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**1945**

Institutes of South African Architects and the Chapter of South African Quantity Surveyors.
http://hdl.handle.net/10539/23355
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. 1945. 30:1-12 p1-277

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# SOUTH AFRICAN ARCHITECTURAL RECORD

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

PHONE 34-2921 VOLUME THIRTY NUMBER THREE

611, KELVIN HOUSE, 75, MARSHALL STREET, JOHANNESBURG.

JOINT EDITORS: PROFESSOR G. E. PEARSE, W. D. HOWIE

## CONTENTS FOR MARCH 1945

PLAN FOR PLYMOUTH—CITY OF SEADOGS, by J. Paton Watson, M.Inst.C.E., M.Inst.M. and Cy.E., and Patrick Abercrombie, M.A., F.R.I.B.A., P.P.T.P.I. ... 37

WHITHER ARCHITECTURE? A Symposium held under the auspices of the Architectural Students' Society, University of the Witwatersrand, Johannesburg.

Paper read by W. D. Howie, B.Arch., M.I.A. ... 40

Paper read by A. S. Furner, F.R.I.B.A., M.I.A. ... 42

Resumé of lecture delivered by D. M. Cowin, A.R.I.B.A., M.I.A. ... 45

CAPE PROVINCIAL INSTITUTE OF ARCHITECTS: Annual Report for 1944 ... 47

NATAL PROVINCIAL INSTITUTE OF ARCHITECTS: Annual Report for 1944 ... 48

O.F.S. PROVINCIAL INSTITUTE OF ARCHITECTS: Annual Report for 1944 ... 50

THE STUDENTS' FORUM ... 52

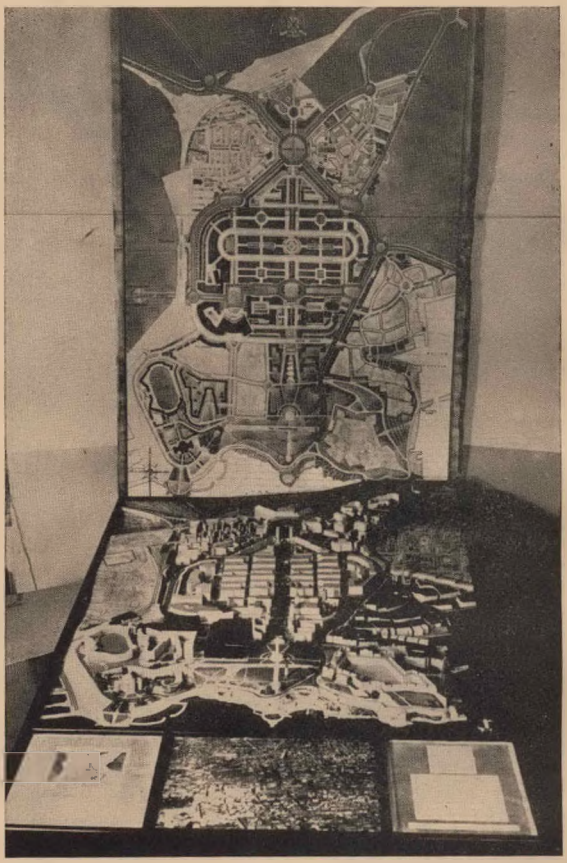
TIMBER-REINFORCED SOREL CEMENT CONCRETE, by A. J. Ockleston, B.E., A.M.Inst.C.E., A.M.I.Struct.E. ... 53

CONTEMPORARY JOURNALS ... 57

PROFESSIONAL NOTES AND NEWS ... 59

The Central Council.
Transvaal Provincial Institute.
Obituary: Mr. H. Kallenbach.
Notices.

The Editors will be glad to consider any MSS., photographs or sketches submitted to them, but they should be accompanied by stamped addressed envelopes for return if unsuitable. In case of loss or injury they cannot hold themselves responsible for MSS., photographs or sketches, and publication in the Journal can alone be taken as evidence of acceptance. The name and address of the owner should be placed on the back of all pictures and MSS. The Institute does not hold itself responsible for the opinions expressed by contributors. Annual subscription £1 1s. direct from the Secretary.



PLAN AND MODEL OF THE CITY OF PLYMOUTH

# PLAN FOR PLYMOUTH—CITY OF SEADOGS

**THE PLAN FOR THE RECONSTRUCTION OF BRITAIN'S MUCH-BLITZED WEST COUNTRY PORT ADOPTS THE "PRECINCT" PRINCIPLE**

*By J. Paton Watson, M.Inst.C.E. and M.Inst.M. & Cy.E. Engineer and Surveyor to the City of Plymouth, who was responsible in consultation with Professor Abercrombie for the preparation of Plymouth's Plan; and Patrick Abercrombie, M.A., F.R.I.B.A., P.P.T.P.I., Britain's foremost expert in town planning and reconstruction.*

Plymouth, much-blitzed home of the Seadogs and the Pilgrim Fathers, is first of Britain's provincial towns to follow London's example and produce a plan for reconstruction. The plan combines newest features of town planning with the preservation of historic monuments.

* * *

A Plan for Plymouth was necessary even before World War II, because much of the property in the central areas had reached a ripe old age and was ready for rebuilding. The City Council, however, hesitated at that time to prescribe even modest improvements because of the high values created by a population of a quarter of a million and the shopping industry was convinced that their prosperity depended on the congestion and bustle which existed in the city's centre.

In the Spring of 1941, however, the citizens saw most of what they knew of Plymouth and Devonport destroyed after some 40 air raids; and the City Council, realising the opportunity presented to them, called for a report on the possibility of rebuilding the city on modern lines. The "Plan for Plymouth" was the result.

Of the business and industrial belt of 900 acres, 300 acres have suffered from "blitz." Two hundred and twenty acres of this, adjacent to the city's basic industrial centre, the dockyard, is required for adequate expansion and to relieve existing congestion. The densities in this belt were as high as 256 persons per acre, and the Plan proposes to reduce this density to 100 persons per acre. A considerable disturbance of population must therefore obviously result, and their decentralisation to existing suburbs is recommended.

An attempt has been made, within the limits of the natural topography of the district, which consists of hills and valleys running east and west, to strike a proper balance between its various needs and interests, such as industry, communications, community groups, housing, open spaces, and public services.

It was obvious that any planning of the actual city must have repercussions in the surrounding area and that the claims of agriculture, as well as housing, would be of importance; and the report therefore deals with an area of approximately 140 square miles.

The occupations of the town are sufficiently stable to justify long-term planning, for as long as the Navy exists, the principal industry remains; although 21% of its insurable population, totalling 66,000, were in pre-war days engaged in the distributive trades—proof that the city was a popular regional shopping centre.

The expansion or decentralisation taking place between World War I and II consisted of "sprawl" over the countryside and miles of ribbon development. It is one of the aims of the present Plan to avoid this, but, with the proposed disturbance of some 64,000 of the citizens, it is necessary after building on the available land within the city to find accommodation for 40,000 of them beyond the present city boundaries. In conjunction with Britain's Ministry of Agriculture, areas have been selected to take this overspill. It is possible by simply building up the areas within the sprawling suburbs, while retaining a density of 25 persons per acre, to provide for some 70,000 additional people; but some new housing areas will be necessary adjacent to the present city boundary, as certain existing agricultural areas within the city boundary are left as desirable dairy units.

## ENCOURAGING COMMUNITY LIFE.

By filling up the suburban communities, the establishment and maintenance of community life will be encouraged, although many people will still no doubt find employment and be attracted for shopping and main amusements to the city centre.

The battles which have been waged from the air and brought into Britain's very households have revived to a very considerable extent the spirit of mutual aid existing in the streets amongst the common citizens of even the most industrialised towns—particularly so in those cities which have been subject to devastation; and in a city such as Plymouth, where the traditions and heroism of its citizens are recorded in the annals of history, one would expect to find ready response to the re-sowing of the seeds of community life.

But as cities have grown to an immense size, the community

of human beings living together for mutual intercourse has become swallowed up in the mass, and the growth, as it has spread over the surrounding country, has engulfed the smaller village communities. It is, therefore, necessary to disentangle surviving tendencies towards community grouping, as what was once the centre of local life may now be a perilous shopping centre on a through traffic route.

Plymouth's Plan provides for the division of the city and its suburbs into 18 neighbourhoods of from 6,000 to 10,000 people around five community centres, one of the latter being the cultural centre. This is a re-creation of the village green in every neighbourhood, with church, schools, shops, pubs, health centre, youth club, police station and library grouped around it. It is felt that in this way the spirit of mutual aid and lease-lend, which is more evident in Britain's war-battered communities than for many generations, would be encouraged and kept alive.

## ROAD SYSTEM.

The use of mechanical transport on a mediæval road system led in pre-war days to alarming casualties. The number of road vehicles will, no doubt, increase rapidly after the war, and a properly planned road system is essential. Segregation of different kinds of traffic would be an important feature of such a system, and the report recommends double-track roads for all main roads, separate cycle ways and footpaths remote altogether from the road network. It also recommends a system of inner and outer ring roads to relieve the congestion which formerly clogged the main shopping streets of Plymouth.

A bridge on the ring road over the River Tamar at Saltash gives access to Cornwall and the west and would increase business and holiday travel to and from the city; similarly, a bridge over the River Tavy at Lopwell gives a route to the vegetable and fruit-growing area of Bere Alston and Bere Ferrers, at present almost cut off from Plymouth except by railway.

The central area, which will include the business centre formerly functioning as a satellite at Devonport, occupies an area of 190 acres. Except for the City of London, it is probably the most "blitzed" area in Britain; one or two isolated buildings stand up stark and bare, otherwise there is little property of value to purchase. Here will be located the business, shopping and civic centre of the city. It is difficult to imagine a better place for a new city centre, protected as it is to the south by the Hoe—the citizens' promenade and playground throughout the ages.

The backbone of the plan is a broad, undulating parkway, leading due north and south from the Station to the Hoe, with the Eddystone's flashing light, unbroken for 200 years, on the marine horizon and Smeaton's uprooted lighthouse on the Hoe. Here in this Sound, on the way to exile, lay a former conqueror—Napoleon—and many famous armies have rested there en route to war.

## THE "PRECINCT" PRINCIPLE.

The ancients and mediævals appreciated and made full use of the quietude and restful atmosphere engendered by keeping their churches and temples monasteries and places of learning away from the hurly-burly of the main thoroughfares. In comparatively modern times, Lincoln's Inn Fields and The Temple in London are embodiments of the same principle. Plymouth's proposed centre also contains a number of such precincts, quiet but easily accessible. The shops are located on the level land in the centre, where they were before. All through traffic and bus routes are excluded, yet no shop will be more than 200 yards from a bus stop.

