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

CONTENTS FOR APRIL 1947

EDITORIAL 83

AIR FORCE STATION AT LANGEBAANWEG, SALDANHA BAY, CAPE. An example of work carried out by the Union Defence Force during the war; by H. G. Summerley, A.R.I.B.A., M.I.A. 84

REINFORCED CONCRETE HANGARS AT LANGEBAANWEG AIR STATION. Designed and supervised by S. K. Jordan, A.M.I.C.E., A.M.S.A.Soc.C.E., and R. Stubbs, M.I.Struct.E. 92

THE ARCHITECTURE OF GERMANY, by Angus Stewart, B.Arch., A.R.I.B.A., M.I.A. 96

THE STUDENTS' FORUM 105

CONTEMPORARY JOURNALS 108

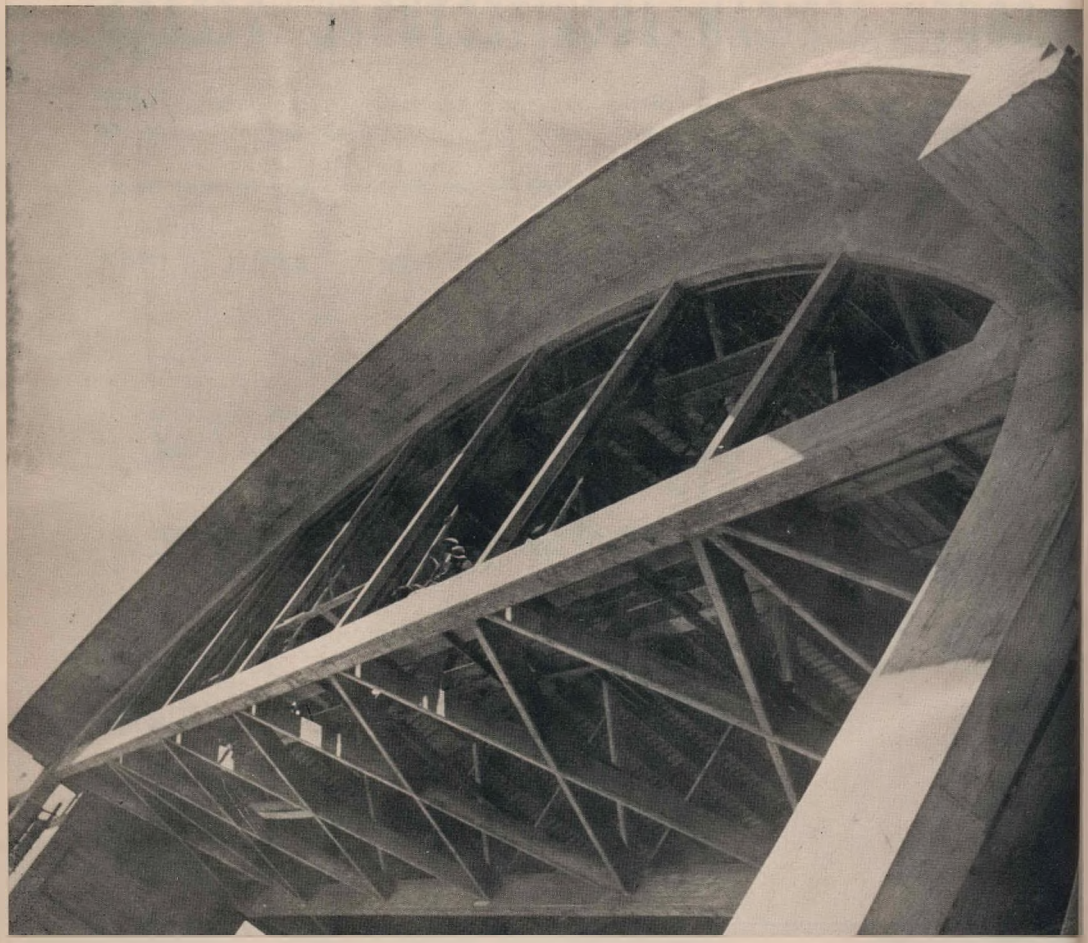
NOTES AND NEWS 110

EDITOR: W. DUNCAN HOWIE
ASSISTANT EDITORS:
ANGUS STEWART
UGO TOMASELLI
DONALD PILCHER

VOLUME THIRTY-TWO NO. 4

The Editor will be glad to consider any MSS., photographs or sketches submitted to him, but they should be accompanied by stamped addressed envelopes for return if unsuitable. In case of loss or injury he cannot hold himself responsible for MSS., photographs or sketches, and publication in the Journal can alone be taken as evidence of acceptance. The name and address of the owner should be placed on the back of all pictures and MSS. The Institute does not hold itself responsible for the opinions expressed by contributors. Annual subscription £1 10s. direct from the Secretary, 612, KELVIN HOUSE, 75, MARSHALL STREET, JOHANNESBURG. PHONE 34-2921.

BUSINESS MANAGEMENT: G. J. McHARRY (PTY.) LTD., 43, BECKETT'S BUILDINGS, JOHANNESBURG. P.O. BOX 1409. PHONE 33-7505.



HANGAR DETAIL, LANGEBAANWEG AIR FORCE STATION, SALDANHA BAY.

EDITORIAL

For the first time in almost twenty years the journal appears with an Editorial, and in future this will be a regular feature. This and many other changes, emerging from a complete review of the journal's management, will result in many desirable improvements which circumstances have previously precluded.

* * * * *

Changes that have taken place include the establishment of an Editorial Board to administer the journal and, especially, to expand its scope; the co-ordination of its business management; and the creation of a close liaison with the other constituent bodies of the Institute. These moves are designed not only to permit the journal to fulfil its role as the house organ of the Institute more effectively and adequately than has been the case in the past, but also that it shall mirror to the greatest extent the contributions which South Africa is making in the field of significant contemporary architecture. The success which will attend these aims will depend in no small measure on the support and co-operation of the constituent bodies, and we have every reason to believe that this will be forthcoming.

Regular reporting of professional matters and news is being provided for. These will include topical items of interest, professional information, notices of change of address, partnerships—vacant, wanted and dissolved—and personal notices other than advertisements for employment offered and wanted and similar matters, for which a paid advertisement column, with a nominal tariff, is to be instituted. A more effective review of *Contemporary Journals* is being undertaken, with a regular reporting of current works of special merit or importance under the title *The World of Architecture*, as well as the revival of the popular though short-lived commentary on current affairs—*Round The Circle*.

* * * * *

In the past the journal has been closely identified with the work in the Transvaal, not only because it is published in that province, but because of the almost unique role that editorial policy imparted to it. Apart from its long standing interest in art, town planning and other matters closely identified with architecture, the journal has for many years sought to encourage an appreciation of good contemporary design, and by recording significant development, has sought to foster the growth of the "Modern Movement" in this country. That the Transvaal saw the birth of this movement in this country none will gainsay. It was here that the pioneers fought their first disheartening battles: where, with the vigorous influence of the School of Architecture of the University of the Witwatersrand with which the names of Professor Pearse and the late Dr. Rex Martienssen, both editors of this journal, are indissolubly linked: the great building activity of the 1930's; and the lack of traditional or stylistic influences which have long exerted their stultifying restraint, that the modern movement first took root in South Africa and where the ardent disciples of the "New Architecture" found an outlet for their creative abilities.

That this policy and foresight, albeit of a house organ, was correct, is evidenced by the valued reputation that the journal has acquired here and overseas, and in the acceptance of the reality and significance of contemporary design in all parts of the country to-day. This growing acceptance is due to the prolonged and patient efforts of enthusiastic members of the profession in those parts, together with the mounting influence of the Schools of Architecture; and this alone merits a complementary adjustment in the ability of the journal to record this work.

Now, after the disruption caused by the most devastating war in history, the direction of architectural development has become obscured. Now, perhaps more than ever before it is necessary for the profession, by sharing example and experience, to point the way; and, true to its established policy, the "Record" is anxious to assist and play its part in the development of a significant South African architecture.

* * * * *

After nearly twenty years the name of Professor Pearse has ceased to appear on the contents page of the "Record." His long association has seen the journal pass through many changes and many fortunes. He has seen it develop, in association with the late Rex Martienssen, from a quarterly journal of the Institute to a monthly publication of importance. He has seen it criticised and praised. He is not now associated with the unprecedented changes which are taking place.

On the eve of his retirement from the Chair of Architecture of the University of the Witwatersrand, which he has occupied with dignity and integrity for 25 years, he has decided to relinquish his editorship of—but we hope not his interest in—the "Record." The journal, and the Institute it serves, owes him a great debt of gratitude for his unfailing enthusiasm and effort on its behalf. Our best wishes which will attend his quest for new fields to conquer—and in this we are sure we voice the feelings of all his contemporaries and not a few of the younger members of the profession who came under his wing—are coupled with the profound regret that he will no longer appear as an Editor.

AIR FORCE STATION AT LANGEBAANWEG, SALDANHA BAY, CAPE

AN EXAMPLE OF WORK CARRIED OUT BY THE UNION DEFENCE FORCE DURING THE WAR

By H. G. Summerley, A.R.I.B.A., M.I.A.

During the years 1940-1945 it was estimated that fifty million pounds was spent in South Africa on the construction of military buildings and auxiliary defence works. Included in this programme were hospitals, workshops, infantry, artillery and armoured car training camps, wireless and radar stations, gun emplacements, naval training establishments, administration buildings, aerodromes and aircraft assembly depots.

A big organisation of technicians and administrative staff was required to handle this programme, but when the Combined Air Training scheme was launched the responsibility was divided, because the aerodrome construction programme was considerably increased. The Director of Fortification and Coastal Works was put in charge of the Coastal belt extending from the Cunene River on the West Coast to the Portuguese East African borders on the East Coast.

* * * * *

In May, 1943, the Director was instructed to build a Ground Reconnaissance Operational Training Unit at Langebaanweg, approximately 75 miles from Cape Town and about 15 miles from Saldanha Bay itself. It was realised that it would probably be nine months to a year before it was complete, but because of the changing war conditions, instructions were issued that it was to be planned as a post-war air training station at the same time. Many difficulties had to be overcome before the work could finally commence. Because of the distance from Cape Town and the shortage of petrol, all materials had to be taken by train over an old railway line consisting of 60 lb. rails. This limited the capacity of engines and reduced the speed of bringing materials to the site. At the peak period of construction 30 truck loads of materials were require each day to keep the work running smoothly.

Water had already been brought from Berg River to the Saldanha Bay Village area by the S.A.E.C. and it merely required a few miles of pipe line to bring the water to the Air Force station. This was reticulated throughout the area for domestic and technical needs only. A separate reticulation system, drawn from a well, was laid out for the watering of lawns and plants. Electric power was brought by overhead line from Belville, 10 miles outside Cape Town.

Separate camps for European and Coloured artisans, Coloured and Native labourers, had to be built before the work commenced. The Coloured messing had to be arranged to suit the various religious sects.

The main road between Saldanha Bay and Cape Town was deviated at the aerodrome to allow for sufficient clearance of the flight strip at the end of the runway, and to make room for the vast area to be covered by buildings.

The ground had a maximum fall of two feet over 1,200 feet. During the Cape winter, the area was covered with a fine display of indigenous flowers and shrubs, but the hot summer sun made these wither, so that the area became a desert of sand averaging two to four feet deep. Beneath this there was hard limestone necessitating blasting operations for all sewerage installations. The daily winds blew clouds of dust raised by 200 lorries moving over the constructional area.

The general layout was planned with the assistance of a full team which included Aeronautical Experts, Town Planners, Architects, Civil, Structural, Electrical and Mechanical Engineers, Radio Engineers and Horticultural Advisers.

It is not possible to illustrate the plans of all the buildings, but a few are given here to show the complete break from traditional barrack planning. A most determined attempt was made to avoid the military outlook of monotonous regimentation characterising every pre-war training depot in the Union. A most progressive advance could only be made by sweeping away any thought of rows of depressing military huts, and dismal amenities which the permanent force soldier often had to accept, but had not complained about because tradition had not allowed him to have more than the bare necessities of barrack life.

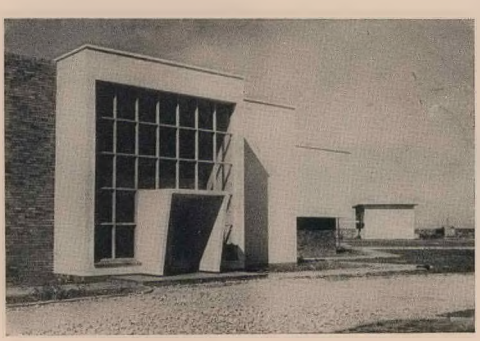
From statements recently made in the press, the General Staff is equally determined to alter the pre-war state of affairs in the soldier's training. Should there be any difference in the educational facilities between an advocate,

Attractive and spacious houses accommodate the married personnel.

