects have used this power for the greatest good. The various sections of the exhibition stressed that there is not a branch of human activity in daily life but can become easier, happier, more pleasant, when a suitable environment is created for its accomplishment. Better living and better working conditions are found in the houses, flats, offices and factories which have received that careful attention and specialized knowledge in which the architect is trained.

School facilities increase, hospitals become more efficient, theatres form an adequate setting for entertainment when properly conceived and designed. Architecture in every sphere has enormous potentialities. For these potentialities to come to fruition requires an adequate demand and encouragement from the general public. The spirit and form of society in this country require a setting for living which must be conceived in the same spirit, and this survey of South African architecture shows that South African architects are capable

of interpreting our needs and demands for a physical environment suitable for twentieth century living.

The New Architecture in South Africa, founded on the cultural heritage of the Cape Dutch Architecture of the Peninsula, and the Baker influence in the Transvaal, sprang to life in the thirties, inspired and vitalized by the dynamic theories of Walter Gropius, Le Corbusier and Mies van der Rohe, the leading European propounders of the "New Idea." It flourished first and most vigorously in Johannesburg, where perhaps the economic and social phenomena were most akin to industrialized Europe. When at first architects, led by the late Dr. Rex Martienssen, and later enlightened members of the public realized the essential honesty and logic of the new approach to architecture the unfamiliar forms obtained a greater degree of recognition. In the sphere of domestic architecture the first experiments in contemporary design were attempted, and this early work, though not without fault due to neglect of local climatic conditions and the inadequacy of South African building technique, nevertheless made a clean break with the revivalists and traditionalists who followed what has been called the "architectural Indian summer" of the Baker School. A new and more vital era of South African Architecture had been ushered in. It is understandable that in domestic work the new architecture became most widely accepted, for individual metabolism is less sluggish than conservative officialdom, and individuals are more amenable to new ideas, and find their assimilation more easy. However, commerce was not slow to realize that a functional approach and rational planning pay dividends, and so, in flats, office blocks, factories and industrial establishments we find that the new approach has been welcomed. It is only in the official sphere, with the notable exceptions of education and hospital authorities, that contemporary design has not been accepted. However, an indication of what can be achieved in official architecture in the contemporary idiom has been given by the extremely fine official architecture of Brazil.

Notwithstanding its widespread influence in other spheres, it is in housing that architecture touches the life of every man most deeply. Though the modern movement has made its greatest advance in the field of domestic architecture, yet the fact remains that the great majority of European houses, and certainly of non-European houses, do not come from the architect's hand, with lamentable results that are obvious if one studies the physical environment of our ill-housed and unhoused masses. It must be recognised that the great bulk of our people cannot afford the luxury of a "tailor-made" house, and yet, if proper standards of health and housing are to obtain in South Africa, it is essential that all homes be architect-designed, that is, designed with the necessary expert

knowledge. It is only in large scale repetitive production of architect-designed dwellings that homes of sufficient quality and in sufficient quantity can be provided for our people. Cost is always a stumbling block to these schemes. It is understood that costs, and thus rents, must bear a direct relationship to the income of the tenants, but it must be emphasized by architects that there are certain minimum satisfactory standards, and if it is impossible to produce a home within the attainment of the lower income groups, then either these dwellings must be subsidized, or the income of the tenant must be raised proportionately to his cost of living. Any building programme which provides insufficient and inadequate accommodation and amenity must be strenuously guarded against. These are social and economic factors which limit to a great degree the architect's ability to create a "better world."

The architect in South Africa to-day is thus faced with two main problems, on whose solution depends the full realization of the potential of architecture. He must work for a fuller understanding of the new architecture by the people, whom he serves, and he must strive for the implementation of those standards of architecture which are essential for the physical and mental well-being of the community. Architecture in South Africa to-day is a potentially progressive force in the development of a better society. It must overcome its obstacles, and make even greater strides forward.

GILBERT HERBERT,

Chairman, Students' Architectural Society,

## COMMENTARY

It is the aim of this review to state what are considered by the author to be a number of serious disadvantages in the above exhibition. The main objection being, of course, that the underlying thesis of the exhibition was not emphasized sufficiently or lucidly.