In this way the functions of city life are arranged in the places most suited for them, so that the town may become a good place in which to dwell, work, play and do business. After all, the housewife does not keep the cooker in the bedroom nor the wash-tub in the living room. Why, therefore, should not towns emulate the good example of a tidy home and place their activities and industries in the places best suited for them, instead of in the tangle and jumble which form the centre of almost all large cities to-day?

There is also a civic and theatre precinct, with a small banking area adjacent. The old Tudor town to the east will be preserved as a historic "precinct," and an industrial area is provided for around the docks to the west. There is also a feature hitherto novel to all save university towns, namely, a cultural area; this is on the higher slopes to the north, overlooking the Centre, with the busy traffic excluded.

The ancient town of Sutton nestling to the east of the new Centre has so far escaped extensive damage. It is from this small township, established in the thirteenth century with a fleet of 400 vessels attached to the port, that the present city, with its population of a quarter of a million, has grown. It was the home of Drake, of Hawkins and Raleigh—who first had the vision to see Devonport's future importance as a naval base. The Mayflower Stone stands at the entrance to Sutton Pool, and many of Britain's gallant allies from America and New Zealand stand there to-day, paying homage to those pioneers who sailed on the "Mayflower" and "Tory."

This will form an unique neighbourhood, surrounded by a town wall similar to the Royal Citadel fortifications, and those at Ypres and bombed Valetta. It is not, however, intended to re-create it as a fake Elizabethan town; but rather with the use of old materials gradually to reconstruct it on its old basis as a pleasant little port and harbour with an attractive community centre.

## AGRICULTURAL CONSIDERATIONS.

Agricultural considerations have been given a prime position in the Plan, and a report is included by Dr. Dudley Stamp, Chief Adviser on Rural Land Utilisation to Britain's Ministry of Agriculture, on soil fertility and the relation between agri-

culture and the lay-out of the town. The report not only surveys the present agricultural position in the locality, but also puts forward a plan for agricultural development which gives due consideration to other aspects of the scheme and which zones the land in terms of rural value to the community, and not in monetary values judged by the standards of the industrial or residential areas. The report points out that where there is good land, its quality depends on such factors as climate, slope, elevation and management rather than on inherent soil fertility, and indicates, among other things, the necessity of preserving the steep protected valleys along the tidal estuaries which are free from early frosts and are suitable for intensive early cropping. The report aims at the avoidance of the past practice of taking the best land only for residential purposes and leaving farm units uneconomic. The units in this region vary from 60 to 100 acres.

Although the city and region suffer from the lack of secured open space, an attempt has been made in the Plan to show a continuous system of parkways along the foreshore and leading to and from the proposed north circular parkway and bye-pass. Fortunately a few Devon lanes still exist within the city, and by linking those to the park system and by the preservation of tracks and paths, it is hoped that the city pedestrians may indulge in a little pleasant, absent-minded wandering without peril.

No city could have a better natural setting than Plymouth, with its surrounding waterways and moorlands, for the adequate use of leisure, and the authors of the Plan feel that, with the suggested provision for youth in the parks and recreation grounds, and the proposed facilities for community life, the city may well become one of the most pleasant abodes for the full enjoyment of life.

They realise, of course, that the translation of the Plan from paper into fact will depend on the enlightened judgment of the public and the city fathers. It is an encouraging sign that the exhibition staged for three weeks in connection with the Plan attracted no fewer than 40,000 of the war-time population of 140,000.



Proposed traffic centre at the Main Railway Station.



Sketch of the proposed shopping centre for rebuilt Plymouth. BELOW: Plymouth to-day: the blitzed area, George Street.



# WHITHER ARCHITECTURE?

A SYMPOSIUM HELD UNDER THE AUSPICES OF THE ARCHITECTURAL STUDENTS' SOCIETY, UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG, ON MAR. 15, 1945

**PAPER READ BY W. D. HOWIE, B.Arch., M.I.A.**

The approach I have adopted in this paper is based on the readily discernible trends to which present-day circumstances point, on the drawing of inferences from past experience, and, in mentioning the existing problems which beset the architect, to hazard a guess as to future developments.

* * *

In his paper, "The Future of Architectural Education," which many of you heard and others read, Mr. Hanson painted a clear picture of the contemporary circumstances as affecting the architect and indicated the direction in which architecture is heading. He affirmed that the rising social consciousness was demanding of architects the fullest understanding of their "human material," that the tendency to see our problems from the broad national viewpoint is contributing to a fuller appreciation of the present shortcomings and limitations, and the clearer conception of future possibilities. He drew attention to the mounting complexity of building operations, which, coupled with the changing structure of society, was demanding an ever increasing variety of specialised knowledge on the part of the architect, not only in respect of building technology, but in the capacities in which an architect may reasonably be expected to function—in private practice, in public service, as a physical planner and as a technical administrator. He made it quite clear from the arguments put forward that "only by specialisation will the architect be able to maintain his status in society and be productively employed in a rôle of primary value."

No longer can the genius of a Brunelleschi or a Jean-de-Loup master all the detailed and technical processes which go to create a contemporary structure and fully grasp all the social and economic ramifications of present-day architecture. Nor can a single architect, engineer or planner build a city or solve the problems raised by the mechanisation of our environment. Another facet of our problem glitters with the reflection of the agglomeration of unco-ordinated and often dissociated parts which comprise the building industry to-day, parts which are straining in different directions, aggravated in this country by our dependance on overseas industry. If in no other sphere, the building industry, created out of fundamental social necessity and designed to shape our whole environment, has to-day fallen far short of legitimate demands in the sphere of housing, not only in quantity, but in quality and cost as well.

Recently Mr. N. W. Gallagher, an executive member of the Federation of Masters Builders, and a member of the Institute, urged that the Government face up to its responsibilities in this national problem by co-ordinating and directing building for the next ten years on the basis of defined schedule and priority. This, it was suggested, would contribute to a stabilisation and development of an inadequate and in great part inefficient labour force. A year ago, the then retiring President-in-Chief of the Institute, Mr. D. S. Haddon, also made a plea on somewhat similar lines when he said, "In respect of the building industry, a central organisation for building must be set up with Government consent and support. Its primary duty, and perhaps its only duty for some years to come, must be to evolve and perfect a system which will collect and collate the building needs of the people, control the execution of the work evenly and in established priorities over the whole country, to the end that efficiency and speed will result; that labour will be continuously employed; that Native labour will find a proper place in the industry; that the present mere listing of building requirements will cease, and that a planned order of things will come into being."

* * *

But these moves refer to merely the constructional aspects, and there are others. The necessity for the co-ordination of the arts and science of building has long been recognised. As early as 1907 the German "Werkbund" sought to improve architecture and the crafts by the co-operative effort of architects, artists, craftsmen and industrialists. The Bauhaus, with its instruction in planning and architecture and training in the crafts of wood-, metal- and glasswork, in weaving and pottery, which both practised architecture and created patterns for mass production, was characterised by the compounding of art and science for the benefit of building. In another sphere, the Design Research Unit, under Herbert Read, was recently established in England for the purpose of fostering the co-operation between artists and designers and industry. In a much wider sphere the technical planning bodies, with their thousands of collaborators and the "regional

planning trusts," function in the Soviet Union. Only recently, too, a proposal has originated in America to establish an Architectural Centre, which is intended to be " . . . an institution for the investigation and study of human, social, economic and technical aspects of building; for the working out of sound and basic solutions to the diverse and complex problems confronting planning and architecture . . . . to guide public understanding of architecture, to aid private practice, and to carry out large scale works beyond the scope of small private firms."

I have quoted these examples to show the necessity for co-ordination in both the planning and the constructional side of architecture; to show the broad scope of contemporary planning; the necessity for recognising the influence of technics and the social re-adjustment to the machine; also, that the conception is well founded that architecture as we know it to-day is becoming more and more the object of specialisation, and co-ordination of the work of the architect, engineer and the planner, not excluding that of the manufacturer and the builder.

* * *

The development of prefabrication, of new materials and methods is bound to have an effect on building in this country. To-day there are many nibbling at forms of prefabrication or dry building to speed up and simplify constructional operations, although, up to the present, the limited natural resources, coupled with industrial and economic factors, have mitigated against their successful development. It is anticipated that such developments as plastics and panel heating, and the development of greater simplification and standardisation of essential equipment will have a marked influence on construction, cost and comfort. While we may anticipate sharing these benefits, it seems to me that we shall have to rely on the overseas manufacturer for a very long time, and instead of being able to integrate new materials and methods in our designs, have to rely for the most part on the ubiquitous brick and the reinforced concrete frame. Nevertheless, it is my opinion that some form of prefabrication, possibly steel or plastic, must soon be developed in this country, not only to meet the housing problem on a large scale, but to rationalise, simplify and improve our antiquated and costly building methods. The efficiency of the machine must play a far greater rôle in building construction, with a greater emphasis on dry assembly in place of the time-honoured and laborious wet building methods.

The war has made us aware of our own limited building resources and the appallingly inefficient organisation, methods and labour which characterise building to-day, and in a different way has caused us to attempt to evaluate the work of the pre-war period. We have seen an extensive and beneficial advance in planning procedure, the rejection of meaningless embellishments and an attempt to find valid and straightforward solutions to the many urban problems. But have we succeeded in creating a valid architecture? I think we may affirm that, in spite of many failures, what has been done has served a valuable purpose. It has opened up the field of architectural development and established new standards of living—it was valid in its historic context. It would seem, too, that the ardour and dogmatic enthusiasm which accompanied the introduction of " modern " architecture into this country, while taking full cognisance of formal and aesthetic values, failed to pay sufficient attention to or fully recognise the potentialities and the limitations of building methods and materials. The result has been that too many of these buildings, a large number suffering from the quick return financing policy, have failed to stand up to the rigours of our climate.

Building methods have changed little during the inter-war period, nor is this surprising owing to the relatively severe restrictions imposed by the then existing economic factors alone, although, of course, there has been a continuous improvement in the mechanical and electrical equipment and, more recently as regards this country, interesting developments in reinforced concrete design; and there is evidence of even more drastic changes in equipment. It seems, too, that a long-felt need is likely to be satisfied. Arising out of the Building Control Investigation Section there is now a definite move to establish a building research institutions.

* * *

To-day, however, with war-time limitations and the shortage of essential materials and skilled labour, we face potential post-war developments ill-equipped to meet them. It has been estimated that for housing alone there is a shortage of some 20,000 skilled artisans. Not only do we see the necessity for improvement in the recruitment, training and general conditions of labour in the building industry, but, it seems to me, urgently necessary that, by co-ordinated planning and research, the amount of skilled labour required in house construction be reduced, the emphasis being on site assembly with a reduction and simplification of the present clumsy and, more often than not, inefficient methods.