3 SEP 1947

ADMINISTRATION BUILDING

RIGHT: General view of Administration Building
BELOW: Detail view of main entrance doors
The office pavilion with parking space below.



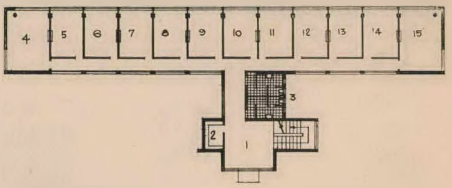
LEGEND

GROUND FLOOR:

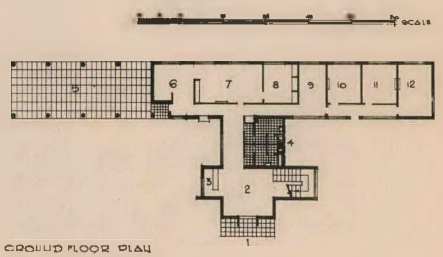
1. Entrance
2. Entrance Hall
3. Enquiries
4. Cloakrooms
5. Parking
6. Pay Office
8. Registry
7. Orderley Room
9. Waiting Room
10. Adjutant
11. Senior Administration Officer
12. Officer Commanding

UPPER FLOOR:

1. Gallery
2. Washup and Stor
3. Cloakrooms
4. Clerks
5. Senior Engineer
6. Office
7. Security Officer
8. Office
9. Sports
10. Air S.M.
11. Mess Officer
12. Senior Accounts
13. Asst. Accounts
14. Accounts
15. Accounts



UPPER FLOOR PLAN

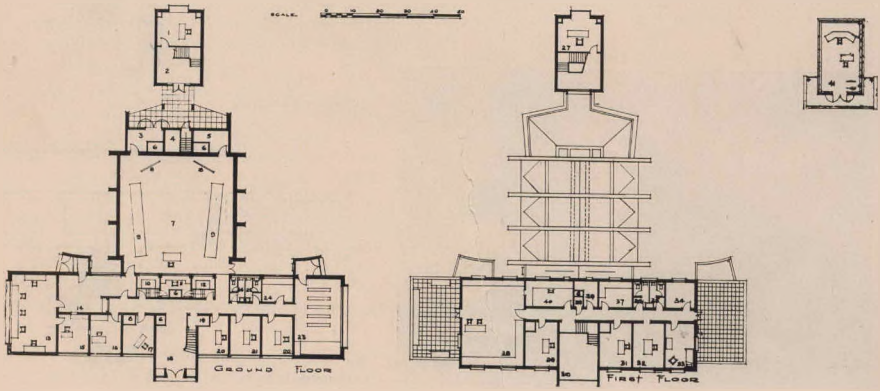


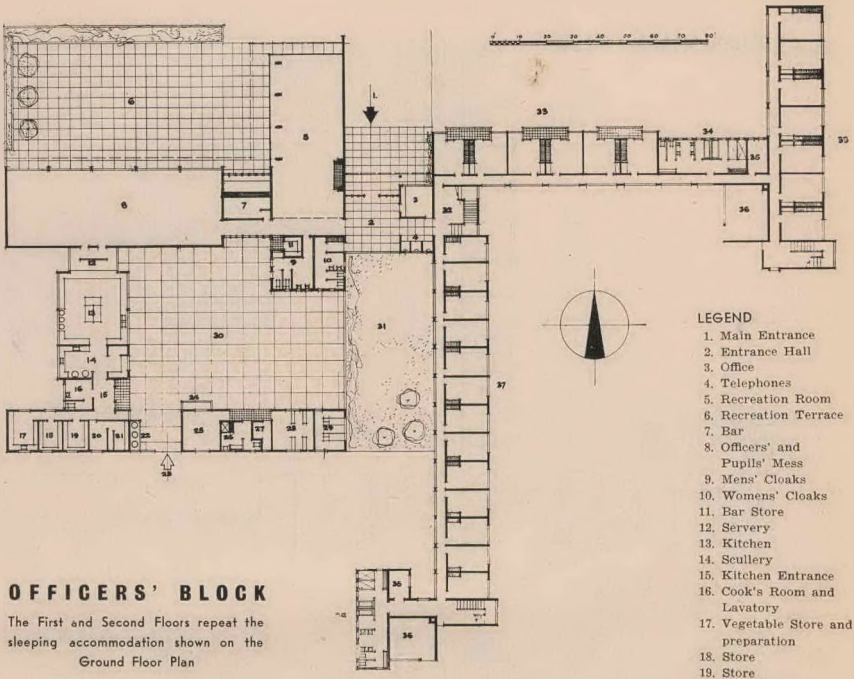
GROUND FLOOR PLAN

OPERATIONS BLOCK AND CONTROL TOWER

LEGEND

1. Adjutant (Flying)
2. Hall
3. Lobby
4. Access to Basement Airconditioning Plant.
5. Map Store
6. Airconditioning ducts.
7. Operations Room
8. Position Boards
9. Map tables
10. Signal Recorder
11. Operations Controller
12. Naval Liason Officer
13. W.T. Receiving room
14. Signal Traffic
15. Cypher office
16. Telex Operator
17. Signals officer
18. Entrance Hall
19. Telephone Services
20. Office
21. Office
22. Office
23. W.T. Briefing Room
24. Workshop
25. Lavatories
26. Lavatories
27. O.C. Flying
28. Forecast room
29. Office
30. Upper part of Entrance Hall
31. Office
32. Office
33. Bedroom
34. Balloons
35. Lavatories
36. Lavatories
37. Wash up
38. Dines Anemometer
39. Store
40. Telex operator
41. Control tower





OFFICERS' BLOCK

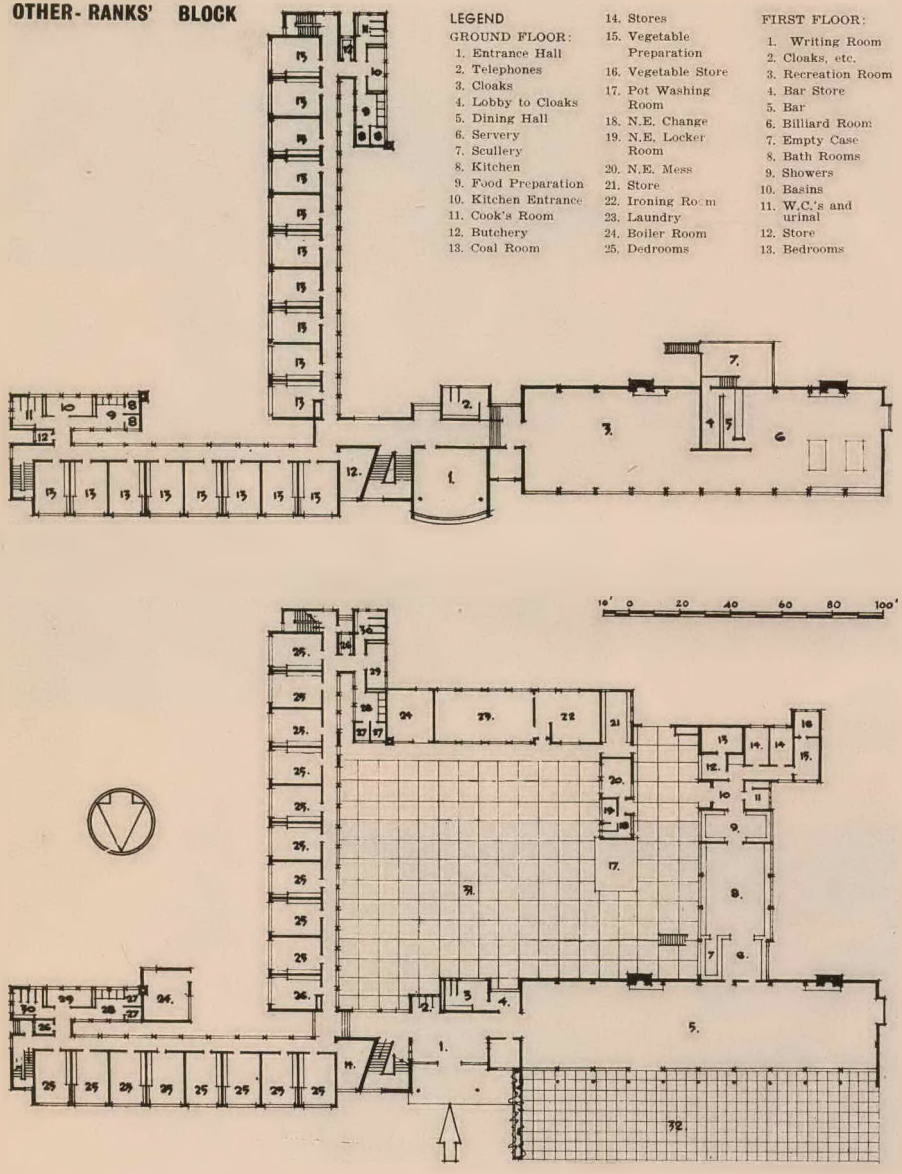
The First and Second Floors repeat the sleeping accommodation shown on the Ground Floor Plan

LEGEND

1. Main Entrance
2. Entrance Hall
3. Office
4. Telephones
5. Recreation Room
6. Recreation Terrace
7. Bar
8. Officers' and Pupils' Mess
9. Mens' Cloaks
10. Womens' Cloaks
11. Bar Store
12. Servery
13. Kitchen
14. Scullery
15. Kitchen Entrance
16. Cook's Room and Lavatory
17. Vegetable Store and preparation
18. Store
19. Store
20. Butchery
21. Cool Room
22. Rubbish Bins
23. Service Entrance
24. Pot Washing
25. Africans' Mess
26. Africans' Lavatories
27. Store
28. Ironing Room
29. Laundry
30. Service Yard
31. Patio
32. Stair Hall
33. Officers' Rooms
34. Officers' Lavs.
35. Batmen
36. Boiler Room
37. Pupils' Rooms
38. Pupils' Lavs.

A general view of the N.C.O.'s Block which has a similar plan to that of the Officers' Block

OTHER-RANKS' BLOCK



OTHER-RANKS' BLOCK

General view of the Other-Ranks' Block

architect or officer in the South African Forces? The Saldanha Bay Air Force station set the standard for an Air College of which an airman may be just as proud as other professional men are of their Universities.

* * * * *

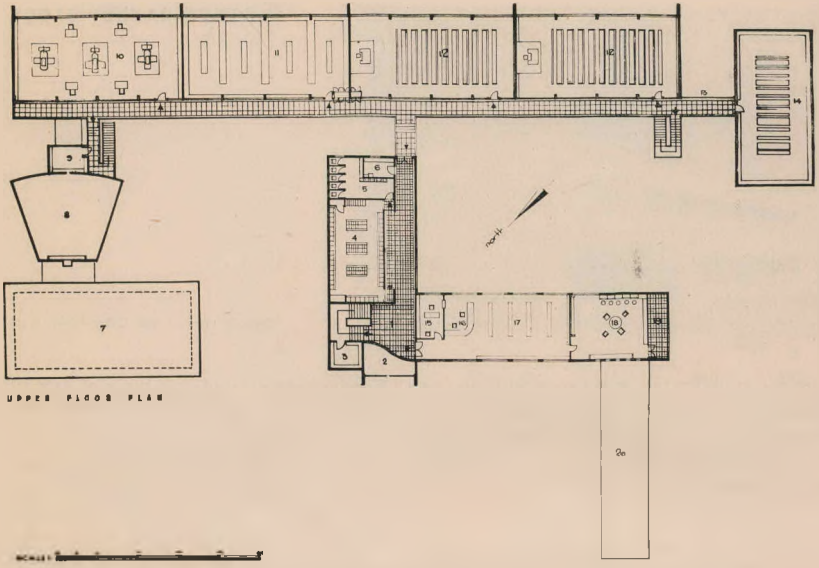
An Air Force station is usually divided into three separate sections, the aerodrome itself, the technical area and the domestic area. At Saldanha Bay the aerodrome consists of three runways 200 feet wide, the longest being 2,000 yards, but it can be extended to 3,500 yards if necessary. The runways are constructed of a sub-grade consisting of a water bound limestone surface which was later converted into a six inch cement stabilised base. Over this, the premix carpet varies, being heavier in the 100 feet centre portion than at the shoulders. Owing to the porous nature of the limestone under the top sand, no surface water drainage difficulties presented themselves.