Briefly, the Exhibition consisted of photographs arranged into a number of sections representing the work of contemporary architects in the spheres of:— University Architecture, Housing, Flats, Hospitals, Office Buildings, Factories and Shops.

The examples included represented work mainly from the area of the Witwatersrand, with selected examples from the Cape and Pretoria.

It is held that, primarily, the purpose of an exhibition is to present in a lucid and unified manner a certain given subject. This representation should be of such a standard that any visitor, be he well informed or not, should readily grasp and subsequently trace the sequence through different stages of presentation.

The basis of the arrangement of the subject in the "Architecture in South Africa To-day" exhibition was the photographs, accompanied by pertinent notes on the problem facing



A general view of the Exhibition in the University Buildings.

the architect and the expression of his intentions relevant to the particular work photographed.

It is understood that the photographic nature of the exhibition in itself limited the presentation of architecture in South Africa, and that time would not allow of the students preparing presentation drawings of the selected examples.

Initially it is felt that the aim was not sufficiently stated and that the notes to the photographs were treated in so many different ways that the unity of the exhibition was marred. It was difficult to study details and leave with an understanding of what was supposed to have been conveyed.

Had the authors stated the fundamentals of an approach to contemporary architecture, the requirements of a satisfactory environment in South Africa, and the means at the disposal of the architect, the exhibition would have gained in significance, historically, to the student and to the casual visitor, thus achieving a clearer statement on Architecture in this country to-day.

## PRESS REPORTS

An exhibition of photographs representing "Architecture in South Africa To-day," was opened by the Mayor of Johannesburg, Mrs. J. McPherson, in the lecture room of the Johannesburg Public Library yesterday.

The exhibition is being staged by the Students' Architectural Society of the University of the Witwatersrand with the object of fostering a closer understanding between architects and the public.

The photographs cover a wide field of modern architectural design, embracing private houses, flats, office buildings, cinemas, factories, churches, hospitals and communal housing schemes.

One of the most striking exhibits is the architect's perspective sketch of a group of national houses, in which the dwellings on the north side of the street face north, with their rear elevations facing the street. The notes to this sketch defend the idea as being strictly practical and practicable.

The essential fact about all the exhibits is that they represent structures in being, and are not merely the architect's fanciful dream. Thus the exhibition is a forceful commentary on the architectural pattern of the modern city of Johannesburg.

Most of the leading Johannesburg and Cape architects are represented, and the untrammelled, functional design predominates.

### CLEAN DESIGN

The influence of the Swiss-Frenchman, Le Corbusier, is commented on in a note appended to a photograph of Aiton Court, Johannesburg, which was one of the first erected in the city to observe his precepts of clean, rectilinear design.

The private homes are most arresting, with an aseptic atmosphere that does not appear to detract in any way from their comfort as human dwellings. The trends are governed by modern principles of structural engineering and the attributes of new materials and textures.

The influence of modern architecture on public buildings is exemplified by an elevation of the municipal transformer station at Highlands North, which has grace and rhythm strictly in keeping with its function.

"RAND DAILY MAIL"

„Suid-Afrika was op argitektoniese gebied tot onlangs betreklik agter, maar as mens vandag die moderne geboue in Johannesburg vergelyk met wat sestig jaar gelede hier was, dan sou ek graag wil sien hoe die argitektuur sal ontwikkel wees ná nog sestig jaar."

In haar formele opening van die uitstalling van Suid-Afrikaanse argitektuur deur die Argitektervereniging van die studente van Universiteit Witwatersrand, het burgermeesteres mev. Jesse McPherson gistermiddag in die lesingsaal van die biblioteek die studente geluggewens met hierdie moedige poging om die publiek te toon wat Suid-Afrikaanse argitektuur is.

„Ek het groot vertroue in die jeug en ek is oortuig daarvan dat ons met hierdie gees in die jeug 'n skitterende toekoms tegemoet gaan," het sy gesê.

Die voorsitter, mnr. G. Herbert, het verduidelik dat hierdie uitstalling ten doel het om die publiek te leer om die waarde van argitektuur te besef en veral om die Suid-Afrikaanse argitektuur te waardeer.