Within the building industry, too, there is a certain confusion and lack of confidence between the employers and employees. The confusion arises from the increasing complexity of building operations and the necessity for a redivision of trades and skills, and the lack of confidence arises, for the most part, from the manner in which the Defence building programme was conducted, with the resulting urgent demands for buildings on an industry unorganised and unprepared to meet them. Furthermore, and as a direct result, the standard of skill in the building trades has fallen to an appallingly low level, which, coupled with high wages and the difficulties and delays experienced in present-day building, has sent costs skywards, out of all reasonable relation to the social value of the works.

Building has become a luxury possible of attainment only by those earning over £60 per month. The cost of a three-

bedroom house is to-day in the region of £5,000, and the upward spiralling of costs seems to continue unabated.

Building costs must be reduced, and this we may reasonably expect will be brought about by the easing of the supply position with the consequent elimination of many difficulties and delays in the construction; by the increased competition and greater efficiency of labour resulting from the return to civil life of a large number of skilled artisans at present in the Forces. These factors alone should greatly increase the speed and general efficiency of building. But in addition there must be a revision of the present arbitrary standard of individual skill and efficiency, and a progressive organisation for the production and development of skilled labour of whatever colour, coupled with the best methods of industrial and contractual organisation being put into practice by the employers.

The problems are many and complex, but once they are recognised they can and, for the most part, are being tackled, and so, perhaps, the picture is not quite as depressing as I have tended to paint it.

I have avoided mention of possible trends in building aesthetics, for, while there is discernible the emergence of a contemporary indigenous architecture and an increasing awareness of urban aesthetics, it is obvious that form and aesthetics must reflect materials and methods, and unless the latter undergo radical revision little variation can be anticipated in the former.

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**PAPER READ BY A. S. FURNER, F.R.I.B.A., M.I.A.**

I hope no-one this evening expects me to be an architectural prophet. Architecture in general must always conform to the ideals of the building public, and to-day it is a courageous man who will attempt to draw a picture of what we fondly hope will be the "brave new world." All one can hope to do is to consider possible and probable developments and tendencies. In doing this we must remember that the present tends to loom too important in our minds, and that the duties of an architect and the functions of architecture have not remained constant in the history of building. Architecture to-day covers an infinitely wider field than it has ever done in the past, and in considering its future we must bear in mind the fact that it is rapidly passing beyond its old boundaries.

* * *

In the days of Pericles the Athenian architect was essentially a philosopher who preferred to limit his building problem to the perfection of a simple structure and, having apparently little interest in dynamic structure, he deliberately turned away from the arch, the vault and the trussed roof.

The Roman architect, on the contrary, appears to have been essentially a constructor—the builder of vaults, aqueducts and bridges. Perfection of detail meant little to him. He was making a new world, and doubtless considered that the structure was more important than the decor.

In later years the churches, castles and manor houses of the Middle Ages were the work of architect-craftsmen, men who loved and knew intimately the materials of their craft. It was a profound knowledge based on generations of experience and years of practice. Time and cost appear to have been of no account.

In the Renaissance which followed the architect was essentially an artist who expressed his creative urge with equal facility in paint, bronze, marble, jewellery or buildings, and the functions of the buildings were frequently subservient to the aesthetic conception.

The orderly and comparatively simply evolution of architectural development was broken by the confused thought of the nineteenth century following the Napoleonic wars and the industrial revolution. Dividends became more important than lives, and art and architecture became a luxury for the use of the well-to-do.

Architecture based on revivalism was but a poor reflection of the work of the past. The architect had become a dilletanti hunting for inspiration in history—in the words of Gilbert and Sullivan, "a Grosvenor gallery greenery valley je ne sais quoi young man."

This pallid architectural world was plunged into the furnace of 1914.

The world turned back from the war completely disillusioned about the "shibboleths" of the old world. It attempted to throw off the influences of the past and to build a new architecture on new foundations suitable for the new world. This fresh approach to architecture synchronised with the development of reinforced concrete; and the easy and cheap solution of the problem of wide span beams with small columns helped to revolutionise the old ideas and ideals of design.

A great improvement has been achieved by the ruthless removal of revivalism and meaninglessly applied decoration, but certain serious assets have been lost in the process.

New forms of construction have arrived in such numbers and with such speed that the building world has not had time to digest them and, consequently, many methods of construction used to-day are not yet perfected. In earlier times methods of construction were evolved and proved over generations of experience.

Increased facilities in the transport of building material have added to the problem. Previously stone was quarried at the site, bricks made in the adjoining field and timber cut from the owner's spinney. To-day the architect builds with teak from Burma, marble from the quarries of Spezzia, and hardware from the States. He cannot therefore have the same intimate knowledge of the material he is to use as had the architect of the past.

The increased use of mechanical processes has very largely eliminated the craftsman. French polish has driven out hand polish, pressed flettons are used in preference to hand-made sand-faced bricks, the plane has defeated the adze, and we have had no time yet to evolve and perfect a new decor on the new materials.

* * *

Time alone will show whether the very mechanistic and scientific approach to architecture, of the more modern school, will prove to have been in the line of real progress. Will mankind be satisfied for long to live in the cold logical machines of Corbusier? There are indications already of a reaction—no aesthetic idea remains indefinitely popular.

"One of the most curious things," says Somerset Maugham in his book "The Summing Up," "that has forced itself on my notice is that there is no permanence in the judgment of beauty. The museums are full of objects which the most cultivated taste of a period considered beautiful, but which seem to us now worthless; and in my lifetime I have seen the beauty evaporate from poems and pictures, exquisite not so long ago, like the hoar frost before the morning sun."

Elsewhere in the same book he writes: "It may be that the interest that has been taken during recent years in every form of technical experiment in the arts points to the fact that our civilisation is crumbling; the subjects that seemed important to the nineteenth century have lost their interest and artists do not yet see what the great issues are that will affect the generation who will create the civilisation which is in the course of displacing our own."

* * *

The prime interest of the aesthetic world to-day is unquestionably technique—the artist has no inspired message to give to the people, and his energy is given more to the form of expression than to the intellectual content of the work.

The reason is obvious—the world is tired and perplexed—the nations are demanding collective security and the peoples social security. This frame of mind does not appear to be the best recipe for a time of greatness. The Merchant Venturers of the sixteenth century cannot have regarded security as a matter of great moment when they sailed out on their voyages of discovery, nor can the Crusaders have considered their safety paramount before their invasion of the Holy Land.

This weariness and uncertainty is reflected in a great deal of the work of the past few years. There is a quality in modern design which is rather difficult to describe—a certain thinness and an exaggerated delicacy of detail—a smoothness of texture and an over-emphasis of long tenuous lines which is somewhat reminiscent of late Hellenistic Greek architecture, with its extremely elongated Doric columns, of the work of the Roman architects at the time of Diocletian and of the later buildings of the Gothic architects. All these works, while often very beautiful, were the last flickering light of a great period and not the forerunners of a vigorous new style. Any attempt in modern work to be vigorous seems to result in brutal and clumsy designs, as, for example, in certain German war memorials built after the last war and perhaps some of the most recent designs in Russia, such as that for the Palace of the Soviets.

All this appears to be rather depressing, but after two major wars and a social revolution in thirty years what else can be expected?

* * *

After this war there must be a further period of uncertainty and the healing of wounds. But out of the ashes of the old civilisation some phœnix must surely rise with a new culture and a new civilisation and, what the world has not had for over a century, a fixed purpose and a clear ideal.

The architecture of this post-war period, like all others, must follow the dominant ideals of the future peoples and their governments. How far to the political left the world will move no-one can say, but without some form of planning for the betterment of mankind and for the ordered development of his industrial, agricultural and social life it is difficult to see how progress can be made.

Will the future planning of the world be carried out under the dead hand of official departments or under some form of utility companies controlled by the public and assisted only where necessary by government action? Can we solve the problem of democracy and freedom in combination with planning on a big scale?

The recent proposal to form a Regional Committee in the Free State is a sign of an awaking public interest and is an encouraging portent; nor need I enlarge this evening upon the remarkable success recently achieved in the regional planning of the Tennessee Valley.

As I have explained, the function of the architect in history has changed considerably with the passing years, but one function appears to have been common to all periods—the architect was always the planner of the building and the general controller of the various sections of the building operations. The technical problems in planning and structure in modern building demand an ever-increasing knowledge and ability. The present day is undoubtedly a period of testing for the architectural profession as now trained and organised. The days when the architect can be, as his name implies, the chief technician, are over. Will his functions as artist and planner be of sufficient importance in the mind of the public to warrant his continued employment as the leader and organiser of a building project?

Rightly or wrongly, there is a frequently expressed impatience by engineers, industrialists and other members of the building public at the attitude and capacity of our profession, and as architects we must ask ourselves whether this attitude is justified or not. Generally speaking, in this war, the services of architects of the various countries involved have not been used to the greatest advantage. Once again we should find the reason. The mentality illustrated by the old saying, "All the world's queer except me and thee, and thou's a bit queer," will not help us.

The complication of modern manufacturing requirements; of methods of distribution in retail and wholesale businesses; and of recent technical developments are tending to eliminate the architect in many types of building, even from his most essential function of planning, in favour of the specialist.

In America to-day there is growing a class of specialist designers and planners who may or may not be architects. They specialise in certain groups of industrial and commercial types of building. They advertise themselves openly by means of brochures to intending building owners, illustrating schemes carried out by them. There is little doubt that the work of many of these experts is often more acceptable than that of the general architectural practitioner. It is not sufficient to say that if the architect be given the programme his training will enable him to produce the best result. It is in the foreknowledge of the requirements, built on a wide past experience of similar problems, that places the specialist in such a superior position to the architect. It is not always realised that frequently the client has not the necessary knowledge to postulate the best programme, and tries to find the expert who can best tell him what is required.

Many architects to-day are being employed by contractors and consulting engineers. Contractors are forming construction companies and tender for the complete building, including the design, and it must be admitted that very successful results can be and are being thus obtained. It enables all trades—engineers, ventilators, decorators and the other specialists—to get together during the early stages of the designing and eliminate largely the use of specialist consultants and the calling for tenders for important sub-contracts (such as air-conditioning) after the design of the building has been determined. The owner-builder gets his building at a more or less fixed price and is not worried by consultants' fees, which he feels, rather unjustly perhaps, should be included in the architect's work.

As there appears to be every possibility of State planning and planning on a large scale by big corporations, it must be obvious that many architects will be employed on a salary basis. And one must admit that, according to present indications, it will generally be under an engineer. While departmental architecture is generally sound, it is very rarely, if ever, inspiring, and it is difficult to see how it can be.