The Administration Building is situated at the entrance to the technical area and consists of accommodation for the Officer Commanding the station and all the administrative staff. The offices for the Commanding Officer, his adjutant and paymaster, who are the most sought-after persons on the station, were placed on the ground floor, and because the number of offices required for other administrative matters greatly exceeded these, advantage was taken of the opportunity to provide cover for the staff cars by placing the minor administrative offices on the first floor. The building overlooks the whole of the training buildings and is connected by a direct avenue to the operations block. The entrance has a double volume with a glazed screen pierced by a simple rectangular form to define the main entrance doors. Architecturally the administrative block is one of the most successful on the whole station.

The Technical area consists of hangars, maintenance units, control tower, operation H.Q., synthetic training buildings, lecture rooms and administrative quarters. The design of the control tower and operations block is shown on page 86. This really consists of four different sections, whose work in an operational training unit are closely inter-related. The Tower houses the Officer Commanding Flying and his staff. The operations are under an operational controller, who directs the crews when in flight to the targets. Huge maps and aircraft position boards face his control cabin. To assist him there is a naval liaison officer and a message recorder who handles all outgoing and incoming signals. The remaining portion of the ground floor is given to the wireless section while the whole of the top floor is used by the meteorologists. This building contains complicated communication systems all requiring special precautions against interference with each other.

The Other Ranks building (for men of corporals rank and under) is the biggest building on the station, having a frontage of approx. 300 feet. The plan indicates the flexible manner in which all buildings had to be planned to meet the possible needs of expansion. The ground floor shows the main dining-room capable of seating 500, with the most extensive kitchen facilities which would be the envy of the leading hotels in South Africa. Hot water, warming closets, cooking, food mixing, fish frying, potato peeling, etc., is all done by electricity. All fittings are covered with stainless steel and the walls are tiled with white glazed tiles to a height of five feet. The first floor consists of reading room, billiard room and cocktail bar as part of a large recreation room. Built-in fittings are provided in each bedroom.

The N.C.O.'s block and the officers' block are very similar in plan, and follow the same necessary flexible arrangement as the other ranks building. The kitchen fittings follow the same standard, but the bar is arranged on the ground floor as drinks were generally served with meals or in the lounge. The white stucco walls stand in sharp contrast to the lawns and sandy wastes of the surrounding country. Each of the

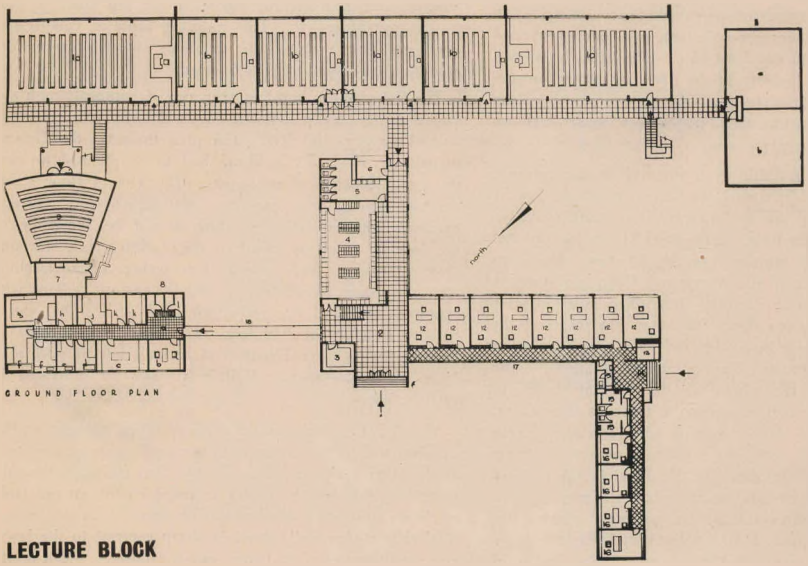


UPPER FLOOR PLAN

LEGEND

UPPER FLOOR:

1. Landing
2. Upper part of Entrance Hall
3. Store
4. Locker Room
5. Lavatory
6. Cleaners Store
7. Roof over Photographic Block
8. Upper Part of Projection Hall
9. Projection Room
10. Navigation Tactical Floor and D.E. Trainer
11. Navigational Aids
12. Lecture Room
13. Bridge
14. Buzzer Room
15. Librarian
16. Clerk
17. Library
18. Reading Room
19. Reading Terrace
20. Roof over Offices



GROUND FLOOR PLAN

GROUND FLOOR

1. Main Entrance
2. Entrance Hall
3. Store
4. Locker Room
5. Lavatory
6. Tea Servery
7. Ventilation Plant
8. Photographic Block:
   - (a) Entrance Hall
   - (b) Office
   - (c) Finishing room
   - (d) Washing
   - (e) Chemical mixing
   - (f) Developing
   - (g) Printing room
   - (h) Dark Room
   - (i) Drying Room
   - (j) Stores
   - (k) Cloaks
9. Projection Hall
10. Lecture rooms
11. Signal Demonstration:
    - (a) Bendix and Air Ministry Equipment.
    - (b) A.S.V. & I.F.F. Equipment.
12. Offices for Junior Instructors
13. Tea Kitchen
14. Instructors Entrance
15. Cloakroom
16. Offices
17. Corridor
18. Covered way

LECTURE BLOCK

LECTURE BLOCK

ABOVE: General view of the Lecture Block

The external stair and link between Lecture Room Wing and the noisy Signal Demonstration Unit

Covered way access between the Main Entrance Wing and the Photographic Block in rear of the Progection Hall

buildings in the domestic area are placed in about four acres of land so that as the trees are planted and lawns developed, the men will have their own garden surroundings.

The lecture block consists of a number of class rooms for teaching navigation and other aeronautical subjects, the wireless section is articulated to obviate any nuisance from morse keys. Instructional films are given in a special lecture theatre. The instructors are each given private offices, while the chief instructor has his own administrative staff in his wing.

* * * * *

Besides these buildings there were others consisting of fire stations, hospitals, recreational hall and swimming baths, motor vehicle workshops, quartermaster's stores, W.A.A.F. quarters, houses for married men, technical stores, synthetic training buildings and Native accommodation. The telephone installation and other signal equipment was so vast that the Telephone Department required its own building with a workshop for maintenance requirements.

The nature of the site made it necessary to have six sewerage pumping plants before the effluent finally reached the sewage disposal works, erected on the East side of the Aerodrome.

As each building was nearing completion the 101st Aerodrome Maintenance Company moved in and began planting trees, lawns and shrubs. Trips were made to Namaqualand to bring back succulents and their rocks in which they were lying, so that a true picture could be given of some of South Africa's flora. Only three trees existed on the site when the construction commenced but nearly 3,000 had been planted at the end of 1945 and the final total aimed at was 10,000.

The illustrations give some idea of a new architectural approach to the planning of military establishments. Field-Marshal Montgomery made his statements on the changes in the British Army standards in 1946. South Africa, not being involved directly in the plans for invasion of the Continent, was able to concentrate on the improvements at an earlier stage. It is hoped that on his forthcoming visit to this country he will be given an opportunity to inspect this Air Station.

★ ★ ★

ACKNOWLEDGEMENTS:

The drawings were prepared as follows:

Administrative Block—E. Greenblo. B.A. (Arch.), A.R.I.B.A., M.I.A., of Cape Town.

Lecture Block—G. A. S. Macivor, A.R.I.B.A., M.I.A., of Cape Town.

Other Ranks' Block—A. Hellman, M.I.A., of Johannesburg.

N.C.O.'s Block—E. Meyersohn, B.Arch., A.R.I.B.A., M.I.A., of Johannesburg.

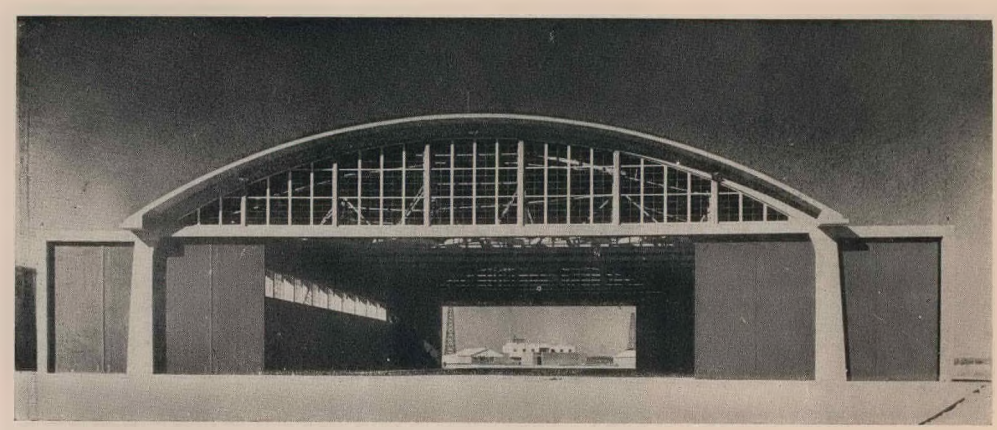
The Editors wish to express their thanks to the U.D.F. authorities for permitting the publication of the plans, which, together must rank as one of the finest groups of co-ordinated contemporary design in South Africa to-day.

REINFORCED CONCRETE HANGARS AT LANGEBAANWEG AIR STATION

Designed and supervised in collaboration by S. K. JORDAN, A.M.I.C.E., A.M.S.A. Soc. C.E. and R. Stubbs, M.I. Struct. E.

The overall size laid down by the Director-General of Air Force was specified to be 140 ft. clear span, 50 ft. high and the length approximately 260 ft. The roof covering consists of corrugated asbestos carried on precast concrete purlins which are supported by reinforced concrete arches. The thrust from each arch is taken by a horizontal tie and buttress columns. The arches are of the two-pinned bowstring type, the bottom ties being supported at 20 ft. intervals by hangars from the arch rib. Between the reinforced concrete buttress columns are 11-inch hollow brick panel walls which are carried on foundation beams spanning between the column foundations. In the centre of the panel walls there are additional columns in the thickness of the wall between the foundation beams and sill beams to reduce the area of the 11-inch panel walls, and through these intermediate columns pass asbestos cement rainwater pipes which, above the sill beam, run behind the continuous windows.

In order to improve the end elevation of the hangars, double columns are provided, designed so as to permit the structural steel sliding doors to pass between these columns into the reinforced concrete outriggers, so that, when the doors are partially open, the main end structure is still apparent. The gables are glazed, the windows being supported by a structural steel framework bolted to the reinforced concrete tie, arch rib and hangars. The overhanging hoods at the end are not structural but the side hoods support the asbestos gutters.



End elevation of one of the reinforced concrete hangars, showing the steel sliding doors partly opened to reveal the generous, uninterrupted interior space

During construction: The illustration shows the light bowstring trusses spanning 140 ft., the end wind bracing, part of the elaborate centering and part of the asbestos cement roofing.

REINFORCED CONCRETE HANGARS

DESIGN

In considering the type of structure to be used, the main consideration must necessarily be the difficulties to be encountered during construction. For this reason the tied arch was thought most favourable in this case as it would enable the Contractor, after building his columns, to cast all the reinforced concrete work at the bottom tie level, including the eaves beams and horizontal end bracing, so that from the top of the ties the profile of the arch could be set out accurately; any error in so doing would considerably increase the stresses in the arch ribs, the latitude given to the contractors being plus or minus ¼ inch. As the clear height of the doors was specified to be 30 ft. and the rise of the arch 20 ft. it is obvious that, had there been no "table" at a higher level to support the arch shuttering, it would have been much more difficult to set up the arch soffit from the ground (i.e., 50 ft. high) to the same degree of accuracy.

In addition, horizontal bracing at each end at the tie level had to be provided to take the horizontal wind forces from the sliding doors and the gable ends. An expansion joint was provided across the hangar at the lateral centre line, the precast concrete purlins being carried on steel angle brackets bolted to the side of the centre arch, the eaves beams, sill beams and concrete hoods being carried on concrete brackets on the side of the columns. It was felt that the roof covering should be as light as possible and corrugated asbestos was used, fixed to the "T"-shaped precast concrete purlins by means of galvanized hook bolts, an asbestos cover strip being provided at the expansion joint. Asbestos trough gutters run along each of the side hoods and the rain water is carried away by asbestos rainwater pipes built into the intermediate columns.