Die uitslag wat bestaan uit foto's, boeke en enkele modelle is verteenwoordigend van die vernaamste afdelings van die moderne argitek-

tuur en al die geboue wat vertoon word, is die werk van Suid-Afrikaanse argitekte. Dit sluit in hospitale, nywerheidsgeboue, kantore, woonstelle, behuuskemas, woonhuise, ens.

Die uitstalling wat 'n wys belangstelling geniet het met die opening gistermiddag, sal tot Saterdag in die lesingsaal van die biblioteek duur, waarna dit oorgeplaas sal word na die Universiteit. Van maandagaand af word daar dan in die Universiteit 'n reeks lesings oor die ontwikkeling van argitektuur in Suid-Afrika gehou.

"Die Vaderland."

The following is a report of the Symposium held in conjunction with the Exhibition:

The shoddy and ill-kept appearance of many modern buildings, and the lack of craftsmanship shown by some architects, were commented on by Mr. M. Simon at a symposium held last night at the University of the Witwatersrand. The subject of the symposium was Architecture in South Africa.

Contemporary architecture had progressed in South Africa as far as it could in the face of a backward economic and social system, said Mr. Simon. There were strong indications, however, of a change. The process of industrialisation was drawing large additional population to the urban centres.

"While architecture is to-day, broadly speaking, serving one type of clientele, to-morrow it may be serving an entirely different clientele—the working class. To-morrow we may be the builders for the common man.

"Modern architects have failed to reach a high stage of technical efficiency. Much ill-will towards the modern movement on the part of the general public has been engendered by the shoddy and ill-kept appearance of very modern buildings. Cracks, leaks, and other structural defects seem persistently to accumulate in contemporary buildings."

There also appeared to be lacking a love and understanding of materials. Much harshness and coarseness could be obviated by a renewal of feeling for materials—both new and finished products, Mr. Simon said.

"The craftsmanship element just is not there. I often wonder how many of our modern architects have themselves worked with materials such as wood, metal and brick. We have much to learn from the older members of our profession."

Mr. N. L. Hanson said that:

In its South African context, modern architecture had been unable to fulfil its functional objectives. And technically, the building industry was not capable of reaching the standard required by this modern idiom of building. Rushing that industry beyond its capacity was a fault to be laid at the door of architects.

Professor G. E. Pearce gave an historical survey of architecture in South Africa, from the time of the arrival at the Cape of Jan van Riebeeck to the Herbert Baker period. Architecture, he said, was at its lowest ebb from 1830 to 1890.

"RAND DAILY MAIL"



# CONTEMPORARY JOURNALS

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## "THE ARCHITECTURAL REVIEW," September, 1946.

This is a special number on Switzerland, planned to coincide with the London exhibition of Swiss Architecture. Dr. Peter Meyer's long and interesting article *Journey Through Time* is a broad but penetrating survey of Switzerland and its Architecture—"a centre where all is clean and neat and freedom lives on nodding terms with order."

This is followed by a comprehensive review of the new buildings in Switzerland, including churches, hospitals, universities, schools, public buildings, sports and entertainment facilities, offices, flats and housing. The freshness and attractive simplicity of the architecture, like that in Sweden, strikes a progressive and altogether delightful note; one which we have come to regard as indicative of the best of contemporary European architecture.

## "THE ARCHITECTURAL FORUM," September, 1946.

In the new Benjamin Electric Laboratory, the architects Perkins and Wills have packed a wealth of structural and mechanical ingenuity into a building of brick, glass, concrete and steel.

Considerable space is given to the illustration, by means of layouts, floor plans and perspectives, of the unique planning programme sponsored by the Michael Reese Hospital for the development of seven square miles of Chicago slums. The Illinois Technical Institute, under the direction of Mies van der Rohe, is also replanning 12 city blocks for an expanded campus and staff and student housing.

A series of prototype designs for bowling alleys are included, as well as a remodelled office building for U.S. Plywood Corporation.

A biography of William Leonard Pereira, one of America's most successful young architects; and the illustrations of the Jaraqua Hotel in the Dominican Republic conclude the issue.

## "ARCHITECTURAL REVIEW," September, 1946.

Richard Neutra's comprehensive study, *Sea-Land Transfers*, is featured, as well as some houses. Design Types Study 117 is on *Drive in Restaurants and Luncheonettes*.