I think most of us are torn between two ideals, the extremes of which may be put, perhaps rather bluntly, as the ideal of dull but decent design carried out by rigidly controlled departmental planning or a rather haphazard jumble with a few brilliant and inspired masterpieces to lighten the outlook.

In other words, mixing one's metaphors into a magnificent salad, will the coming generations allow the iron hand of red tape to drown the fires of inspiration and genius?

A great deal depends upon the answer to this question. It will determine for one thing the position of the architect in our society and architecture in our life. Is our building to be essentially controlled by the engineer and the technical expert or by the artist? Are our houses to be machines in which to live, with extreme efficiency, or rather pleasant but quite illogical havens of refuge from the outside world? In other words, is architecture to remain an art or become a science? There is, and I hope always will be, a desire for the elusive spirit of beauty and in consequence for the architect. But will the architect be so efficient and reliable that he can convince the public that he is the right man to employ? The building world will doubtless in time find out where the architect can be most efficiently employed, but it may not be in his present position, but very much more closely in contact with the job—more of the architect-constructor of Rome and the architect-craftsman of the Middle Ages, and less of the amateur and dilettanti of the nineteenth century.

A wider knowledge of building problems is needed in the Building Industry generally. Old methods are ineffective and new methods have not been fully considered. It is perhaps rather unfortunate that, at a time when the construction of buildings is becoming so involved and complicated, and when so much study should be given to methods of structure, the architect's energy should be in danger of being diffused over a constantly widening field. Although Architecture, Town Planning and Housing are very closely allied, it is less certain that efficiency in all these sections can be maintained by one

man. Perhaps, as in an examination paper, ONE only should be attempted. Each one is more than a life's work.

I realise that my paper this evening is entirely unsatisfactory. I have answered no questions but have raised many. I think I am like the rest of mankind in that I cannot see the "shape of things to come." But, in the words of a great American architect, we must "remember that our sons and grandsons are going to do things that would stagger us."

A people get the architecture they deserve, and architects are of the people. We can only hope that the brave new world will be one of vigour and vision, for without vision the people will perish.

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**RESUME OF THE LECTURE DELIVERED BY D. M. COWIN, B.Arch., A.R.I.B.A., M.I.A.**

I have chosen to deal with the question from the professional, or more correctly, the practising, aspect; and the Society is to be congratulated upon raising a subject which should be uppermost in the minds of all technicians concerned with the Building Industry. To date there has been little evidence that the general membership of the profession is aware of the changes which will, and must, be made in both the operational and constructional aspects of building, and while the Institute has made repeated representations to the Government, particularly on the question of housing, their efforts have not been assisted by the generally apathetic attitude of our profession towards this country's urgent building problems.

The development of the contemporary style in architecture during the past half century is primarily the result of the adoption of steel and reinforced concrete, while changing social conditions, though they played their part, were, in my opinion, of secondary importance only. Nearing the end of the Second World War, we must look forward to a still further and much greater advance, for again the technician has new materials at his command, of which plastics are but one example. However, it is the increased social consciousness which the war period has brought and is bringing about, which will affect the future of architecture most, and we must prepare for it.

A further significant development which has great bearing on our approach to the architectural problems facing us, is taking place in the fields of industry and commerce. Apart from "State interference," South Africa is rapidly approaching conditions obtaining in America, where it is said that 200 firms control 50% of the output. The creation of monopolies in industry and commerce is held by many, particularly members of the Trade Unions, to be undemocratic and a hindrance to social progress. Without entering into any argument here, we must accept the fact that these conditions do exist, and we must therefore ask ourselves, "What of architecture and architectural practice within this framework?"

In his book, "Fine Building," Maxwell Fry states: "Reconstruction is a work of collaboration. We architects are deficient in our knowledge of industry; the contractors and operatives are not organised to deal efficiently with industrialised buildings. The industrialists are not in tune with the idea of a controlled programme of building, and none of us is sufficiently alive to the importance of the social aspects of the work, so that the framing of the social programme and the technical means of carrying it out are not discussed together in the early stages." In that statement he refers particularly to industry, but his expressions apply equally to all building, and especially to our two immediate and urgent problems of planning (regional, town and country) and housing.

Many and divergent opinions have been advanced by every branch of society on the acute housing shortage, but in spite of the efforts of both the Government and Local Authorities, little has been achieved to date. This is not altogether surprising, because the problem of "where and how" has not even been considered, and only when the services of the technical resources, trained to find an answer to these questions, are utilised, shall we see any real progress. If it cannot supply the complete answer, the architectural profession can at least make a useful contribution, always providing they are properly prepared. We can all satisfy to a degree our clients' individual housing requirements through a process of question and answer, but in designing houses for the masses, who live generally under social and economic conditions quite divorced from our own, can we claim technical competence? The answer is that without research and specialisation we cannot.

Great though the need for housing may be, it is doubtful whether any appreciable number of our profession could be permanently employed on this particular problem, and the necessary inducement to specialisation, which exists in other countries, is lacking here.

A way out of this difficulty lies possibly in the adoption of the "Group System." Mention of this system brings me back to the subject of "Monopoly," for it appears that it can be the salvation of the profession within that system. "Big Business" (in which is included the Gold Mining Industry) in South Africa envisages an extensive industrial building programme on a large scale, and there is evidence that the existing tendency to execute the architectural work departmentally, and not always under the auspices of an architect, will increase. Several mining houses operate in this manner at present, and while, no doubt, the majority of their technical requirements are satisfied, aesthetically the results are of a poor quality. The architectural group can and should have the means to provide function and beauty, which is to-day not generally true of the individual.

Further, the universal adoption of the system will result in the achievement of fine building and the protection of the profession, because the recruiting ground of "Big Business" will be considerably reduced.

The "Group System" to which I have referred I shall describe as "the amalgamation of a limited number of architects operating on a co-operative basis in the practice of town planning and architecture." Here, I believe, lies the future of architecture, as is evidenced by the achievements of such bodies in Great Britain.

The antagonists of the system, mainly members of the older school, it must be admitted, contend that architecture is an individualistic art, without which there could have been no Christopher Wrens or Herbert Bakers. But "autres temps, autres moeures," and under the conditions of social and economic revolution to which I have already referred, this can no longer be true. The great masters of the past were the fortunate few who catered for the needs of a cultured aristocracy. In building and planning of all forms to-day the architect is required to co-ordinate a multiplicity of technical requirements, and this can be more easily achieved by many heads than one.

Apart from the direct benefits which the operation of a Group can offer to town planning and building, the individual members gain many advantages, of which I quote a few:—

(a) The opportunity is afforded to a member to gain practical experience both from the professional, constructional and administrative aspects of building, from his colleagues.

(b) The member gains certain financial security, enabling him to devote greater attention to the solution of his other problems.

(c) The individuals are afforded the opportunity of time for research and overseas travel for study, thus keeping the Group in constant communication with outside developments in the building world.

* * *

No-one in his right mind would attempt to furnish the complete answer to "Whither Architecture?" We can, however, say unequivocally that the development of new techniques and resources must effect a considerable change. The architectural profession has the means and, if the will also, must utilise these new techniques and resources to improve our environment economically, socially, and in the realm of beauty.

*"Leave, then, the dreams of yesterday;*
*You—take the torch of knowledge,*
*Perform a new work among the labour of the centuries,*
*And build the palace of the future. . . . ."*

ASNYK.

# THE CAPE PROVINCIAL INSTITUTE OF ARCHITECTS

*ANNUAL REPORT FOR 1944*

## MEMBERSHIP.

The membership at the close of the year consisted of 120 Practising, 61 Salaried, 10 Retired, 3 Absentee, and 1 Life Member, making a total of 195. The death is recorded with deep regret of Mr. H. Siemerink and Mr. Mello G. Damstra.

## MEETINGS.

The Annual Meeting and fifteen Provincial Committee Meetings, besides numerous Sub-Committee Meetings, were held during the year. At the first meeting of the Committee, Mr. K. V. Commin was re-elected as President, with Mr. B. St. C. Lightfoot as Vice-President, for the year under review.

The following is a record of members' attendances at Provincial Committee Meetings, showing the actual attendances and possible attendances :—

| | Attended | Possible |
|---|---|---|
| E. D. Andrews | 14 | 15 |
| K. V. Commin | 15 | 15 |
| A. S. Cruickshank | 14 | 15 |
| R. E. de Smidt | 13 | 15 |
| L. A. Elsworth | 15 | 15 |
| E. G. Hart | 8 | 15 |
| B. St. C. Lightfoot | 14 | 15 |
| D. F. H. Naude | 11 | 15 |
| H. L. Roberts | 13 | 15 |

It will be seen from the ballot paper sent to members that Mr. Hart has not sought re-election. Mr. Hart has felt that he was unable to carry out his duties on the Committee owing to pressure of business, and the Committee wish to record its sincere thanks to him for his valuable services to the profession.

## FINANCIAL.

The audited accounts accompanying this Report show the financial position to be as follows :—

| | | | |
|---|---|---|---|
| Expenditure for the year exceeded revenue by the sum of | £39 | 3 | 3 |
| The Balance Sheet shows that Assets as at 31/12/44 exceeded Liabilities at the same date by the sum of | £493 | 4 | 1 |

As compared with the previous year, subscriptions payable have increased by £50 8s., the respective figures being £781 14s. 6d. and £832 2s. 6d. Subscriptions remitted in respect of members on Active Service amounted to £201 12s. as compared with £173 15s. 6d. in the previous year. Irrecoverable subscriptions written off in 1943 amounted to £56 3s., whereas £20 5s. was credited to the 1944 account in respect of subscriptions previously written off and recovered during the year under review. It is interesting to note that the total subscriptions remitted, in respect of members on Active Service, for the four years ended 31/12/44 totalled £602 3s. 6d.; despite this loss of revenue, the Institute's finances are still sound, and it has managed to carry on its business without encroaching upon funds held on deposit.

## CENTRAL COUNCIL.

A meeting of the Central Council, at which the Institute representatives, Mr. Commin, Mr. B. St. C. Lightfoot and Professor Thornton White, were in attendance, was held on April 27th and 28th last. At the meeting Mr. B. St. C. Lightfoot was elected Vice-President-in-Chief of the Institute. As usual, the activities of the Central Council and its Sub-Committees covered a wide range of subjects, the more important of these being Housing Schemes, Competitions and Building Control. Your Committee wishes to place on record its appreciation of the excellent services performed by the Central Council representatives.

## THE PORT ELIZABETH LOCAL COMMITTEE.

The Port Elizabeth Local Committee continued to function under the Chairmanship of Mr. J. F. Brinkman, with Mr. H. J. Tanton and Mr. H. Pullen as Vice-Chairman and Hon. Secretary respectively.