The bottom ties and hangars are, strictly speaking, not reinforced concrete members, for the splicing of the bars was effected by steel couplings. The force in the tie was so great and the resulting tensile stress in the concrete therefore excessive, that it was considered undesirable to use the concrete to transfer the force from one bar to another in concrete bond in the usual manner. The ties and hangers were encased in concrete solely as a precautionary measure against the effect of fire and corrosion. By using steel couplings, the section of the tie was reduced to a minimum so as to reduce the dead weight. The splicing of the bars was carried out by threading the ends of the bars and jointing them by means of 3-inch diameter mild steel pieces 1 ft. 6 in. long tapped at each end. The size of the tie bars was established by the areas of the bars at the threads, which was convenient in so far as the stress in the overall size of the bar was reduced, thereby reducing the extension of the bottom ties.

and the reinforcing steel projecting at the ends was cast into the arch ribs. The wind forces at the gable ends and

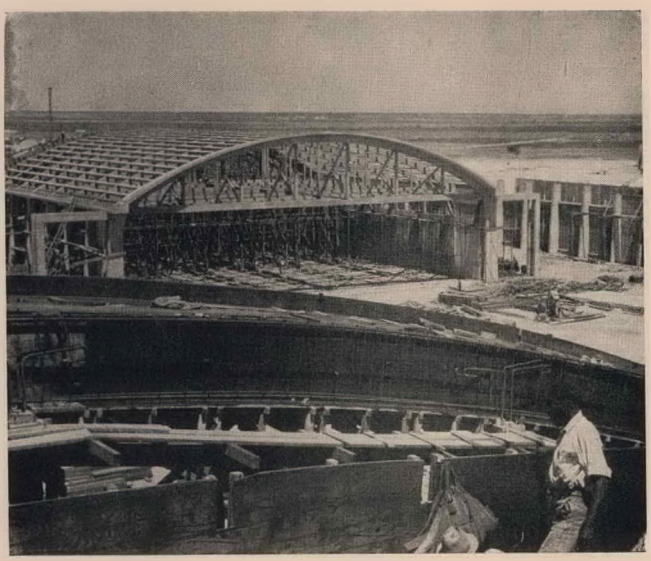
Precast concrete purlins were used to eliminate shuttering, doors were taken up by reinforced concrete rakers from the end arch to the penultimate tie, and horizontal reinforced concrete bracing at the bottom tie level. The horizontal forces at this level are transmitted to the ground by reinforced concrete panel walls between the double end columns and the penultimate column. The doors were constructed of structural steel with galvanized iron covering carried on tracks in the floor slab, and horizontal rollers at the top running along steel channels fixed to the bottom tie. As deflection of the arches and therefore the bottom ties would take place for a considerable period after the completion of the hangars due to creep, the detail of the top guides was such that this deflection could take place without affecting the opening of the doors.

CONSTRUCTION

The construction up to the top of the columns was no different from that encountered in normal building construction and offered no unusual difficulties. Construction at the bottom tie levels started simultaneously from both ends, the shuttering under the ties being sufficient to carry the weight of the ties, arches, bracing and precast concrete purlins. Reinforced concrete rakers at each end were then constructed and this helped to stiffen the shuttering for the first three arches which were constructed simultaneously. The two end bays of purlins were placed in position, the purlins being carried on the side shuttering of the arch ribs, and with the support of the concrete rakers safety was ensured during construction, as high winds are experienced in this part of the country. Each arch was concreted from each springing simultaneously so as to load the shuttering symmetrically, top shuttering being used towards the springings. The remaining arches were cast from each end of the hangar working towards the expansion joint at the centre.

More than usual precautions had to be taken in the procedure for striking the shuttering. The centering and supports underneath the ties were removed before the rib supports, for had the arch rib support been removed first, the arch under its own weight and the weight of the purlins would have deflected, for the tie itself could not have deflected due to its own centering, consequently, the hangers carrying the bottom tie would have buckled. No asbestos covering was placed in position until all the shuttering had been removed, for it was felt that the asbestos might have cracked under the slightest deflection of the arch. The weight of the shuttering left between the top of the ties and the underside of the arch ribs was less than the weight of the asbestos sheeting allowed for, therefore the construction was not overstressed.

The rainfall and the range of temperature at the site were variable and in order to maintain a consistent water cement ratio, all sand was inundated, pneumatic vibrators being used during concreting. The stresses in the arch ribs were mainly due to bending and it was felt that apart from the difficulties of having concrete test cubes made on the



General view of the hangar during construction, showing details of the rib reinforcement in foreground.

site and then tested 100 miles away, it would be better to have testing arrangements on the site. Therefore, concrete beams 3 ins. deep, 2¾ ins. wide, 5 ft. long with hooked bars on the underside surface were cast from the concrete used; these beams were placed on supports at 4 ft. 6 in. centres with point loads applied at third points by means of bricks. The size of the beam was established so that failure on a certain number of bricks being loaded, was equivalent to a certain concrete failing stress. The steel reinforcement was such that at the failure of the concrete, the steel was not stressed to more than the usual working stresses in tension and bond, so that the bars could be used continually.

This method of testing was most successful, for during the course of construction the concrete was continually tested and new sources of supply of stone and sand could be quickly tested before use; and, furthermore, as the concrete was tested under bending conditions and not direct compression, as would have been the case with test cubes, the testing conditions were similar to those that existed in the arch ribs.

In conclusion, the author wishes to commend the contractors, Messrs. Murray & Stewart (Pty.), Ltd., for the design of the centering and the able way in which the work was carried out.

THE ARCHITECTURE OF GERMANY

By Angus Stewart, B.Arch., A.R.I.B.A., M.I.A.

A LECTURE GIVEN TO THE STUDENTS' ARCHITECTURAL SOCIETY, UNIVERSITY OF THE WITWATERSRAND

Madam Chair, Students; I never seem to be quite in accord with these lunch-hour lectures. Perhaps it is coincidence, or perhaps the time of day is reason enough. However last year when the series dealt with "great architects" I was asked to dilate on a man who was—I am inclined, or should like to think—hardly considered to be one of the architectural élite until I had finished talking about him—which, of course, I never did. And this year, in a series dealing with national architectures given by exponents who have actually seen the buildings and walked in the places they would describe, I am called upon to speak about a country that I have only seen through the window of a railway carriage, and in which I stood briefly on a station platform. The platform was Cologne, the trip from Basle in Switzerland to Amsterdam in Holland. It was all over in a day—and here am I, faced with the necessity of talking about Germany. Having presented by credentials, I must proceed with the task.

* * * * *

You cannot, you will infer, expect reporting from me, though I did see the Rhine Valley through the carriage window. Yet my views of the river and its valley were only glimpses and form too slight a basis to discourse on. Therefore, if you have not seen the old castles and industrial cities of the Rhine, you will have to wait until H. V. Morton does Germany, or Fitzpatrick gets about again and in glorious technicolour films the German sunset.

* * * * *

It is of an earlier Germany that I would speak, a Germany in which something seemed to be dawning, some thing of importance happening in architecture. Something was brewing of course, and later I shall show you its baleful influence on architecture. There were, however, pointers in the short architectural spring to this later Hitlerian "Architecture of Authority", and I shall in time draw attention to these signs in the Weimar Republic of the twenties. To seek the good first, what did Germany in the interval between World War I and World War II produce that is of importance to us in what we hope is a post-war world?

There are two elements at least, in that Germany of the interbellum that cannot be ignored. Firstly, there is the art of building for society at large—social architecture, if you like. Some, with the necessary capitals substituted, would stop at Social Architecture. None the less the other element is of great importance, not only for society in the mass, as it were, but to the persons constituting society. To give it a tag, I shall call it an architecture of awareness. There were signs of it in Germany, and I say signs advisably, for it was not endemic, not the general rule. Much of the so-called modern architecture had very little awareness of anything except large and shorn building masses.

What then do I mean by an architecture of awareness? I shall commence with my second-mentioned element, for the first will probably emerge from it.

* * * * *

An architecture of awareness, then, means more than a display of sociological consciousness; though it is true that those practising it were aware that a people unhoused were like a knight unhorsed, both being in undignified positions and at odds with the codes of their ages. In our age it should mean an architecture that induces a heightening of the perceptions and a quickening of the feelings. The quality might be attributed to architecture in all ages; but if our age has ignored some modes of feeling it has investigated others possibly for the first time in history, and it has become pertinently aware of perceptive aspects that were left vague in previous ages—though again there may be exceptions. In my talk on Marcel Breur I drew attention to these trends of investigation. I shall draw no diagrams today. It is sufficient to say that different civilisations have seen the world about them in differing ways. There are no good grounds for supposing that the faculty of sight has altered, though it was probably sharper among primitive peoples; but the frame of reference, which may be said to be the body of feeling and thought to which things have been related back, has varied from age to age. There is a tendency, in fact, to see in a thing what is being sought. This assertion may seem to ask for an accusation of solipsism. However I am not going to venture into the quicksands of subjectivism and objectivism in search of a defence. Instead, I am going to give illustrations of the modes of seeing and feeling.

An eighteenth century rationalist entering a thirteenth century cathedral would not have found evidence of a God he did not seek. Contrarily, a mediaeval alchemist seeing potential gold in lead would not have blamed his vision, but an inadequate experiment for his failure to produce the gold. Funnily enough, the alchemist had a clue.

Some would hesitate to connect such examples to aesthetic experience: yet they do serve to emphasize the point that a thing seen is related back to a frame of reference. The

word aesthetic then must imply something more than just sensory feeling. Coomaraswamy in a little book called "Why Exhibit Works of Art?" states that: "The Greek original of this modern word (aesthetic) means nothing but sensation or reaction to external stimuli; the sensibility implied by the word *aisthesis* is present in plants, animals and man; it is what the biologist calls 'irritability.' These sensations, which are the passions or emotions of which the psychologist, are the driving force of instinct." He goes on to say that: "Aesthetic experience is of the skin you love to touch, or the fruit you love to taste." He would abandon the use of the word in reference to art. However I don't think that is possible; and so long as we remember that judgment, appreciation, and our ideas about reality, are implicated in aesthetic experience it is unnecessary to do so. If sense perception is tempered by the mind, some would stress the idea of feeling.

Sigfried Giedion en "Space, Time and Architecture" refers to an "architecture of feeling", the idea being, I assume, derived from German philosophical sources. It interested me because I had previously come upon the concept of "feeling" in Dr A. N. Whitehead's works, where the derivation is largely from English sources. He defines his use of the word in "Process and Reality". I am not going to bother you with an extract, and would merely remark that if the expression "an architecture of feeling" is to be used, then the usual meaning of the word "feeling" must be extended. It does not mean simply the sense of touch, or used in the plural simply the emotions. It must be taken to include not only perception, but intuition. It is a process of experiencing the world; or, to put it another way, it is a converting of the raw material of existence into a unity of experience. The world, however, considered as a datum for experience is complex. How do the senses affect the mind, and the mental images the senses? Why is one man's swing another's cacophony? Where do the emotions end and the mind begin? And you will find almost invariably in books on art that some reference to the spiritual slips in too. Quite what some writers would imply by the word, I don't know. For myself, if the word is used I am content to accept Eric Gill's sense, and give it its old religious meaning. It is perhaps unwise to do so in an age of flaunted rationalism, but then I leave such rational materialists as use the word to explicate their loose usage of expressions like "man's spirit" and "the spirit of man". Of course, a technical terminology can be applied to all this; however we shall leave the psychologists to their categories, and return to the alchemists' clue.

It might have something to offer to this problem of the relationship of the world to man considered in his full nature of senses, mind, and spirit. The alchemist sought the transmutation of metals. He failed, though as Lewis Mumford points out in "Technics and Civilisation" a long line of alchemists were instrumental in perfecting the experimental method in science. In these days of the split atom it is theoretically possible to transmute lead into gold. Eddington's "Philosophy of Physical Science" will tell you that scientists don't know quite what they are playing with; for the basic stuff, the primordial energy, vanishes under experiment. However in the same way as the electrician uses electricity without knowing what it is, the scientist—and that will soon mean the engineer—can use atomic energy. Consequently there is a slight feeling of uncertainty in the world today. It has been suggested that scientists be prevented from further experimenting and theorizing. Nevertheless scientists will probably strive to advance their theories. Dr Whitehead, years ago, made the disquieting assertion that it was possible to make profitable use of a theory despite any incorrectness that might lie in its incompleteness. The theories of Einstein and Planck may constitute ultimate concepts of reality; on the other hand they may not. Meanwhile a Newtonian apple on the head is not quite as dangerous as a bomb on Hiroshima. Hence my reference to the feeling of uncertainty that prevails. Lewis Mumford in his trilogy consisting of "Technics and Civilisation", "Culture of Cities", and "The Condition of Man",—and there is another to come—is only one of several writers who have pointed out that man's technical ability has outdistanced his sociological, his emotional, and his spiritual development.