"Architectural Engineering" includes articles on *Black Light and Color Magic*, *Floor Heating in Hanger Design*, *Trends in Marine Terminal Design*, and the *Home Darkroom*.

## "PROGRESSIVE ARCHITECTURE—PENCIL POINTS," September, 1946.

The greater part of this issue is devoted to a very complete presentation of the proposals for Brazil's new town, Cidado Dos Motores. It is a town for 25,000 inhabitants of four neighbourhoods, civic centre and industrial zone, so co-ordinated that the industrial, agricultural and urban developments will have a planned relationship in the region. Much originality and ingenuity is displayed both in the town plan and in the buildings designed to provide heat protection and good ventilation.

"Brookhouse" is an imaginative retreat in New Jersey which has a most attractive timber footbridge linking it to the main house. "Materials and Methods" features Part II of Ben John Small's article on *Waterproofing and Dampproofing*, *Modular Furniture* of a new and attractive type, and *Electric Radiant Heating*, a discussion of a system of electrically powered radiant heating panels for houses.



## NOTES AND NEWS

### UNDERPINNING

On the 23rd July, 1945, I gave an opinion to consultant in connection with the question of underpinning of adjacent property when erecting a new building. I am now shown a copy of a letter written by Mr. R. Howden to the "Architectural Record" as a result of this opinion. The letter refers to conversations with persons now judges or ex-judges and also an excerpt from the case of *United Building Society v. Lennon, Ltd.* (1934 A.D. 14934) the excerpt being taken from pages 160 and 161. The facts of that case were that the Plaintiff claimed damages from the defendants on the ground that they had negligently demolished a certain building which supported another building, which in turn supported the building occupied by the Plaintiff, the demolition resulting in the removal of such support. The Plaintiff neither asserted nor proved that a right of support existed: his case was that the building he occupied had been supported by the building demolished and that the demolition took place without the provision of the same support in a substituted form. It was held that in the particular circumstances there had been no negligence whatsoever. Now it is clear that the case had nothing to do with the question of lateral support of grounds by ground. It was a case of lateral support of building against building. In the latter case the law is that ownership of a building does not by itself create any right of support. Such a right must be acquired by contract, by servitude or by prescription. In *Lennon's case* (supra) such a right was not claimed although the Plaintiff tried to amend his pleadings to include such an assertion, but was not allowed to do so. The whole case was decided on the assumption of the non-existence of such right, and whether assuming that proposition there was any negligence on the part of the Defendants.

Now in the question of underpinning we are not concerned with the support of one building against another. We are concerned solely with support of land, and there is no doubt whatsoever as stated by *McKerron on Debits* (2nd Ed. page 222) "every landowner has a natural right to lateral and subjacent support for his land . . . in our law it extends to land which has been built upon, provided the buildings are such as might reasonably be put upon the land." See also the authorities quoted in the previous opinion.

*Lennon's case* (supra) has, therefore, nothing whatsoever to do with the question under consideration, and is not an authority inconsistent with the views previously expressed by me and herein reiterated. The crux of the matter is that lateral support of land is something distinct from lateral support of building by building.

There is therefore no justification for the conclusions drawn in the letter under consideration.

HUBERT J. B. VIEYRA.

Chambers,

22/8/46.

### PROVISION OF TELEPHONE SERVICES IN NEW BUILDINGS

The Postmaster-General requests the favour of your perusal of the following notes regarding the provision of wireways for telephone service.

\* \* \*

Most architects, consulting engineers, and building contractors appreciate the necessity for devoting, in the preparation of their plans, as much forethought to telephone service as to electric light and power. The advantages of making adequate provision in advance may be summarised briefly as follows:—

- (1) Damage to walls, floors, and ceilings is avoided.
- (2) Tenants are not harassed by the movements of workmen on the premises, the noise of cutting, drilling, and plugging operations preceding the installation of telephones.
- (3) The Post Office will install the cables and wires in advance of occupancy—provided only that the cableways and wireways are accessible—and will adopt a liberal basis in order to obviate the need for subsequent alterations.
- (4) As telephones are an essential requirement of modern life, tenants prefer accommodation in which service can be provided—and rearrangements made if necessary—rapidly and unobtrusively.