## THE SCHOOL OF ARCHITECTURE.

The number of students attending the Architectural and Quantity Surveying classes at the University of Cape Town during 1944 was 99; of these, 32 were first year, 15 second year, 19 third year, 8 fourth year and 19 were fifth year students. In addition there were five Quantity Surveying students in the first year and one Master of Architecture student. Four students qualified during the year.

## C.P.I. BRONZE MEDAL AND OTHER PRIZES.

No competition was held during the year for the C.P.I.

Bronze Medal, which is being held in abeyance pending revision of the Conditions; it was decided that the revision be postponed indefinitely in view of war-time conditions.

The C.P.I. Prize was withheld during 1944.

VIGILANCE AND PRACTICE SUB-COMMITTEE.

The Sub-Committee dealt with various matters referred to it during the year, among these being disputes between architect and architect, architect and client, and advertising of architectural services by construction companies.

PASSING OF PLANS AT CITY HALL AND NEW BUILDING REGULATIONS.

Practising members were recently circularised with the Relaxations to the Building Regulations. With regard to the passing of plans at the City Hall, members will have noticed the publication in the Institute's Kalendar of the joint memorandum prepared by the Institute, the Chamber of Commerce, the Chamber of Industries and the Master Builders' Association; the suggestions for the establishment of a Plans Passing Department have not yet been adopted.

MEMBERSHIP OF THE INSTITUTE.

The attention of members is directed to the memorandum published in the current issue of the Institute's Kalendar : the opinions of members are invited for the guidance of the Committee.

SCHOOLS PLANNING RESEARCH.

A sub-committee is engaged at the moment in the preparation of a report on the existing conditions appertaining to school buildings.

FACTORY ACT ANOMALIES.

Early in 1944 a questionnaire prepared by the Institute, together with the Secretary for Labour's replies, was circularised amongst practising members with the object of clarifying certain anomalies in the Factories Act. The Committee's thanks are due to Mr. Cruickshank, who was primarily instrumental in preparing the questionnaire and scrutinising the answers.

GENERAL.

In accordance with past policy, this Report has been kept as concise as possible in view of more detailed information which will be given in the Presidential Address at the forthcoming Annual General Meeting.

K. V. COMMIN,
President.

# THE NATAL PROVINCIAL INSTITUTE OF ARCHITECTS

*ANNUAL REPORT FOR 1944*

Your Committee has pleasure in submitting this, the Eighteenth Annual Report of the Natal Provincial Institute of Architects, together with the Annual Balance Sheet and Expenditure Accounts, for the year ended 31st December, 1945.

MEMBERSHIP.

The membership at the close of the year consisted of 54 Practising, 21 Salaried, 1 Absentee and 5 Retired, a total of 81 members.

Eight new members have been enrolled during the year; two members have transferred their membership to other Provincial Institutes.

The deaths are recorded, with much regret, of three members : Mr. A. Stanley Frost, Mr. W. Murray-Jones and Mr. M. S. Macdonald.

MEETINGS.

One Annual General Meeting, one Special General Meeting, 19 ordinary and special Committee Meetings, besides many Sub-Committee Meetings, were held during the year.

At the first meeting of the newly-elected Committee, Mr. B. V. Bartholomew and Mr. D. C. McDonald were elected as

President and Vice-President respectively for the ensuing year.

The following is a record of attendances at the ordinary and special Committee Meetings :—

| | No. of Meetings | Leave Granted | Attendances |
|---|---|---|---|
| B. V. Bartholomew | 19 | 2 | 17 |
| D. C. McDonald | 19 | 3 | 16 |
| G. E. le Sueur | 19 | 3 | 16 |
| F. W. Powers | 19 | 1 | 18 |
| I. Park Ross | 19 | 4 | 14 |
| J. S. Simpson | 19 | 3 | 16 |
| S. N. Tomkin | 19 | 3 | 16 |
| W. I. Willies | 19 | 3 | 15 |
| Alan Woodrow | 19 | 2 | 15 |

REPRESENTATIVES, 1943-1944.

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. Alternate, Robert Howden, F.R.I.B.A. (T.P.I.).

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

Mr. B. V. Barthowomew 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.

Demobilisation Regional Committee, Durban Area : F. W. Powers, A.R.I.B.A.; Alan Woodrow, A.R.I.B.A.; C. S. M. Taylor, A.R.I.B.A.; Col. G. T. Hurst, F.R.I.B.A..

LOCAL EDUCATION COMMITTEE.

B. V. Bartholomew, A.R.I.B.A. (Chairman); F. W. Powers, A.R.I.B.A.; D. Calvert McDonald, A.R.I.B.A., S. N. Tomkin, B.Arch., 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.

* * *

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

The year has proved a long struggle for building permits and building materials. The latest statistics show clearly that Durban was by no means getting its fair share of the permitted building work, but this now shows an improvement.

Many matters of importance to the profession have engaged the close attention of your Committee.

A deputation waited on the City Council, when post-war development planning was discussed, and urged that Municipal building projects be handed out to private practising architects instead of enlarging its architectural staff, and that principal major works be made the subject of competition by private practitioners.

The appointment of a liaison officer, who would be in a position to deal with all building activities of the City Corporation and work in collaboration with the Institute in relation to contemplated building projects was also the subject of some discussion.

It has also been arranged that the Institute will be notified of any proposed amendments to Building Bye-Laws prior to their ratification by the City Council.

A deputation from the Committee met the Executive of the Master Builders' Association, when matters of mutual interest were discussed.

SMALL-HOUSE BUREAU.

At a Special General Meeting of Members held on 17th August it was decided to set up a Small-House Bureau, to cater for the returned soldier, and restricted to low income groups, houses to be designed on a standard of cost and accommodation combined.

SYMPOSIUM AND EXHIBITION.

The Symposium and Exhibition of "Re-building South Africa," held under the auspices of the Natal Provincial Institute in the Durban Art Gallery on 6th May, 1944, was a marked success, with public and Press showing great interest in the subjects discussed and the ground covered by the Exhibition.

The official opening took place on the 6th May, by the Hon. G. Heaton Nicholls, Administrator of Natal.

NATAL PROVINCIAL PUBLIC WORKS.

The Executive Committee of the Provincial Council of Natal has been approached with the object of appointing private practising architects to carry out public works, so as to come into line with the policy carried out by the Cape and Transvaal Administrations. A deputation has been appointed to meet the Provincial Executive to discuss this and other matters affecting the profession.

ARTICLES OF PUPILAGE.

A standard form of "Articles of Pupilage" has been approved by your Committee and is now obtainable from the Secretary.

CENTRAL COUNCIL.

The 1944 session of the Central Council took place in April last, at Johannesburg. Mr. D. S. Haddon, retiring President-in-Chief, occupied the Chair. Mr. Bartholomew, this Institute's representative, attended the meeting.

Many subjects of interest and importance to the profession were dealt with, among them being control of building schemes

and building materials; professional scale of fees for P.W.D. work; competition for S.A.R. Hotels; formation of National Planning Association, etc., etc.

Mr. D. S. Haddon, retiring President-in-Chief, was re-elected President-in-Chief, and Mr. Lightfoot (Cape Institute) was elected Vice-President-in-Chief for the ensuing year.

Your Committee places on record its appreciation of the excellent work put in by the members of the Central Council; and thanks are also due to those members of the various sub-committees for giving much of their valuable time to the various matters entrusted to their care during the year under review.

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

Members are reminded that the annual subscription is due on 1st January in each year and should be remitted as early as possible to the Secretary, and are requested to regard this obligation as one to be discharged without unnecessary delay and thus save much time and expense in the collecting of fees.

FINANCIAL.

From the audited Statement of Accounts for the year under review, it will be seen that the Revenue and Expenditure Account shows a deficit of £89 16s. 3d. as compared with £57 1s. 11d. shown for the previous year. This deficit is mainly due to the waiving of subscriptions of members on Active Service and subscriptions written off as irrecoverable, waiving of R.I.B.A. moieties, and the heavy levy payable to the Central Council.

Additional expenditure has been incurred during the year in respect of typing, circulars, and the "Symposium and Exhibition," etc. As foreshadowed, the Committee found it necessary to draw on the Reserve Account to the extent of £50. The Reserve Account now stands at £183 15s. 6d.

It is anticipated that subscriptions remitted will diminish on the return of members from Active Service.

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

# THE O.F.S. PROVINCIAL INSTITUTE OF ARCHITECTS

*ANNUAL REPORT FOR 1944*

The year 1944 has been a quiet one as far as the O.F.S. Institute was concerned.

I have to record the loss of Mr. J. Willoughby-Williams, who died at the Cape after a short illness.

COMMITTEE WORK.

Matters requiring the consideration of the Committee have been dealt with, such as a Provincial Benevolent Fund, recognition of the retirement of Sir Ian MacAlister, Secretary of the R.I.B.A., investment of funds, an Institute movement for celebrating the forthcoming end of the present war.

O.F.S. INSTITUTE BENEVOLENT FUND.

Central Council was of the opinion that a Central Benevolent Fund was unnecessary, the Board and some Institutes possessing funds of their own. This Institute has therefore established its own Benevolent Fund with a sum of £25, to be added to from time to time and open to individual contributions from its members.

PEACE MEMORIAL.

The Committee is of the opinion that a move should be made to set up machinery whilst the war is on to mark the advent of peace (when it comes).

The R.I.B.A. possesses a Victory Scholarship of the last war. If no suitable new purpose can be found, then a substantial addition to the capital sum of the Howden Prize Fund might be organised.

## FINANCE.

The Revenue and Expenditure Account and the Balance Sheet have been circulated, and I trust you will deem them satisfactory. There is a small deficit this year—only the second time such has occurred. From cash funds we have increased our investments in Union Loan Certificates from £175 to £225.

## SIR IAN MacALISTER TESTIMONIAL.

I am sure that all members will be gratified that our O.F.S. Institute as a whole was represented in this recognition of one who was an experienced and outstanding official of our parent Institute, the R.I.B.A. Sir Ian was not only a notable person in Great Britain, the Dominions and the Colonies, but also a man of world-wide popularity and esteem.

## WAR SERVICE.

Three of our members are on Active Service and one in the N.V.B.

## CENTRAL COUNCIL.

To Central Council and the Central Executive we must again give honour where honour is due.

Amongst the items they have been occupied with in the interest of our profession are :—

The Railway Hotels Proposals.
New Major Railway Stations.
Control of the Building Industry.
Scale of Fees for Government Work.
National Planning and National Housing.
Civil Re-employment and Demobilisation.