We must turn again to Sigfried Giedion's development of architectural history contained in his "Space, Time and Architecture." Last time I spoke, I made a critical reference to the work. Despite that, I do think that it is one of the best available books on history for anyone interested in contemporary architecture. It has been accepted as something out of the blue, though this school should have been prepared for it. It has had access to the writings of the late Dr. Rex Martienssen. And there have been other contributions to a theory of architecture such as the late Kurt Jonas's series on a "Philosophy of Architecture". I would also refer you to an analysis of the modern picture given by John Fassler at a congress on "Abstract Art" some years ago. These contributions to "The South African Architectural Record" may lessen the novelty; but they do not diminish the value of Sigfried Giedion's work. We are bound to consider if the introduction of a fourth dimension into a traditionally three-dimensional art to produce "an architecture of feeling" throws any light on the possible emergence of civilisation from an age of blighted technics, an age that never seems to fulfil its promise.

* * * * *

There was, as I mentioned before, promise in Germany. I also inferred that Sigfried Giedion's leading ideas had been developed from German, at least Germanic sources. I understand that he is a Swiss himself; however it is to a Frenchman that I shall turn in order to suggest some of the ultimate and perhaps delicious promise implied in the fourth dimension. He is Maurice Maeterlinck, who has written fantasies such as "The Bluebird", and classics like "The Life of a Bee". Here is an extract from his "Life of Space": "Boucher, who tells us that a man who was able to make use of the fourth

dimension would see the *whole interior of material bodies* without being arrested by their surfaces, and even without noticing them, and that the smallest particles of all objects, whether inside them or on the surface, would all appear to him to be at the same level, and as though juxtaposed, not superimposed throughout their extent. He would be able to emerge from a space closed in all directions without passing through its boundaries, for bodies in space are in a certain sense superficial in their extension, relatively to the fourth dimension." And here is another extract: "We might easily continue and complete these 'anticipations'; we might suppose, for example, that if the fourth-dimensional being feels the need of a dwelling house, which is for that matter hardly probable —his house would have nothing in common with those that suffice us; we could not possibly be content with the house of the flat being, a house which would have neither height, nor roof, nor enclosing walls, but merely a surface which its occupant would not even perceive. Similarly, the citizen of hyper-space would not be able to accommodate himself to one of the cubes in which we consider ourselves to be at home, but which all beings of his order would enter as water enters a sponge. He would need at very least what Hinton calls a 'tessaract'—that is, a hypervolume of a form which we cannot even represent to ourselves, born of the movement of a cube in a direction which does not exist in a cube, and which is outside all those directions which are possible in a three-dimensional body; that is to say, in a direction which provisionally, as we shall presently see, appears to be time. Who can tell us what the architecture would be like in cities whose buildings were constructed on these principles? Who can say how the inhabitants of these cities would pass through one another, and how they would conceal from view those matters which should be hidden? Who can tell us of the laws of their molecular or atomic existence, which our higher mathematics has dimly glimpsed, and which bear no relation to the laws of our world? . . ."

Yes, they are excerpts from fantasy. Yet are not beings imagined who are so sensitive that they can experience hyper-space or the space-time continuum. And what is the theme expounded in "Space, Time and Architecture"? What do the references to "hovering planes" and "dematerialisation of surfaces" mean if not a progressive refinement of architectural form? Maeterlinck in his imagination takes it to an ultimate degree. Giedion in his book propounds the thesis that the development of artistic and architectural appreciation has been independent of, but has corresponded at all periods to, developments in science and technics. He cites as an example of this correlative growth the development of cubism and constructivism with spatio-temporal theory. Maeterlinck later infers in "The Life of Space" that despite insubstantial forms, which fly off at invisible tangents, there is a principle of instantaneity, that man as a developed being could comprehend the influx of hyper-space as if it were still. Giedion likewise strives to show that though an architectural complex might not be able to be seen in one view it could be comprehended as if it were. His example is rather unfortunate, but it is not his fault that America could show him nothing better than Radio City.

Let us turn to another American product, a number of "The Reader's Digest", as I remember it in a barber's chair. It told of a genius who could read a closely printed page at a glance. It would seem to be a nice game. We ought to try it. You could tell me your phrase, and I would tell you the word that I had been able to pick out at glance. There is a chance it might show that development of the faculties was possible.

Does an architecture of awareness help in this education? Architecture being a plastic art, the stress is on form, the material object; but if this is an interrelated complex world it should in its solutions incorporate the full range of man's activities, at least as we know them and sense them to be, and that, to give a list, means the embodiment also of biological, sociological, mental, and spiritual attributes.

* * * * *

Despite all that has been said to the contrary, there is apart from the immediately practical a symbolic quality in good art. It stimulates the imagination. I said that an aesthetic experience implied an ordered as well as a sensory perception, and said also that in architecture the emphasis was on form. Form, that is, that externalises the internal, that reflects the interior in the exterior, that seen broadly induces an awareness of its structure and organization, and that seen closely is so concentrated in expression that the inherent nature of a single material is made manifest. The Maeterlinck world may impinge on ours; but we are still largely involved in a most solid world. A good contemporary architecture should therefore be practical and coherent as well as stimulating. And strangely perhaps, it is possible that the dynamics of a space-time world are best sensed from a pure interplay of static form.

Purity, of course, is a factor implicit in my reference to the full nature of man. It has sociological implications. You may recall Maurice Maeterlinck's reference to inhabitants of cities who could pass through one another, and his question as to how they would conceal from view those matters that should be hidden? We possibly don't aspire to that transparency of motive; nevertheless a sound society needs sound citizens. The purport of my remarks is that architecture is one factor, and only one, in heightening the awareness of people. In a short sixty minutes I am not going to concern myself with questions of morals or ethics. I have not Alfred Roth's optimism, and do not think that "The New Architecture" is in itself sufficient to bring about a new world; it might easily be the culmination of the old; for the future is not easily predicted.

What is now the near past is reviewed by Catherine Bauer in "Modern Housing", which book makes it clear that German housing was more advanced than any in the world. She attributes the ascendency to the German tradition of public

responsibility in matters of civil development, and states that: "Inherited from the Middle Ages, it has never quite died out even during the most rampant period of *Manchestertum*. German towns had been run by professionally trained people for several decades." She puts it this way: "The difference between a German and an American city, is the fact that the American town only does what it is expressly permitted to do, while a German city does everything except what it is expressly forbidden to do. And there is very little that it cannot undertake." Note this tradition of civic pride and control. I cannot quote her at length, but give this, which is pertinent to later developments in Germany: "Pure liberal individualism has never played a very important rôle in Germany. On the one hand there was the authoritarian Imperial State whose interests were to be served above all others and which, to safeguard those interested guaranteed a minimum of physical security to its underlings in the form of social insurance. And on the other hand there was the much older and even more deeply embedded tradition of the city as a working organism in which every citizen, no matter what his class, took an active pride. The welfare and orderliness of a German city was something to be promoted for its own sake, over and above any individual interests.

"There was nothing essentially new about the growth of city services and city-planning which began to take place toward the end of the century: rather were they a revival of the habits of mind which had built the Free Cities of mediaeval Europe."

The actual building of most of the schemes, of which I hope to illustrate one or two, was done with official aid, and by public authorities and public utility societies. As a matter of interest there were 1,400 co-operative housing societies in Germany in 1914. Between 1919 and 1933 three million dwellings were built. After 1933 the Nazis got control, and Catherine Bauer, whose book was published in 1935, comments caustically on the "few miserable subsistence homesteads" that were erected after their advent. Workers' co-operatives had ceased to exist.

If there was in Germany a long tradition in civic affairs, the architectural tradition is not so clear. There is not the time to show any of the mediaeval work of those flourishing cities that constituted the Hanseatic League. Much of it no longer exists. Sigfried Giedion calls Germany a country of "late architectural phases", and authorities that I have been able to consult are at one in insisting that the German Baroque or Rococo of the late 17th and early 18th century was the first significant work to be produced. The reason for this particular late development was that Germany had suffered from a series of religious wars, and it was not until the conclusion of the Thirty Years War that much attention could be paid to building.

* * * * *

The next great activity took place from 1870 onwards.

1

JOHANN BALTHASAR NEUMANN: WÜRZBURG CATHEDRAL. 1743

2

JOHANN BALTHASAR NEUMANN: CHURCH OF THE FOURTEEN SAINTS. 1746

1 and 2 from "Deutscher Barock" by Wilhelm Pinder.

when Germany after a late industrialization and unification century. The final phase so far as we are concerned was began to build in the grand eclectic manner of the 19th the period from the end of the first world war to the arrival of the Fuehrer. During this period Germany could with much reason claim to be the foremost architectural country in Europe.

The earlier Rococo influence had come almost directly from Italy; the modern had a more diverse background. Directly it was influenced by the Art Nouveau of Belgium. indirectly through Holland by Frank Lloyd Wright. Late as usual, through earlier than most, Germany suddenly woke up in 1910 to the fact that something was afoot, and proceeded to publish the American's work in German.

There were also indigenous influences at work. Walter Gropius was to become the protagonist of this movement. As a lecture was devoted to Gropius last year. I am not going to discuss the foundation of his Bauhaus school for architecture and the crafts today. It is however interesting to note that the basis of manual training in the Bauhaus system had its roots in the long tradition of German craftsmen, whose numbers and independence were instrumental in delaying the beginning of the Industrial Revolution in Germany. It took a Bismarck to organize the country whose architecture we are about to look at.

The photographs will illustrate the different trends in German architecture. We shall see examples that arose from that solid civic tradition, and other products of what Giedion would call the solid German imagination: he, probably having Wagner, Nietzsche, and Spengler, in mind, does call them a country of incurable romantics — and an illustration or two might show that Maurice Maeterlinck is not so fantastic after all.

Several illustrations have been omitted from this portion of the lecture, for which the commentary was largely extempore. What follows only purports to give what might have been said.

The first illustration shows the interior of the court chapel in Würzburg. In this wedding of German architecture and art you may be reminded of the usual cake, and not appreciate space in the way Giedion would have you do: so I pass on the reminder given by C. L. Robert, who in discussing the church of St Nepomuk in "The Architectural Review" points out that it was a more pious age than ours — and also, I surmise, more appreciative of its own profuse craftsmanship. It is, furthermore, a graduated profusion from moulded statues to painted surfaces. Infinity, contrary to the more usual church tradition, is not suggested by dimness, but by a flow of ornament, of sinuous curve, and space, in bright light.

There follows an exterior of another church by the same architect, who is much praised by Giedion. He draws attention to the secular influence in the fenestration and to the "undulating wall", which forms the central feature of the facade. Those who are interested in this portent of the curved wall beloved by contemporary architects must read the description

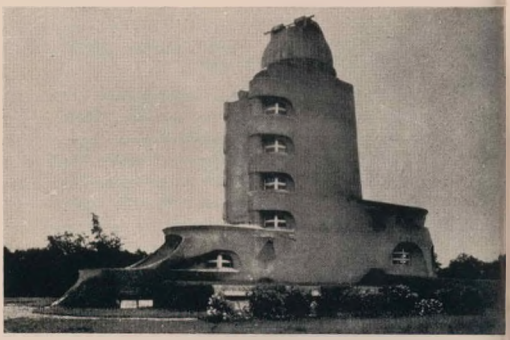
3

PIETER BEHRENS: A.E.G. FACTORY, BERLIN. 1910

4

WALTER GROPIUS: HALL OF MACHINES, DEUTSCHER WERKBUND EXPOSITION, COLOGNE. 1914

5



ERICH MENDELSOHN: OBSERVATORY — THE EINSTEIN TOWER, POTSDAM. 1921

Illustrations 3 to 7, and 12 from "Die Baukunst der Neuesten Zeit", by Gustav Adolf Platz.

of Borromini's work contained in "Space. Time and Architecture".

Apart from any theories about a curve in the continuum. there was a strong French as well as Italian influence in eighteenth century German architecture. And apart from any differences in temperament and national skills. France was an absolute monarchy at the time. and even the hodge-podge of Italy was based on firmer patterns than the collection of petty principalities that was Germany. In adapting Baroque to their own needs and requirements. southern Germans produced Rococo.