On the other hand, where suitable provision has not been made, it is difficult to avoid defacing walls, floors, and ceilings; unsightly wires or conduits cannot be concealed, and other services which are hidden may be damaged. Moreover, demands for changes in the telephone arrangements may involve a repetition of the damage even in the same room. Under such circumstances the Post Office cannot be expected, and does not undertake, to provide any cables or wires until service has actually been demanded by the individual tenants and the exact requirements are known.

The requirements will necessarily vary with the nature of the building and its probable use, but some suggestions which have been proved satisfactory by experience are appended.

The Department's engineers will welcome the opportunity of discussing the projected arrangements for telephones in any building, and will co-operate gladly during the progress of the work.

### METHODS OF PROVISION

1. CABLE ENTRANCE.—From the point of entry into the building, suitable provision is required to carry the street

cable to the main distribution frame or box. Discussion with the Post Office Engineer will ensure the most economical method. As a general rule a length of 3-inch pipe (internal diameter) should be taken through the foundations not less than 2 feet or more than about 2 feet 6 inches below pavement-level, and should project about 6 inches beyond the buildings on the pavement side. It should afford a straight run for the cable and be so placed that the cable will not be close to gas or water pipes, electric light or power cables or conduits, boilers or ash pits.

2. ACCOMMODATION FOR MAIN DISTRIBUTION FRAME OR BOX. In the larger buildings, where more than about 100 telephones are required, a distribution frame will be necessary, and a small room should be set aside to serve as a "telephone distribution" room. In smaller buildings a distribution box will be mounted on the wall in a position suitable for terminating the entrance cable. Whether a frame or a box will be necessary should be discussed with the Post Office Engineer, but whatever accommodation is allotted should be easy of access, reasonably lighted and ventilated, free from fumes and dust and not exposed to excessive dampness or danger of flooding.

3. VERTICAL CABLEWAY.—From the distribution point mentioned in (2) above to the highest floor which will have telephones, a vertical cableway is necessary. In the larger buildings two cableways, and sometimes more, at different points, are required. These runways should be provided in such positions that they pass as nearly as practicable through the centre of the telephone services for which they are intended on each floor. Lift shafts are not suitable for the purpose because access to the cables would involve shutting down the lifts and expose Post Office plant and employees to the risk of damage and accident. Some alternative methods of providing these runways are the following:—

- (a) A chase with a wooden back to which cables can be cleated, and a hinged or screwed cover which is removable over the whole length. The size will vary with the number of telephones expected and the Post Office Engineer should be consulted, but generally the internal dimensions should not be less than 6 inches by 4 inches, and wider chases will be necessary in large buildings.
- (b) A separate cable shaft or chute which will accommodate all cables for telephones, electric light and power, and miscellaneous services. A partition enabling all telephone cables and plant to be kept entirely separate from other services must be provided.
- (c) A pipe or pipes. If one pipe only is provided, the diameter should be decided in collaboration with the Post Office Engineer. As a general rule this method is suitable only for small buildings.

4. FLOOR DISTRIBUTION BOXES.—Whatever form of vertical runway is provided, it must be accessible at each

floor, and secondary distribution boxes should be provided for this purpose, normally with internal dimensions as follows:—

Height, 21 inches; width, 12 inches; depth, 3 inches.

In very large buildings larger boxes may be desirable. In very small blocks of flats it may be possible to dispense with them altogether. All boxes should be placed about 4 feet above floor-level, have wooden backs about  $\frac{3}{4}$ -inch thick, and the doors should fasten but not necessarily lock. In humid coastal areas they should be fitted on the wall surface and not recessed.

5. HORIZONTAL RUNWAYS.—Horizontal cableways or runways are required from the secondary distribution boxes to all rooms where telephones may be required. Some methods of providing these are as follows:—

- (a) Ducts under the floor;
- (b) Pipes under the floor;
- (c) Hollow skirtings along the wall;
- (d) Hollow dados along the wall;
- (e) Chases in the floor;
- (f) Grooved picture or cable rails.