With regard to the Railway Hotels Competition Scheme, we must, and do, congratulate the eminent firms which are now to be entrusted with these works, but at the same time it is generally felt that large Government works should be open to all through the competition system and that the Government has lost an unique opportunity of discovering new men whose ability to handle large works have not yet had a chance of ventilation.

## GOVERNMENT WORK.

In conclusion I would like to draw your attention to the most unsatisfactory state of affairs which prevails in this Province. As you are aware, the O.F.S. is the only Province which does not give out its work such as schools to private practitioners. Architects in the O.F.S. are thus deprived of steady employment such as exists in the other Provinces, and there is a grave danger of the profession dying out in the Free State. I feel that the matter should be taken up seriously, data collected and steps taken to get Central Council to assist in the matter. May I suggest, therefore, that this Provincial Committee make this the main item for consideration during the new year.

# THE STUDENT'S FORUM

## TO ALL STUDENTS OF ARCHITECTURE

*By A. A. Gordon, B.Arch. III. Editor for Students' Forum, Architectural Students' Society, University of the Witwatersrand, Johannesburg.*

The era we live in to-day, with its vast programmes for reconstruction after the war, cannot be considered as a static entity of time, nor as a sharply defined, singular mode of living that results from the abstractions and ideals of this particular era; but rather as a constantly moving and ever-changing panorama of interlocked events; as man endeavours, in his struggles against nature and himself, to orientate his life in time and space.

We must see ourselves as the product of two major factors :

(a) We are the result not only of a single people's thoughts and ideals, but the outcome of those thoughts and ideals within themselves and the subconscious and conscious prejudices and influences that have become part of our existence through associations with other peoples.

(b) Our inherited physical environment. We to-day are the culmination of the past, as in like manner the future must be the result of actions that are to-day performed.

This culmination, our epoch, is the total of socio-economic and political trends that have dominated the past. These are variable factors, and to them must be added the more static influences of religious beliefs, geography and climate.

Thus, because the future of man is so dependent on what we accomplish to-day, it is necessary for us to realise that, although our cities have not been battered by bombs and guns, we are in as dire need of reconstruction as those that have. The future being considered as the immediate and then the more distant, plans must be of short and long term types. Planned development and coherent replanning are necessities that to-day have been and are being paid for with life. It is incumbent upon those of us who are physically and mentally capable to see that the ideal of a truly democratic form of society becomes a practical reality in the years that are to follow.

Iron horses and concrete columns are in no way adequate memorials to those who have sacrificed themselves for freedom. To remember them and also to remember those who return mentally maladjusted or physically handicapped, let us together build a society where man will be free to live in a world that contains the essential freedoms.

The architectonics of this epoch to follow must be such that they will be an integral part of nationalised social conditions that it is our duty to see established. Social security in its widest meaning must become the accomplished way of life. Measures must be taken to raise the standards of health and cleanliness of many sections of the population. Increased educational facilities must be made and a close harmony between all men will be established. It is imperative that we prevent a crystallisation of abysmal social conditions that are symptomatic of aggression and non-planning.

Social disintegration and random physical organisation must be replaced by an integrated way of living. Comprehensive measures must be taken to ensure that regional, urban and suburban developments are planned. Modern building techniques, new methods of agriculture, organised industry and the right of the individual to live in freedom must be the keynotes of post-war life in South Africa.

In these attempts intellectually to organise our country into a logical and balanced structure of thought and action, it is obvious that the architect must play a major rôle. As students of architecture we must acquire sufficient knowledge to establish this coherent society. The very essence of student life is this acquirement of learning, but we must realise that learning has only a limited value until that which has been learned is reflected upon, examined and developed; then it is knowledge.

Here, then, in the "Students' Forum," is the opportunity for us, the future planners of this "new" South Africa, to increase our knowledge and exchange ideas. It is the beginning of what can and should become the source of co-operation and mutual understanding that can grow to be the very life blood of a correlated, planned South Africa.

Students, make use of the "Forum." Let it grow and help make the above idealism a practical reality. Write to it on every aspect of your work and, with the growth of its pages, by our enthusiasm, the basis will be laid whereby we, together, can establish a future worthy of our great ideals.

# WARTIME BUILDING

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

## TIMBER-REINFORCED SOREL CEMENT CONCRETE

**By A. J. Ockleston, B.E., Ph.D. A.M.Inst.C.E., A.M.I.Struct.E.**

If powdered magnesium oxide is gauged with a solution of magnesium chloride, the constituents combine to form a strong cement, Sorel cement. The term Sorel cement concrete is used here for a concrete of Sorel cement with sawdust aggregate. This material, often called Magnesium Oxychloride or Magnesite Composition, has been extensively used as a jointless in situ flooring. Its reputation as a flooring has suffered from the many failures which have occurred, but most of these have been due to unsuitable ingredients or proportions, to unsatisfactory workmanship, or to the material being used under unsuitable conditions.

During the war Sorel cement concrete has been used in the Union for the manufacture of a number of precast products, such as floor tiles, window frames and sashes, door frames and shelving, which have been used to supplement the restricted amounts of timber available. To a small extent it has also been employed, with timber reinforcement, for light structural members.

When the shortages of steel and timber became acute, an experimental investigation was begun, for the Investigation Section of Building Control, to determine the structural properties of Sorel cement concrete and to develop a rational method of design for timber-reinforced Sorel cement concrete beams. This work was continued when the supply position improved, although attention was largely directed to other problems. A summary is given here of the results of this investigation, and recommendations are made for the design of timber-reinforced Sorel cement concrete beams. To obtain a uniform product the control of materials and proportions for Sorel cement concrete must be stricter than is usually possible on the site, and it is preferable for this material to be precast in suitable factories.

* *

This investigation of the properties of Sorel cement concrete was carried out by the writer in the Civil Engineering Laboratories of the University of the Witwatersrand, Johannesburg, with the assistance of Messrs. N. Stutterheim, B.Sc. (Eng.), and J. Shaw, B.Sc. (Eng.).

### 1. PREPARATION OF SOREL CEMENT CONCRETE

The quality of the materials to be used for Sorel cement concrete are, to some extent, covered by British Standard Specification 776—1938, Materials for Use in the Manufacture of Magnesium Oxychloride Flooring Compositions.

Magnesium oxide for Sorel cement concrete is usually obtained by calcining magnesite. It is most important that the magnesite should be completely calcined, and used before it has deteriorated. Many of the failures which have occurred in Sorel cement concrete floors have been due to the use of improperly calcined magnesite, or of magnesia which has been stored for long periods and has absorbed carbon dioxide or moisture from the atmosphere. The suitability of the magnesia should be checked by the loss on ignition test given in B.S.S. 776—1938.

The sawdust used as aggregate should not contain more than 7% of resin, and should be air-dry, with a moisture content not exceeding 12% by weight. The use of sawdust containing an excess of moisture leads to a decrease in strength. Fine sawdusts are generally to be preferred, as they give more workable mixes than coarse sawdusts.

Since the densities of both magnesia and sawdust vary considerably with the degree of compaction, these materials should be measured by weight and not by volume.

It is imperative that the magnesium chloride solution used should be of the correct concentration; a small decrease in concentration causes a very considerable decrease in strength. As solid commercial magnesium chloride contains varying amounts of water of crystallisation, and is also hygroscopic, the concentration of the solution is best determined by measuring its specific gravity with a hydrometer. A correction should be applied if the temperature of the solution differs from the standard.

In the preparation of Sorel cement concrete the dry constituents, magnesia and sawdust, should first be thoroughly mixed, and this mixture then gauged with magnesium chloride solution. The amount of solution required to give a consistency

suitable for placing depends on the proportions and the grading of the sawdust. It is approximately proportional to the quantity of sawdust. Generally from one-fifth to one-quarter of a gallon of magnesium chloride solution per pound of sawdust will give a suitable consistency. Increasing the amount of solution improves the workability of the mix, and, to a slight extent, the strength, but excessive amounts may lead to sweating.

When mixed, the Sorel cement concrete is rammed into moulds. Care should be taken to obtain good compaction in corners and round any reinforcement. For ease of consolidation the concrete should be placed soon after mixing. A delay of up to about two hours between mixing and placing has little effect on the strength of the Sorel cement concrete if the mix is thoroughly compacted. As setting begins immediately the solution is added, considerably more care and labour are needed to obtain good consolidation if there is any appreciable delay between mixing and placing.

If certain metals, of which steel and iron are the most important, are cast into the wet mix, the magnesium chloride present will cause severe corrosion. Metals around which Sorel cement concrete is cast must be carefully protected from the mix.

Sorel cement concrete sets comparatively rapidly. Nearly two-thirds of the final strength may be reached 24 hours after casting, and about four-fifths of the final strength in seven days. After a month there is little increase in strength. Drying out takes longer, two to three months being commonly needed for Sorel cement concrete to reach its equilibrium moisture content in air.

## II. PROPERTIES OF SOREL CEMENT CONCRETE

The properties of Sorel cement concrete vary with the proportions of the ingredients, and depend particularly on the concentration of the magnesium chloride solution used. The extent of the variation can be gauged from the working stresses given in Section IV.

The density of Sorel cement concrete is about half that of Portland cement concrete with stone aggregate, and ranges from about 60 to 80 lb./cu. ft. The stronger mixes have the greater densities.

The compressive strength of Sorel cement concrete is comparatively high, and varies, according to the proportions, from about 600 to 3,000 lb./sq. in. The tensile strength is considerably lower, generally about a quarter of the compressive strength.

For stresses up to about a third of the compressive strength, Sorel cement concrete is nearly elastic. For higher stresses the strains increase more rapidly, and the stress-strain relationship becomes curved, its shape being generally similar to that for Portland cement concrete. The elastic modulus is low, usually less than $0.4 \times 10^6$ lb./sq. in.

Sorel cement concrete can be sawn and worked with carpenters' tools. The weaker mixes are fairly easily worked; the stronger mixes are rather more difficult to work than most timbers.

Nails can be driven without difficulty into the weaker mixes. The strongest mixes can be nailed only if a hole is previously drilled for the nail. For all except the weakest mixes, the pull-out strengths of nails in Sorel cement concrete are higher than the corresponding values for nails in building timbers.

Screws can be driven into all mixes of Sorel cement concrete if a hole is first drilled, slightly smaller than the root of the screw. Sheet metal screws, which are threaded right to the head, are preferable to wood screws. The unscrewed length of the shank of a wood screw will usually cause the Sorel cement concrete to split. Screws driven in Sorel cement concrete can carry about the same loads as similar screws in soft woods; the screw-holding strengths of the strongest mixes approach those of oregon pine or teak.