In case it is thought that there was something meretricious about the Rococo style. you are referred to the flowering of late nineteenth century architecture. German architecture is considered to be the most meretricious of all work produced in that period: but in illustration it appears to be neither better nor worse than much that was built elsewhere. We shall proceed to the twentieth century.

In this century advocates can be found for Alfred Messel's paternity of a new style in architecture: but his was an equivocal influence. and it is Peter Behrens who is known as the father of the modern movement in Germany. He owed something to Henri van de Velde. who was leader of the Belgium movement that has been previously mentioned: in turn he must be credited with some influence on Le Corbusier. Walter Gropius. and Mies van der Rohe. who worked in his atelier. Le Corbusier's reaction will be ignored: for it is Gropius and Mies van der Rohe that concern us today.

I would ask you to compare the examples of the work of Peter Behrens and Walter Gropius. In fairness to Behrens it must be said that it is one of his typical rather than one of his best efforts: but to give Gropius his due. it must also be said that Behrens never attained to his pupil's early mastery of form. Note that the date of the Fabrikenlage is 1914. Although Gropius has written his signature in the staircase. Frank Lloyd Wright's mark is on the building. Later. Gropius in discarding another's mannerisms was to concentrate increasingly on his own explication of form. Giedion's comment is that: "These staircases entirely enclosed in glass seem like movements seized and immobilized in space."

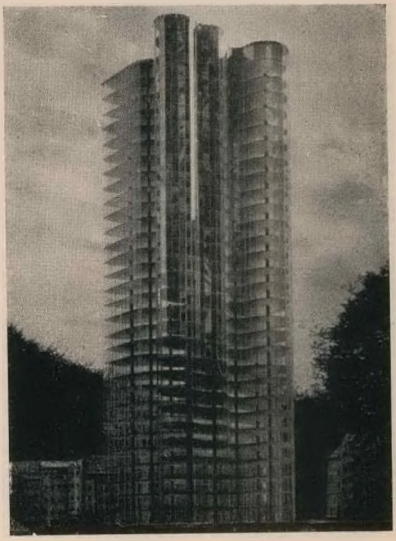
Space-time and all that goes with a Mendelsohn version of architecture is seem in the Einstein Tower. Giedion remarks somewhere on the flaccid use of concrete. I don't know if he had this observatory in mind: though. certainly. it should be apparent that Gropius working seven years earlier. without the stimulus of an illustrious name. did through his feeling for material and structure achieve a greater clarity of expression than did Mendelsohn seemingly obsessed with the viscous property of unset concrete. However Mendelsohn may have been the more prescient. I did refer earlier to the demand that scientists stop their elfish tricks. If we are to regard our men of science as hobgoblins, then perhaps this is a suitable prototype for their lodging places.

Mendelsohn's work was not always so egregious. as witness the Rudolf-Mosse-Haus. which is illustrated because it

6

ERICH MENDELSOHN: RUDOLPH-MOSSE-HAUS. BERLIN. 1923.

7



LUDWIG MIES VAN DER ROHE: PROJECT FOR A SKYSCRAPER IN GLASS AND STEEL. 1921.

is representative of much that was built in Germany during the twenties. It is as well to remember that Gropius's work represently only one aspect of German development. Mendelsohn's heavy functionalism represents another, and one which was immediately and widely influential. Exaggerated horizontality became an accepted hall-mark of modern architecture.

Mies van der Rohe set his own standard. It was much purer than Mendelsohn's; for we must distinguish between walls that grow out of a generating volume as leaders into space, and walls that carry squared and banded mouldings as if to emphasize their denuded surfaces. There was the school of which Gropius and Mies van der Rohe were representatives, and the other, which I have so far chosen to represent by Mendelsohn. This may be unfair to Mendelsohn; for he displayed a powerful imagination that was lacking in most of his contemporaries. Bruno and Max Taut might have been better choices. The distinction however must be drawn. One school, through a close study of material and form, sought a new approach to space: the other rid itself of the cluttered and often tawdry ornament of the preceding generation of architects, and was left with bald statements in building of having done just that. The first school points a way to increasing refinement, the second to all sorts of peculiar exaggerations.

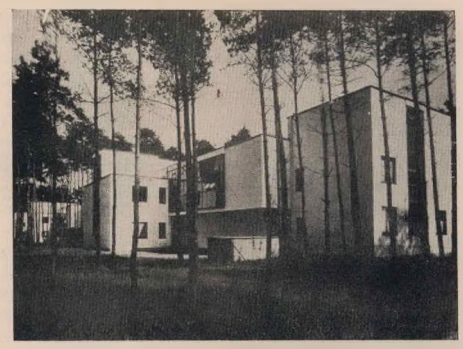
I shall not burden you with examples of old forms in new trappings. Instead I present a project of Miës van die Rohe. In 1921 it might well have seemed like something out of another world. I doubt whether we could submit our private living to such views. Maeterlinck however mentions a girl called Stella, a character in a scientific romance by Howard Hinton. Evidently she was a good girl and sound right through. Anyhow she was transparent. Her father, an old scientist, had rendered her thus by using his knowledge of the angles of refraction of light. In her invisible form she had adventures that embraced the fourth dimension. She might have found an abode in this skyscraper, which is almost transparent. Of course, she had to be clothed to be seen—I had somehow understood that the idea behind high fashion was to expose the woman, but perhaps I am getting the dimensions mixed.

Miës van der Rohe was entrusted with more solid housing. The Weissenhof settlement at the Deutsche Werkbund Exhibition, Stuttgart 1927, is illustrated, because in this scheme he had other leaders of the modern movement to collaborate with him. The chosen architects were Taut, Docker, Poelzig, Gropius, Hilberseimer and Le Corbusier. It is hardly as unified as any of our local National Housing schemes; but, to quote the caption that went with the photograph, it does show "some individual treatments of the new style." Miës van der Rohe's own contribution is the large block in the background, and Le Corbusier's the far one fronting the terrace: of the near one, all that can be said is that Gropius is not responsible.

8

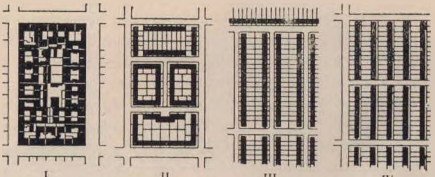
LUDWIG MIËS VAN DER ROHE AND ASSOCIATES: WERKBUND HOUSING SCHEME, STUTTGART. 1927.

9



WALTER GROPIUS: HOUSING SCHEME, DESSAU. 1926-7.

10



FOUR STAGES IN GERMAN BLOCK-PLANNING

I. is the typical 19th-century block, with rear buildings. II. shows smaller blocks with buildings all around the perimeter. III. has open-ended rows facing each other across traffic streets. IV. is a diagram of *Zeilenbau*, with the rows endward to the street and all facing in the same direction. From *Das Neue Frankfurt*.

8 and 9 from "The New Style"; 10 and 11 from "Modern Housing" by Catherine Bauer.

His, Gropius's, most famous work was done at Dessau, where the Bauhaus was built. Although a view of the housing scheme is not sufficent to show the importance of the larger work, it does show Gropius in a characteristic mood. These houses have not the verve or extreme refinement of a Mies van der Rohe house. Yet in their way they are more honest expressions. Gropius makes do with the necessary. His is an intense organisation of the practical. A leading wall may suggest space; but it does not house people—and effusion is not a weakness of Gropius's. All of which is true within the bounds and limits of the philosophy that he had voiced from time to time. Its bounds, you will have noted, do allow him some glass, its limits cannot be considered now: for a larger question is raised that is relevant to a whole phase of German development.

It is a question of intensity as compared to compass of organisation. Germans are keen organisers and great lovers of order. They reduced housing to a science. Eschewing the informality of an English superblock, in which perhaps twenty per cent. of all dwellings were badly sited and orientated, they took aspect and siting to a logical conclusion. The last diagram shows the consummation in "single open-ended rows, carefully spaced, and no more than two rooms deep in any part". Economical, serviceable, it gives every dwelling the standard amenities. Was ever a better module, or standard, evolved for mass housing? Germany thought not, and according to Catherine Bauer, applied it "too rigorously". Despite Tacitus Germans were to show a purpose similar to that displayed in a Roman road. The photograph presents the Friedrich Ebert *Siedlung*, "whose engineering-modernism is so 'pure' as to seem perhaps a trifle mechanical". And except to return to her emphasized word, I must leave Catherine Bauer.

Attainment of "pure" organisation should be an estimable human achievement. Purity implies a high state of integration, of soundness—as I suggested—in form and in man. The illustrated *Siedlung* is, as is implicit in the much qualified criticism of the quoted sentence, one of the best examples of German housing. It gives no idea of the overwhelming, repetitive positiveness of all German logic that has expressed itself in triumphant building masses. Inhumanness is the usual charge. It should say that it is only inhuman in that it has ignored what was referred to as the full nature of man. There are not enough ingredients in the pie to give it savour. Intense as the organization is, its compass is limited. It may be questioned that all "the passions or emotions of the psychologist" found expression in the brief German age of reason that came between a war and a dictator. Evidently they did not.

It is not part of this talk to discuss in how much the rise of Nazism was due to economic causes and to a peculiar form of resurgent romanticism. German romanticism in another form was illustrated in the Rococo style. I hope also to show with the help of two more illustrations that however many the threads there is continuity in a people's history. One, from Nazi Germany, has been culled from an article in

FREIDRICH EBERT SIEDLUNG

12

BRÜDER LUCKHARDT AND ALFONS ANKER, HOUSE 8, WESTEND, BERLIN. 1927.

13

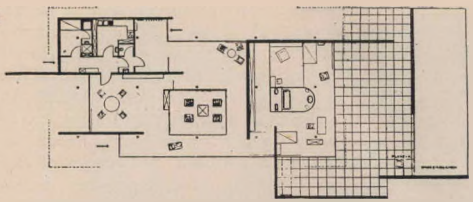
TROOST: THE "FÜHRER HAUS," MUNICH. C. 1937.

"The Architectural Review" entitled "The Architecture of Authority", and the other has been taken from "Die Baukunst Der Neuesten Zeit." a book on the modern movement that was published in 1927. There is a family likeness. It is as well to remember that architecture is not created outside an environment. Attention has already been drawn to the long tradition of control in Germany. The author of "The New Style", published in 1931 before the rise of Nazism, refers to Bruno Taut as "a sort of municipal building dictator". An examination of Taut's work in "Die Baukunst der Neuesten Zeit" would make it plain that all that is "new" in architecture is not to be included in an architecture of awareness.

In the later architecture of Germany, the cultivation of the finer faculties would seem to have been limited to those, who were at one time and another, associated with the Bauhaus. It falls outside my province to discuss whether a theory like that underlying the Bauhaus is too limited in scope, or whether Maeterlinck's musings are too fantastic, to be introduced into the idea of awareness. I have done so —and, in a belated attempt to show that they have a little in common, introduce one last illustration. Although the true end of visual art might appear to be invisibility, it is the attempt at a more and more intense organization that is important. Organization that leads outwards as well as inwards is organic. An organic object holds latent for the perceptive observer both its internal and external relations. Giedion's "Space, Time and Architecture" postulates that these relations may be apprehended, though Maeterlinck's "Life of Space" indicates that they are extremely subtle. However the theory behind the atomic bomb is subtle. Is society to be put into a strait jacket because it has a toy that is beyond the comprehension of all except its votaries of science, or is it to live fruitfully in an age of nuclear fission because it is fitted to do so mentally, spiritually—and aesthetically? An appreciation of atomic power is being instilled in people by the American comic strip, whereas an awareness of structure that embraces the atom is indicated in Breur's strip of film. The history of physics is a story of increasing refinement. The history of art is more ambiguous; it is a story of incisive and fitful awareness. Physical science and art are two factors in the meaning of life. If the first seems to be unsettling at present, the second, as some German architecture shows, has in it an element of repose; for as T. S. Eliot says:

Words move, music moves
Only in time; but that which is only living
Can only die. Words, after speach, reach
Into the silence. Only by the form, the pattern.
Can words or music reach
The stillness, as a Chinese jar still
Moves perpetually in its stillness.