Generally it is desirable to combine two or more of these methods, and one suitable modern practice favours the use of (a) and (b), with the ducts under the floor in rectangular formation for flexible services, and pipes running transversely for fixed services. This system is described in British Standard Specifications Nos. 774 and 815 of 1938. These specifications include full details regarding size and class of ducts, couplings, outlets, stand-pipes, bends, etc., and provide for the use of double or triple channels, so that electric light and power, Post Office telephones and private house telephone systems may be kept entirely separate.

6. GENERAL.—In deciding upon the form of runway to be provided and its dimensions and position, there are some general requirements of importance to be borne in mind:—

- (a) It is not sufficient to allow only for services which are required at the outset. Ample space and outlets should be allowed always for anticipated expansion during the life of the building.
- (b) It is not sufficient to allow only for the bare number of telephones expected. Just as each telephone must have a separate pair of wires for its exclusive use, so a separate pair of wires must be provided for each auxiliary service, such as extensions, private wires, additional sockets, call-back facilities, teleprinters, ringing leads, power leads, etc.
- (c) Telephone wires or cables may not be run in the same pipe or channel of a multi-way duct as any other services. If they are in the same chase, chute, or skirting, they must be separated from electric light and power wires by a partition so that contact is impossible. Telephone distribution boxes should have a reasonable separation from power distribution boxes.

- (d) All metallic conduits and metal fittings which form part of them should be electrically continuous and earthed.
- (e) All conduits should be free from burrs and internal roughness, and, after cutting, all sharp edges should be removed.
- (f) The covers of all under-floor cableways and wireways should be made as close-fitting as possible.
- (g) All large hotels and large business buildings are likely to require private branch exchange facilities. It may be necessary to provide a separate room for the switch-board and associated equipment. In some buildings in business areas this requirement may arise on more than one floor.
- (h) Hotels, clubs, public buildings, and most large residential buildings generally require call office facilities. Cabinets should be provided, or allowed for, in suitable positions.
- (i) In business buildings most telephones are required in desk positions and in some firms a telephone is required on every table. Where under-floor ducts have been provided, standpipes should be allowed for which can be screwed into them, to serve desk positions.
- (j) The use to which the building is put may change. Whatever method is adopted should therefore be flexible, and wireways and cableways should have outlets on a liberal basis.
- (k) Where runways pass from room to room or from corridor to room there should be a pipe or a hole through the intervening wall. It is often necessary to provide communication between telephones in adjoining rooms. As in other cases the size of connecting pipe should be fixed in consultation with the Post Office Engineer, but it may be mentioned that a  $\frac{3}{8}$ -inch diameter pipe is sufficient for one pair of wires only, and generally a diameter of 1 $\frac{1}{4}$ -inch is the minimum which should be provided in through runs.
- (l) Where bends are necessary they should have the maximum radius possible. Elbows should be avoided. In certain cases junction boxes may be necessary.
- (m) Draw-wires should be provided in pipes; during concreting operations pipes and ducts should be plugged so that they do not become blocked.

### C.S.I.R. RESEARCH FELLOWSHIP

" At the instigation of the National Building Research Institute the Council for Scientific and Industrial Research has granted a Research Fellowship in the Department of Quantity Surveying at the University of Pretoria to a post graduate Student of Quantity Surveying for the purpose of investigation into the cost of small houses. The work, if satisfactory, will lead to a Magister Scientia degree in Quantity Surveying over a period of two academic years commencing in March, 1947.

" The grant is in the first place for 1947 and will be for £180 plus travelling expenses, if found necessary, to the extent of £20 and subsistence allowance in such an event to the

extent of £30, i.e., £250 in all. A similar grant may be made for 1948 if progress during 1947 justifies it.

" This Fellowship is open to any student eligible for the Masters' degree, i.e., a student who has the B.Sc. (Q.S.) degree and has had at least three years' experience in the work of a Quantity Surveyor since obtaining the Bachelor degree.

" The final selection will be subject to approval by the C.S.I.R. and the work will be jointly controlled by the University and the N.B.R.I. Publication rights may be reserved. Any one, who is eligible for this Fellowship and interested in this work, is invited to communicate immediately with T. H. Louw, 50 Verlaluis, Pretoria (Telephone 2-5447)."

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