Serious corrosion may take place if unprotected metals are cast into Sorel cement concrete. If the metals are placed in contact with this material after it has been cured and dried out, the corrosion is much less serious. Metalwork in contact with Sorel cement concrete, such as screws and nails, must, however, be protected from corrosion; zinc spraying or galvanising has been found to give satisfactory results. Tools used for working Sorel cement concrete should, after use, be thoroughly washed with soapy water, and then oiled to prevent rusting.

Sorel cement concrete is slightly hygroscopic. It should not be used where it is exposed to moisture or in very humid conditions. It can be protected from moisture to some extent by surface treatment with waxes or oils. The dimensions of Sorel cement concrete change with variation in moisture content in much the same way as timber.

Sorel cement concrete is more resistant to fire than the timbers used in building.

## III. TIMBER AS REINFORCEMENT FOR SOREL CEMENT CONCRETE

Sorel cement concrete, though comparatively strong in compression, is weak in tension. Tensile reinforcement is required in Sorel cement concrete beams if full advantage is to be taken of the compressive strength of the material. Besides increasing the strength very considerably, reinforcement prevents the sudden brittle failure which occurs with plain Sorel cement concrete beams.

Steel is unsuitable as reinforcement for Sorel cement concrete, as it would be severely corroded. Timber reinforcement is preferable. Timber is much stronger in tension than Sorel cement concrete, it is not adversely affected by this material (the free magnesium chloride acts as a fungicide), and it has similar moisture movements. This combination gives a comparatively strong composite member which can be sawn and worked in much the same way as wood.

The mean strength of sound, air-dry timber in tension parallel to the grain ranges from about 5,000 to 15,000 lb./sq. in. The strengths of the various species of timber are indicated by the working stresses given in Section IV. The variation in the strength of individual pieces of the same species of timber is appreciable, generally of the order of ± 45% of the mean strength.

In tension timber is almost perfectly elastic, the stress-strain relationship being linear right to the point of failure. The value of the elastic modulus varies from about $1.4 \times 10^6$ to $3.4 \times 10^6$ lb./sq. in.

Of the timbers tested for suitability as reinforcement, one of the commonest, Eucalyptus Saligna, has much more variable properties than any of the others. The timber from young trees is white in colour, that from older trees, pink. The pink type is generally heavier, harder and stronger, and has a higher elastic modulus than the white, though the lower limit for the pink type and the upper limit for the white overlap somewhat. Most of the Eucalptus Saligna commercially available is, however, of the white type, and the working stresses given in Section IV for Eucalptus Saligna are based on the mean values for this type.

For use as reinforcement timber should be air-dry, with a moisture content of not more than 15% by weight, and should be free from decay. The grain should be reasonably straight and the pieces cut parallel to the grain.

Knots and similar defects reduce the strength of timber, the reduction being approximately proportional to the section area of the knots. For reinforcement two grades of timber have been considered: Grade 1, in which the area of knots at any section is less than one-fifth of the section area, and Grade 2, in which the area of knots exceeds one-fifth, but is less than one-half of the section area. The strength of Grade 2 timber is about two-thirds that of Grade 1.

If timber is cast into Sorel cement concrete the adhesion between the two materials is generally adequate for them to act as a composite unit. The bond strength depends on the properties of both materials; increase in both the timber strength and the strength of the Sorel cement concrete gives increased bond. The bond also depends to a very considerable extent on the roughness of the timber surface. The bond stresses given in Section IV are for rough sawn timber, the serrations in the surface being about a thirty-second of an inch deep.

## IV. TIMBER-REINFORCED SOREL CEMENT CONCRETE BEAMS

A considerable number of timber-reinforced Sorel cement concrete beams have been cast and tested. In these a wide range of timbers and of Sorel cement concrete mixes was used. The beams were rectangular in section, about 6 in. x 3 in. overall, and were reinforced with timber laths approximately 1 in. x ¼ in. in section. The results of the tests on these beams form the basis for the recommendations made below for the design of timber-reinforced Sorel cement concrete beams. The working stresses recommended are based on a minimum factor of safety of 2.5.

### RECOMMENDATIONS FOR THE DESIGN OF TIMBER-REINFORCED SOREL CEMENT CONCRETE BEAMS.

#### GENERAL.

Timber-reinforced Sorel cement concrete beams should be designed by the straight-line no-tension theory commonly used for the design of steel-reinforced Portland cement concrete beams.

The design should, unless otherwise recommended, be generally in accordance with the provisions of the Code of Practice for Reinforced Concrete.

Beams should be so proportioned that diagonal tension (shear) reinforcement is not required.

#### MATERIALS.

The materials used in the manufacture of Sorel cement concrete should comply with the requirements of B.S.S. 776—1938.

Timber for reinforcement should be straight-grained, free from decay, and have a moisture content not exceeding 15% by weight. The surface should be rough and not planed or smoothed in any way.

For Grade 1 timber the area of knots and other defects at any section should not exceed one-fifth of the section area; for Grade 2, the area of knots and defects may exceed one-fifth, but should not exceed one-half of the section area.

#### MODULAR RATIOS AND BENDING STRESSES.

The modular ratio for any combination of Sorel cement concrete and timber should be determined from the values given in Tables 1 and 2 for elastic modulus.

The compressive stresses due to bending in Sorel cement concretes should not exceed the values given in Table 1.

The tensile stresses in timber reinforcement should not exceed the values given in Table 2.

TABLE 1—VALUES OF ELASTIC MODULUS AND WORKING STRESSES FOR SOREL CEMENT CONCRETE.

| Specific Gravity of Magnesium Chloride Solution | Weight of Magnesia per pound of Sawdust | Elastic Modulus in Compression (Ec) | Working Stress in Compression (c) |
|---|---|---|---|
| 1.21 at 14°C | 1.75 lb. | 0.41 x $10^6$ lb./in.$^2$ | 620 lb./in.$^2$ |
| " " | 1.50 " | 0.40 " | 540 " |
| " " | 1.25 " | 0.39 " | 470 " |
| " " | 1.00 " | 0.38 " | 420 " |
| 1.18 at 14°C | 1.75 lb. | 0.36 x $10^6$ lb./in.$^2$ | 450 lb./in.$^2$ |
| " " | 1.50 " | 0.35 " | 390 " |
| " " | 1.25 " | 0.34 " | 350 " |
| " " | 1.00 " | 0.32 " | 320 " |
| 1.15 at 14°C | 1.75 lb. | 0.31 x $10^6$ lb./in.$^2$ | 210 lb./in.$^2$ |
| " " | 1.50 " | 0.30 " | 170 " |
| " " | 1.25 " | 0.28 " | 150 " |
| " " | 1.00 " | 0.25 " | 140 " |

TABLE 2—VALUES OF ELASTIC MODULUS AND WORKING STRESSES FOR TIMBER REINFORCEMENT.

| Timber | Elastic Modulus in Tension (Et) | Working Stress in Tension | |
|---|---|---|---|
| | | Grade 1 ($t_1$) | Grade 2 ($t_2$) |
| Eucalyptus Maculata (Hook) | 3.2 x $10^6$ lb./in.$^2$ | 3700 lb./in.$^2$ | 2500 lb./in.$^2$ |
| Eucalyptus Diversicolor (F.v.M.) | 3.4 " | 3100 " | 2050 " |
| Eucalyptus Pilularis (Sm.) | 2.9 " | 2650 " | 1750 " |
| Acacia Melanoxylon (R.Br.) | 2.1 " | 2500 " | 1650 " |
| Eucalyptus Globulus (Labill.) | 2.3 " | 2300 " | 1550 " |
| Acacia Mollissima (Willd.) | 1.5 " | 1800 " | 1200 " |
| Pinus Pinaster (Soland.) | 2.1 " | 1750 " | 1150 " |
| Eucalyptus Saligna (Sm.) | 1.6 " | 1350 " | 900 " |
| Pinus Insignis (Doug.) syn. Pinus Radiata (D.Don.) | 1.4 " | 1350 " | 900 " |

## DIAGONAL TENSION (SHEAR) STRESSES.

The diagonal tension (shear) stress at any section given by the expression $\frac{S}{ab}$

where S = the total shear force at the section
a = the arm of the resisting moment of the beam
b = the breadth of the rectangular beam

should not exceed 0.15 of the compressive working stress c given in Table 1 for the Sorel cement concrete used.

## ANCHORAGE BOND STRESSES.

For any combination of Sorel cement concrete and timber, whether Grade 1 or Grade 2, the bond stress used for the calculation of anchorage should not exceed the value

$$0.023\sqrt{c\,t_1}$$

where c = the compressive working stress c given in Table 1 for the Sorel cement concrete used.
$t_1$ = the tensile working stress $t_1$ given in Table 2 for Grade 1 timber of the species used.

## ANCHORAGE.

Exclusive of end anchorage tensile reinforcement should extend from any section a distance sufficient to give, by anchorage bond stress, a resistance not less than the tensile force in the reinforcement.

To provide end anchorage the reinforcement should extend an additional distance sufficient to give, by anchorage bond stress, a resistance not less than 0.3 of the tensile working strength of the reinforcement.

## BOND STRESSES DUE TO BENDING.

At any section the bond stress due to bending given by the expression $\frac{S}{ao}$

where S = the total shear force at the section
a = the arm of the resisting moment of the beam
o = the sum of the perimeters of the tensile reinforcement at the section

should not exceed twice the anchorage bond stress for the combination of Sorel cement concrete and timber used.

## COVER AND CLEAR SPACING.

The cover over reinforcement and the clear spacing between pieces of reinforcement should not be less than $\frac{3}{8}$ in. This value has been found satisfactory for 1 in. x $\frac{1}{2}$ in. reinforcement and should be increased proportionately for larger sizes.

## MINIMUM REINFORCEMENT.

If possible, at least two pieces of reinforcement should be provided at any section, so placed that knots and defects in one piece do not occur at the same section as those in the other.

* * * *

If the richer mixes of Sorel cement concrete and the stronger species of timber are used, timber-reinforced Sorel cement concrete beams can be designed by the method recommended above to have safe strengths comparable with those of 1 : 2 : 4 Ordinary Grade Portland cement concrete beams of the same dimensions, with a moderate amount of steel reinforcement. Weight for weight, the richer mixes of Sorel cement concrete are considerably stronger than 1 : 2 : 4 Ordinary Grade Portland cement concrete.

The safe loads for the stronger timber-reinforced Sorel cement concrete beams are about two-thirds those for pitch pine or deal beams of the same overall dimensions, and about half those for oregon beams of the same section.

Within the working range the deflections of timber-reinforced Sorel cement concrete beams are of the same order as those of all-timber beams of similar proportions and the same working strength. Beyond the working range the deflections of timber-reinforced Sorel cement concrete beams increase considerably before failure occurs.