14



MIES VAN DER ROHE: HOUSE IN THE BERLIN BUILDING EXPOSITION. 1931

15

A Bauhaus Movie lasting five years.
Author: Life demanding its rights.
Operator: Marcel Breuer who recognizes these rights.
Better and better every year: in the end we will sit on resilient air columns. (from Bibl. no. 10, 1926, no. 1)

13 *from "The Architectural Review", May, 1946; 14 from "Modern Architects" by Alfred H. Barr, Jr., Henry-Russell Hitchcock, Jr., Phillip Johnson and Lewis Mumford; 15 from "Bauhaus, 1919-1928", by Herbert Bayer, Walter Gropius, Ise Gropius.*

THE STUDENTS' FORUM

THE HISTORIC BUILDINGS OF JOHANNESBURG - 10

THE STOCK EXCHANGE

By Cyril A. Stoloff, Dip. Arch. IV

Dealing in shares has always been one of the major financial activities of Johannesburg, and the Stock Exchange has played a larger part in its life, than in the development of most communities. The first improvised stock exchange in 1886 was merely a recognised meeting place on a site near the Ferreira and Wemmer Mine claims where everyone knew that shares could be bought and sold. Then the business was transferred to Donovan's livery stables, at the corner of Sauer and Commissioner Streets, opposite the present Central Hotel.

Early in 1887, a Mr. B. M. Wollan and a few friends decided to put up a proper building, and formed the Johannesburg Exchange and Share Co., Ltd., with a capital of £5,000. The building, an extremely crude affair, was erected on the corner of Commissioner and Simmonds Streets. It was a single storey building of brick and plaster, extending approximately 50 feet along Commissioner, and some 60 feet along Simmonds Street. The exteriors consisted of some extraordinary pseudo-Classic pilasters at irregular intervals, with semicircular arches to the windows. There was an elaborate brick parapet to the roof, and this was covered with scrolls and decorative motifs. The whole building was an attempt at the grandiose. It was opened by Mr. J. W. Sauer at 11 a.m., on Monday, January 16th, 1888. There were 150 members, who paid an entrance fee of five guineas and an annual subscription of six guineas. This first Stock Exchange was so successful, that Tollemache Buildings were also acquired for administrattive purposes, and the capital increased to £75,000.

Mr. Barney Barnato, a member of the Stock Exchange, formed the Johannesburg Estate Company with a capital of £175,000, and bought the exchange and adjoining buildings for the purpose of erecting larger and more commodious premises. The Stock Exchange was outgrowing the accommodation available in the first building. By September, 1889, the membership of the Stock Exchange had increased to over 900, and the "Star" stated that "close upon 300 brokers and speculators are clamouring for

STOCK EXCHANGE, 1904
The third and present building used in Johannesburg.

STOCK EXCHANGE, 1890
The second building, fronting on Commissioner, Simmonds and Fraser Streets, converted into the Palladium Theatre in 1912

STOCK EXCHANGE, 1888
The first building on the corner of Commissioner and Simmonds Streets, The "Johannesburg Exchange and Shares Co., Ltd."

admission." In the meantime, however, the entrance fee had been raised to 50 guineas, and the annual subscription to 24 guineas.

The foundation stone of the new Stock Exchange that was to be the centre of financial activity in Johannesburg for nearly 15 years was laid on November 2nd, 1889 by Mr. Jan Eloff, the Mining Commissioner. The second Stock Exchange, adjoining the original one on the corner, was built with provision for future extension when the old Exchange was demolished. The principal entrance was in Commissioner Street, and the depth of the building running down Simmonds Street was 100 feet. The Exchange Hall, which was 98 feet by 45 feet and 56 feet in height, was in the innermost recess of the shops and offices. The hall was surmounted by a dome-shaped cupola, and glass roof lights were provided in the two bays on each side of it. On the first floor was a library and boardroom. This building was one of Johannesburg's earliest "Classic" revivals, and is interesting from that point of view. The fraçades were elaborate in the extreme, and decoration was in exuberance. There were masses of Corinthian columns, and decorated pediments, with conventional Classic balustrading to the roof. In addition to the structural columns, there were innumerable Corinthian pilasters, interspersed with arched windows. The feeling generally, was very heavy. The building was opened on February 10th, 1890. The cost of the building was £125,000, the architects being Messrs. Lennox, Canning & Goad. A small space in Simmonds Street, between Market and Commissioner Streets was separated and marked off by iron chains, where "outside" brokers were wont to congregate, and was a scene of much animation and excitement. It was known by the title "Between the Chains" and was opposite the first Corner House.

For some years the Exchange was without telephones, but in May, 1891, it was decided to "make arrangements for placing the Stock Exchange in communication with the telephone exchange about to be established in Johannesburg." (The second Stock Exchange was converted in 1912 into the Palladium Theatre, the entire structure being demolished about 1940.)

In February, 1893, however, the original Stock Exchange building on the corner site was demolished, to enable the new one erected by Barnato's Company, to be extended. A writer in the "Star" of 1893 asserted that the old structure was "perhaps the most hideous building that the perverted fancy of man ever imagined. For years it has been an eyesore to the nascent beauties of the town." The "Star" of October 26th, 1893, reported that the whole of the Stock Exchange had now been completed, and it had a frontage of 206 feet to Commissioner Street, and 103 feet to both Simmonds and Fraser Streets. There were two basements, the one is Simmonds Street being a safe deposit, while the one in Fraser Street was a restaurant. Around the Exchange Hall were 27 cubicles or small offices leased by members of the Exchange, while upstairs were 35 offices, and a 10 feet gallery overlooking the Exchange Hall. The new block also contained 14 shops, a bar, a billiard room, and three

"BETWEEN THE CHAINS" — scene of the first open air "Stock Exchange" in Johannesburg. Part of Simmonds Street opposite the first building was closed off and used as an open air exchange. On the left is Eckstein's first "Corner House," while opposite it Robinson's Buildings, originally Commercial Buildings

ground floor offices. The architect of the new extension was Mr. A. H. Reid, and the contractor Mr. T. M. Cullinan.

The heavy slump in 1897, which ruined many, was followed by the historic boom of 1895, which in turn was checked by the Jameson Raid in December of that year, following which the Exchange was closed for two days. During the South African War the Exchange closed from October, 1899, to December, 1901. It re-opened amid anticipations of a great boom and growing prosperity, and the ideas of the members expanded. The "Star" of July 15th, 1902, stated: "The proprietary members of the Johannesburg Stock Exchange resolved this afternoon to purchase a block of six stands on Marshall Square, for the purpose of erecting a new Stock Exchange." They were offered an entire block of buildings on the Palladium site for £200,000 or an extension of the lease of the Hall at £3,500 a year. But the committee reported that the Marshall Square stands could be purchased for £22,750 and a new Exchange building put up for between £100,000 and £125,000. The new Exchange was commenced in December, 1902, the foundation stone being laid by Lord Milner on April 6th, 1903, when a number of coins from a sovereign downwards "were embedded in the foundation stone."

The building was erected to the design of the winners of a competition, Messrs. Leck and Emley, the total cost being £150,000. The contractor was Mr. C. Woods. It was bounded by Fox, Sauer, Main and Hollard Streets, possessing frontages upon each. The new building was occupied on January 2nd, 1904, and is still in use today. It contains three floors and a basement. The Exchange Hall, situated in the centre of the buiding is 90 feet long by 70 feet wide, and is divided by arcades of marble columns into a nave and two aisles. A gallery for the use of visitors runs along one end. Round the Exchange Hall 210 offices are situated on the different floors. Even in 1904 these offices were warmed by steam pipes and radiators, and were supplied with electric light. There were three electric lifts and five staircases. Reading, writing and billiard rooms, and a bar were situated in the basement when the building first opened. The entrance fee for new members was one hundred guineas in 1904, increasing to five hundred guineas in 1906. This building is one of Johannesburg's examples of a steel-framed structure, clothed with masonry and brickwork. Decoration is restrained, the main features being Corinthian pilasters, and semi-circular and triangular window pediments. The basement walling to the street is of heavy rusticated masonry. There is a dome over the main entrance, lobby, which is approached through an open portico on the East wing. In 1905, the building was considered "the most imposing in Johannesburg," and has continued to be the centre of the city's financial activity for over 40 years.

CONTEMPORARY JOURNALS

ARCHITECTURE

"Progressive Architecture,"—January, 1947, pp. 80-84:
Doors and Windows—Design trends discussed by A. Lorimer, Architect.

"Jnl. American Institute of Architects," — January, 1947, pp. 24-30:
"Out of the Darkness!" Talk delivered before a group of fellow architects at Davenport, by Louis La Beaume, F.A.I.A.

"The Architectural Review,"—January, 1947, pp. 3-6:
The Architecture of Bureaucracy and The Architecture of Genius. Article by Henry-Russell Hitchcock, in which he gives his reasons for using these terms to describe the two main tendencies of Contemporary Architecture, and illustrates his arguments with examples from Europe and America.

"The Architectural Review,"—January, 1947, pp. 27-36:
A summary of the Policy of Architectural Review since its foundation in 1896. Illustrated.

"The Architect's Journal," — January, 1947, pp. 54-76:
"The Next 5 or 50 Years' Work," by Professor Sir Charles Reilly. Comments of the following types of buildings from the pen of the author: Industrial Buildings, Churches, Hospitals, Commercial Buildings, Houses, Schools, Communal Buildings and Housing Schemes.

"Jnl. Royal Institute of British Architects," — January, 1947, pp. 129-132:
Czechoslovak Architecture, past and present, by J. Krejcar, Architect.

CONSTRUCTION

"Progressive Architecture," — January, 1947, p. 48:
Precast Cavity Wall System—Selected Details, by A. E. Beresford, F.R.I.B.A.

"Progressive Architecture," — January, 1947, p. 58:
Corrugated Wire Glass Partition—Selected Details, by Ketchum, Gina & Sharp, Architects.

"Progressive Architecture," — January, 1947, p. 64:
Acoustic Treatment — selected details illustrating Acoustic Treatment of Station K.S.L. Broadcasting Studio, Salt Lake City, by F. Y. Gates, Accoustical Engineer, L. S. Young and A. Ehlers, Architects.

"Progressive Architecture," — January, 1947, p. 71:
Office Wall Treatment—Selected Details by Ketchum, Gina & Sharp, Architects.

"Progressive Architecture," — January, 1947, p. 78:
Combined Flashing and Structural Support for Cavity Wall Construction—Selected Details by A. Hopkins & Associates, Architects.

"Progressive Architecture," — January, 1947, p. 86:
Window Details—Selected Details by Dent & Aydelott, Architects.

"Progressive Architecture," — January, 1947, p. 95:
Moulding and Cove Details—Selected Details by McStay Jackson Co., Designers.

"Progressive Architecture," — January, 1947, p. 109:
Installing Electrical Radiant Heating Cable—Selected Details by L. N. Robertson, Engineer.

"Progressive Architecture," — January, 1947, p. 115:
Luminous Ceiling — Selected Details, by Will Petzold, Designer.

"Progressive Architecture," — January, 1947, p. 121:
Built-in Furniture—Selected Details by McStay, Jackson Co., Designers.

DOMESTIC

"The Architectural Forum,"—January, 1947, pp. 67-77:
A series of three houses illustrated with Drawings and Photographs:
The first, demonstrating an economical construction formula using standard balloon framing on concrete foundation slabs, was designed by John Yeon.
The second is an extremely interesting and successful solution giving privacy and openness on a small suburban site. This house in Redwood, California, was designed by Serge Chermayeff and Ernest Born.
The third, designed by Raymond and Elder is conventional.

"The Architectural Forum,"—January, 1947, pp. 81-88:
A brief review of the development of Domestic Architecture in America. Part I. 1607-1820.

"Architectural Record," — January, 1947, pp. 76-77:
House at Austin, Texas, illustrating that Air-Conditioning calls for compactness in planning rather than open and free planning. Fehr & Granger, Architects.

"Architectural Review," — January, 1947, pp. 19-20:
House on Zurichberg by Alfred Roth, Architect.

"Jnl. Royal Architectural Institute of Canada," — January, 1947, pp. 8-21:
Canadian Small House Competition. Fifteen winning designs. Illustrated.

"The Architects' Journal," — January, 1947, pp. 37-38:
House near Athens designed by Valentis and Michaelides.

FLATS

"The Architectural Forum,"—January, 1947, pp. 63-66:
Pentagonal Apartment Building, giving a maximum rental space around a compact vertical core. Plan and Photographs of Models.

"The Architectural Forum,"—January, 1947, pp. 89-99.
The Industrialized House—Acute shortages of wood products resulted in schemes involving Steel, Aluminium, Porcelain Enamel, Foam Concrete, etc. This article is well illustrated and shows various types of all-metal houses.

INSTITUTIONS

"The Architectural Forum,"—January, 1947, pp. 101-105:
Alterations to General Electric Lighting Institute at Nela Park, Ohio, by C. M. Cutler, W. D. Riddle and Ketchum, Gina & Sharp, Architects. Article illustrates types of fixtures and installations to demonstrate current theories of illumination.

INSULATION

"Progressive Architecture," — January, 1947, pp. 59-61:
Article with illustrations on Thermal Insulation Sound Control, by Herman H. Field, A.I.A.

"Progressive Architecture," — January, 1947, pp. 103-108:
Illustrated article on Air and Temperature Control, by Clifford Strock.

LABORATORIES

"Architectural Record," — January, 1947, pp. 59-65:
Electronics Laboratory and Microwave Tower, Nutley, N.J., for Federal Telecommunicative Laboratories Inc., Griffels & Vallet, Inc., L. Rosetti, Engineers and Architects.

MATERIALS

"Progressive Architecture," — January, 1947, pp. 65-70:

New types of surfacing materials now available in America with special reference to remodelling Commercial Buildings. Article by W. Sanders and A. Malsin, Architects.

"Progressive Architecture," — January, 1947, pp. 75-77:

Finishers and protectors of building material, either to increase its usefulness, better it appearance or to protect its chemical structure from deterioration. An article by Ben Small, A.I.A.

"Progressive Architecture," — January, 1947, pp. 92-94:

"Material of Installation," illustrated article by Ben Small, A.I.A.

RELIGIOUS, SEPULCHRAL

"The Architectural Forum," — January, 1947, pp. 78-80.
Methodist Church at Mayville, N.Y. A brick-faced church of contemporary design in a conservative small-town community.

SCHOOLS

"Architectural Record," — January, 1947, pp. 79-95:

1. Edison Technical High School, Fresno, California, illustrating the use of modular design and loft construction. Architects, Franklin, Krump & Falk. Illustrated.
2. Unilateral lighting for a two-storey school. E. M. Smith Associates, Architects-Engineers. Illustrated.
3. Bilateral lighting for Meiners Oaks School, California. M. Lyndon, Architect. Illustrated.
4. Tri-lateral lighting. Laurel Creek School, California. Kump & Falk, Architects-Engineers. Illustrated.

STRUCTURAL ELEMENTS

"Progressive Architecture," — January, 1947, pp. 42-47:
"The Load-Bearing Structure," an article with illustrations by Fred. N. Severud, Consulting Engineer.

"Progressive Architecture," — January, 1947, pp. 51-56:
"Non-Load-Bearing Structural Elements," an article with illustrations by Hermann H. Field, A.I.A.

TOWN PLANNING

"Jnl. Town Planning Institute,"—January-February, 1947, pp. 29-34:
Road Traffic and Town Planning. Paper read by Sir Alker Tripp, C.B.E.

"Jnl. Town Planning Institute,"—January-February, 1947, pp. 35-50:
Reconstruction in the Netherlands. Article by Max Lock, A.R.I.B.A.

"Jnl. Town Planning Institute," - January-February, 1947, pp. 52-66:
A plan for Kingston-Upon-Hull. Review by Robert Meadows, A.R.I.B.A.

"The Architects' Journal," — January, 1947, pp. 33-36:
Planning in Palestine. Three examples of planning in Palestine are reviewed. Heifa Bay, Carmel Hill, and Tiberius. All three are the work of Professor A. Klein. Professor Sir Patrick Abercrombie prepared the outline plan at Heifa Bay.

TRANSPORT BUILDINGS

"The Architectural Review,"—January, 1947, pp. 7-12:
Air Transport Building, Dublin Airport, by Desmond Fitzgerald, Architect. Illustrated, with plans and photographs.

WELFARE (HOSPITALS, ETC.)

"Architectural Record," January, 1947, pp. 66-73:
New buildings for boys' town, Nebraska. Leo. A. Daly Co., Architects. Illustrations of Reception Centre, Administration and Welfare, High School, Auditorium, Field House, Trade School, Stadium and Cottages.

"Architectural Record," — January, 1947, pp. 74-75:
Medical Centre, Oklahoma City. Caston & Frankfurt, Architects and Engineers. Illustrated.

NOTES AND NEWS

TOWN AND COUNTRY PLANNING

BRIEF SUMMARY OF THE BRITISH GOVERNMENT'S NEW TOWN AND COUNTRY PLANNING BILL

The Government's new Town and Country Planning Bill, together with an explanatory memorandum, have now been published and the following is a brief summary of this "complicated" measure—to use an official term.

The Bill sets up a new planning system which, for the first time, makes practical such projects as the reconstruction and redevelopment of our old towns, the preservation of green belts, the provision of open spaces in overcrowded areas, and the allocation of land for new houses, factories, etc., in the right place as exemplified in the Abercrombie Plans for London and similar plans for other cities.

Such projects have been impossible in the past because of the inflated compensation payable to landowners by local authorities and an excessively static and rigid planning system which laid undue emphasis on local at the expense of regional and national needs.

The most onerous form of compensation was that payable to owners to preserve areas such as London's green belt, or the best agricultural land in any part of the country, from the ravages of uncontrolled development. In the past local authorities have, in theory, been able to preserve land against building, but in practice could not possibly meet the cost of compensation involved. Thus the intention of previous Town and Country Planning Acts was frustrated.

The new Bill substantially implements the recommendations of the Uthwatt Committee. It does not nationalise the land but it deprives landowners of the right to build on their land unless the building is in accordance with proper planning requirements, and it creates a right to impose a development charge (i.e. betterment) if permission to build is granted (thus depriving the landowners of future "unearned increment" in land values). The Government take the view that owners who lose development value as a result of the passing of the Bill, are not on that account entitled as of right to compensation. They recognise, however, that if no payments were made hardship would be caused in many cases, and they have decided that a capital sum should be made available out of which payments may be made to landowners. The Bill fixes this sum at £300,000,000 to cover England, Wales and Scotland. The method of distribution will be decided later by the Treasury, subject to affirmative resolutions of both Houses of Parliament.

The Bill distinguishes two elements in the value of land: (*a*) its value for the purpose for which it is being used, e.g., farmland, houses or shops: this is its "existing use" value; (*b*) its value for a potentially more profitable use, e.g., development of farmland as a building estate, or replacement of houses by shops and cinemas: this is its development" value.

In a remote rural area the development value may be zero. If the land lies on the edge of a rapidly expanding town the development value may be high. Where building or rebuilding increases the value of land above its existing use value, betterment will be collected by the State instead of by the landowner, whose opportunity for profit was often created not by his own activities but by the growth of the community. For this purpose the Bill creates a Central Land Board which will replace landowners as the collectors of this increment in land value.

While depriving landowners of the development value of their land, the Bill leaves them with its existing use value. The farmer can go on farming land and the owner of a house and garden can go on living there. Neither is affected by the Bill. Both retain the value of their land for such a use.

As regards the position of private enterprise in land development, the landowner's position remains essentially unchanged, except that in future he will have to pay a proportion of the price of the land to the Central Land Board in the form of a development charge. The cost of the land to the developer will be much the same as before, though on the one hand a landowner in a key position will not be able to hold him to ransom, and on the other the developer will have to write two cheques where one would have done before. Private development will, as now, have to be in accordance with local and national planning requirements. If the developer is the landowner himself he will have to pay a development charge just as a third party would.

The compensation and betterment problem having been disposed of, a positive system of planning is substituted for the negative and restrictive machinery of past Acts. Local planning authorities will have to submit development plans within three years. The Bill, unlike previous Acts, requires these plans to be review at least every five years. They will thus be capable of continuous adaptation to changing conditions.

County councils are for the first time given direct planning functions, so that the requirements of town and country will be co-ordinated over a wider area than in the past. County councils and county boroughs will prepare the plans, but local councils will have to be fully consulted: and the carrying out of the plan, including the putting up of buildings, whether by private or public enterprise, will remain their responsibility.

Where regional planning needs overlap county boundaries, counties and county boroughs will be able to join together in joint planning boards. Co-ordination at national level will be the responsibility of the Minister.

The Bill provides full powers for public purchase of land required for the carrying out of a plan and provides an Exchequer grant to local authorities in respect of (i) loss on redevelopment operations: (ii) compulsory purchase, where

they reduce the value of the land they buy by putting it to a less profitable use; and (iii) payments to a landowner if the value of his land is reduced below existing use value.

All purchases of land for public use (whether by Government Departments, local authorities or statutory undertakings) will be at existing use value. The 1939 standard is retained.

Powers already exercised by local authorities under the 1944 Act for dealing with blitzed areas are extended to any land wanted for development or redevelopment for a ten-year building programme, whether by public or private enterprise, which the plan will indicate. This programme of development will be extended when the plans are reviewed every five years or less, and can thus always be kept from five to ten years ahead.

The Bill also provides powers—

(i) To control outdoor advertisements. Regulations will be made to establish a national code of control for outdoor advertising:

(ii) To ensure the preservation of trees in the interests of amenity and the preservation of historic buildings. The powers here will be on the same lines as those now existing.

SITUATIONS WANTED

Architect and Surveyor (age 31), single, 1st class Hons., Liverpool School, A.R.I.B.A. and Registered Surveyor, ex-Major R.E. Served Far East theatre five years. Wishes to settle in colonies or dominions. At present partner in home firm. Since demob. brushing up current methods, etc. Interested in any good offer architectural or otherwise.—Reply to Advertising Manager.

Eric A. Bates, Clapton Bridge House, Stratford-upon-Avon, Draughtsman and Surveyor or in executive position in allied England (age 32), seeks progressive post in Union as Senior trades. Experience includes housing and housing schemes, cinema work and surveying, also surveying and layout of army works, including all services. Intends to take final R.I.B.A. examination. Refs.—Reply to Editor.

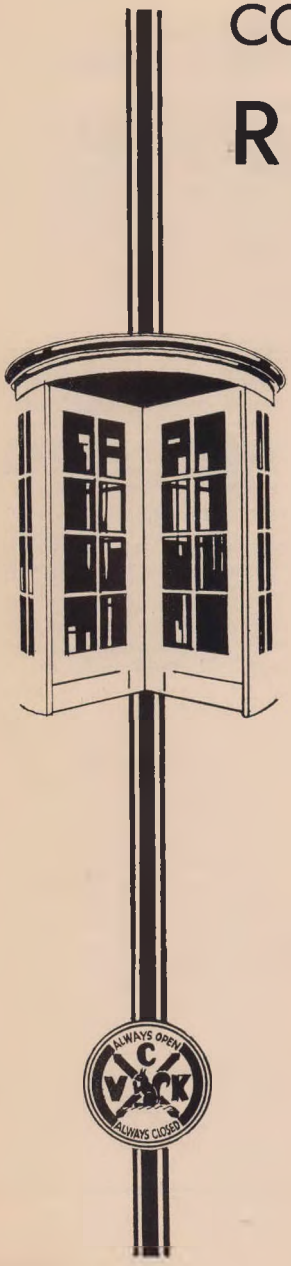
Rhodes P. Asser, P.O. Box 788, Salisbury (age 18), employed since 1945 in office of District Engineer, Rhodesia Railways, Ltd., now seeks position which will enable him to obtain instruction and further training in architecture.

BACK NUMBERS OF THE JOURNAL

The Librarian of the University of Cape Town is anxious to complete sets of the "Record" and is willing to purchase the following:

Vol. 21, 1936, No. 7;
Vol. 22, 1937, No. 8;
Vol. 23, 1938, Nos. 1, 2, 3 and 12.

COLMAN-VAN KANNEL REVOLVING DOORS



The manufacture of Revolving Doors demands highly specialised knowledge and craftsmanship. The materials, also, must be the finest procurable.

The combined knowledge and resources of T. B. COLMAN & SONS, LTD., and the VAN KANNEL REVOLVING DOORS CO., LTD., together with the improved facilities of our enlarged modern factory, are now offered to you by FREDK. SAGE & CO. (S.A.) LTD., who have been entrusted with the sole representation for the greater part of South Africa, including the Rhodesias.

The Company is in a position to supply and instal standard Mahogany units from current stocks, or, if desired, individual designs may be submitted for special manufacture.

A Revolving Door offers the undoubted advantage of the exclusion of all draughts, dust and noise, no matter what weather conditions prevail and, in addition, is an attractive feature of any building, harmonizing with any type of entrance.

ALL ENQUIRIES:

FREDK. SAGE & CO. (S.A.) LTD.

SHOPFITTERS & METAL CRAFTSMEN

10, HEIDELBERG ROAD

VILLAGE MAIN

JOHANNESBURG

P.O. Box 777 Phone 22-7555

Journal of the SA Architectural Institute

PUBLISHER:

University of the Witwatersrand, Johannesburg

LEGAL NOTICE:

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

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