# CONTEMPORARY JOURNALS

## "THE ARCHITECTURAL REVIEW" January and February, 1945

The January issue includes a comprehensive and controversial article by Lewis Mumford on the future of London. The famous author of "Technics and Civilisation," "The Culture of Cities" and "The Condition of Man," discusses its future in the light of the great new plan for London. He does not criticise it in detail, but rather states his attitude in terms of his thesis of city decay and possible reprieve through regional decentralisation. Though Mumford is full of praise for the humanity and vision of the London planners, he believes that the partial evacuation will not solve the city's problem. While Mumford's attitude may be open to criticism, as instance the opposing views in "Towards a Re-planning Policy," by J. M. Richards ("The Architectural Review," July, 1941), yet in this article he once again emphasises the ends of planning.

An illustrated review of the life and work of Vassily Bazhenov, a Russian architect of the eighteenth century, "an outstanding example of native genius under conditions unfavourable to native idiom," as well as a record by Richard Southern, of the Georgian Theatre at Richmond, Yorkshire, with a critical descriptive, plans and illustrations of "the most perfect known Georgian Little Theatre in existence," appear in the same issue.

* * *

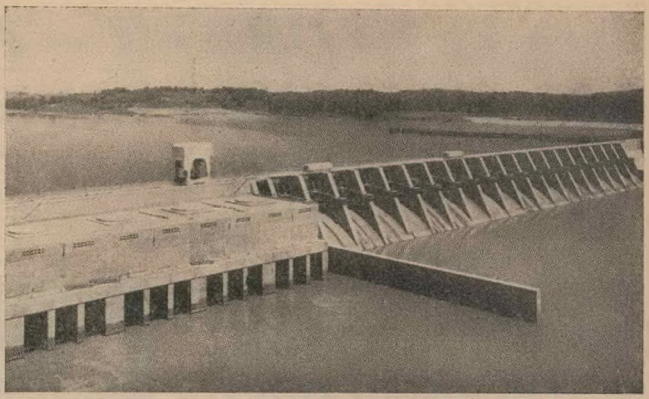
The February issue contains a full description, with plans, details and illustrations, of the steel houses of the British Iron and Steel Federation, designed by Frederick Gibberd. They are frankly experimental in plan, structure and material, but they are singularly successful. The designer has succeeded in introducing, within the given limit of 850 super feet, a spaciousness and flexibility of planning which marks the best of contemporary work, and in their simplicity, attractive detailing and co-ordinated design these houses demonstrate the value and vigour of the contemporary aesthetic.

In "Roundabouts" the Baroque fantasy of the fairground is both described and illustrated with the sketches of Barbara Jones and the photographs of Eric Brown; and J. M. Hastings discusses "The Traditional Seating of the House of Commons."



THE TWO EXPERIMENTAL STEEL HOUSES AT NORTHOLT OF THE BRITISH IRON & STEEL FEDERATION

WATTS BAR PROJECT, TVA.



T.V.A. Photo.

*"THE ARCHITECTURAL FORUM." January, 1945.*

"Building in One Package" is the story of the Austin Company, the great American organisation which combines complete design, construction and fabrication services under one management. This is the first of two articles, and is illustrated by examples of war-time industrial buildings. Structural methods, including the development of the "breathing" windowless wall in steel and brickwork, as well as methods of industrial lighting, heating and ventilation, are illustrated and described.

To clear the air of claims and counter-claims regarding post-war building methods and materials, "The Forum" is presenting a series of articles on "Post-War Building Techniques." The first, appearing in this issue, deals with methods of construction in timber, concrete and steel. The following articles will deal with material and equipment.

*"PENCIL POINTS," January, 1945.*

A contemporary war-time housing project at Orchard Heights, Washington, appears in this issue. The greater part of the work is in timber, and plans and photographs illustrate the housing and community buildings.

The Watts Bar Project of TVA is well illustrated by plans, details and photographs. The work is of a character and quality which one is accustomed to expect from TVA, and, although built under war conditions, it is a worthy addition to TVA's admirable record of integrated design. This project includes flood storage power development and navigation functions.

In "Taking Stock for the Future," Frank G. Topez, by an analysis of replies received from many manufacturers, draws conclusions regarding the post-war potentialities of structural methods, materials and equipment.

Eugene Ruskin, in "Architecture for All," puts forward a stimulating if not startling proposal for the future organisation of architectural services. He questions the existing system of private practice and suggests the introduction of the group system by the establishment of Architectural Commissions on lines similar to any other Government public service, and points to the many advantages to architect and client which might accrue.

## THE CENTRAL COUNCIL

**Building Control : As results of statements which have appeared in the Press, the President-in-Chief has been authorised to address the following letter to the Controller of Building, the Rt. Hon. Senator C. F. Clarkson :—**

March 23rd, 1945.

Sir,

Re : "SOCIETY OF PRACTISING ARCHITECTS."

I am directed by the Executive Committee of the Central Council to refer to the telegram which was read in the House of Assembly, in which an allegation was made to the effect that officials of your Department, i.e., Building Control, were guilty of bribery and corruption. It is understood that the telegram was sent in the name of the above-mentioned Society.

Although no approach has been made by that body, to this Institute, official inquiries reveal that such an organisation does exist.

As you know, the Institute of South African Architects and its Chapter of South African Quantity Surveyors are statutory bodies created by Act No. 18 of 1927. After consideration, the opinion of senior counsel has been sought : that opinion indicates that, while it is permissable for the Society of Practising Architects to exist, "it must at all times act within the constitution of the Institute of South African Architects, which is a corporate body with statutory powers that cannot be derogated from nor usurped by any voluntary association of architects."

In terms of the opinion, which has been formally adopted by the Institute, it is submitted that the action of the above-mentioned society in raising this question in the House through a Member of Parliament, is quite irregular and is, moreover, an action of which this Institute completely disapproves.

I am to add that, should it be necessary at any time to make representations or recommendations regarding the control of building, etc., such step will be taken by this Institute, as hitherto, either direct with you or with the Deputy Building Controller, Col. J. G. H. Holdgate.

I am, Sir,

Your obedient servant,

(Signed) J. S. LEWIS,

Registrar.

* * *

**Representations made over the last 18 months regarding the standardisation of permits for varying sizes of houses have now been taken into account, and it is anticipated that exact details will be available for publication in the next issue of the "Record."**

**Industrial Projects : Control is investigating, at the request of the Institute, the possibility of granting provisional permits for projects of this nature without plans or schedules of materials. A statement will be issued shortly.**

**Controlled Building Materials : The present position is that as far as building permits are concerned, the use of the following materials is specifically restricted in a project, apart from the automatic limitation imposed by the approved plan : Linoleum and Mastipave, etc., mosquito gauze, glass, locks, baths; iron, copper and lead piping, structural steel, flat sheet iron, corrugated iron, electrical materials. All previous restrictions regarding white glazed tiles and asphaltic roofing felt are waived and quantities required need not be stated.**

**Basins, Sinks, W.C. Suites : Although these fittings may now be purchased without permit, in view of the use of other materials in short supply involved, the use of these fittings is restricted (a) in the case of permits where such fittings were specified, by the number indicated thereon; (b) in the case of later permits where no number is specified, by the number shown on the approved plan. No fittings**

may be used in excess of the number authorised, without written consent, and any requests for amendment must be made to the District Controller of Building Materials in the usual way.

## TRANSVAAL PROVINCIAL INSTITUTE

Building Control : Mr. A. Fair has resigned from the Local Advisory Committee, and all questions relating to the professional aspects of Building Control should in future be addressed to Mr. M. Ringrose, c/o Messrs. Nurcombe, Summerley and Lange, who has taken his place.

Detailed replies have been received from the Deputy Building Controller to the complaints lodged by certain members by means of affidavit. These replies will be considered at the General Meeting on 1st May.

Municipal Bye-Laws : At the request of the City Council of Johannesburg, who have been approached by the Institute on numerous occasions, the Institute is preparing to submit a memorandum on the subject of Bye-Laws, with suggestions and recommendations for revisions which they consider necessary. Committees have been appointed both in Johannesburg and Pretoria to prepare this memorandum, and members who wish to make any suggestions are requested to address them to the Acting Secretary.

Building Research : An Institute of Building Research is at present being constituted as a branch of the Industrial and Scientific Research Council, set up by the Department of Commerce and Industries. Mr. Dohse, late Chief Engineer of the Public Works Department, has been appointed to direct the building research, and has already left for overseas to make a study of parallel bodies in Britain and America. A committee on which the Institute has representation has been appointed, in the meanwhile, to advise which of the problems involved require the most immediate and urgent attention.

Railway Hotels : The Railway Administration has commissioned Messrs. Gordon Leith & Partners, and Mr. B. St. Clair Lightfoot to execute the Railw ay Hotels at Pretoria and Cape Town respectively.

## OBITUARY

The death took place on 22nd March of Mr. H. Kallenbach, senior partner of the firm of Kallenbach, Kennedy & Furner, at his residence at Linksfield Ridge, Johannesburg.

He was probably the longest resident architect in the Transvaal, having arrived on the Rand in 1896—almost half a century ago. During this time his firm were the architects for many public and private buildings in the Union, including churches, synagogues, schools, business premises, theatres, blocks of flats, etc., among the later work being, in Johannesburg, Lewis & Marks Building, Plaza Theatre, Randjeslaagte (Johannesburg) Jubilee Memorial Housing and Constantia; in Pretoria, Prudential House and Plaza Theatre; in Cape Town, Plaza Theatre and Adelphi Theatre at Sea Point; in Durban, Sastri College, Trust Buildings and Grosvenor Court; in Lourenco Marques, Scala Theatre.

Mr. Kallenbach was much interested in public affairs and was intimately associated for the past forty years with Mr. Gandhi.

Mr. N. Kallenbach, of Johannesburg, is his brother, and also Dr. Kallenbach, of London.

## NOTICES

We are pleased to announce that Mr. M. Hermer has returned from Active Service, and has resumed his position as a partner in the firm Ralph Green and Hermer, of Johannesburg.

Member, aged 31, ex-Serviceman, would like to communicate with practising architect, with a view to partnership. Would, as alternative, purchase practice from member contemplating retirement.

Please reply to F. O. Muller, P.O. Box 7796, Johannesburg, and mark envelopes "Private—Partnership."

## ERRATA

We regret that in error Mr. Prentice was referred to as Chief Government Architect instead of Chief Government Quantity Surveyor in Mr. Gallagher's paper, "Building Costs, Material and Labour" which appeared in the February issue.—Editor.

*Journal of the SA Architectural Institute*

***PUBLISHER:***

**University of the Witwatersrand, Johannesburg**

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