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THE SOUTH AFRICAN ARCHITECTURAL RECORD

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SIR HERBERT BAKER.

Sir Herbert Baker was the guest of honour at a dinner given at the Carlton Hotel, on August 15th, by the Transvaal Institute of South African Architects.

There were approximately 150 present, including members of the architectural profession, their friends, quantity surveyors and builders.

The toasts of "The King," and "The Governor-General" were proposed by the President.

The President, in submitting the toast of the "Union of South Africa" expressed the opinion that the confidence reposed in the profession by the Union Parliament in passing the Architects' Act would not be misplaced, although by the Act many untrained and poorly qualified men would be enrolled in their ranks. The handicap, however, would efface itself in time, as it had done in other professions. The South African Institute would foster the art of architecture and work for its advancement in the highest interests of the community.

The regulation of architectural competitions, he proceeded, was a most important duty. The system gave to the young and ambitious man opportunities offered in no other profession. Fair conditions and competent assessorship were essential.

A high standard of work was being maintained by the Government in their buildings, a standard that had called forth the encomium of Sir Herbert Baker, who had also mentioned the high standard being set by the younger generation of architects. That standard must eventually reflect itself through the Union. Public buildings, being the ornaments of a country, established a nation, drew people and commerce, and made the people love their country.

He pleaded that young South African students should be trained to be given every opportunity of carrying out Government schemes. That encouragement had been practised for 200 years in France.

The Hon. W. Madeley, Minister for Public Works, in replying to the toast, expressed, on behalf of the Government, their congratulations to Sir Herbert Baker on his return to South Africa, and on his declared intention of helping out the country architecturally. Sir Herbert's reputation stood supreme. That he had obtained the greater part of his experience in South Africa spoke volumes for the country. His return to the field of his early labours, with fresh laurels gathered elsewhere, would raise the already high standard of architecture in South Africa still higher.

"We are doing our best as a Government department," said Mr. Madeley, "to assist South African students to attain the heights of their ambitions. It is our intention, as time goes on, to give more and more opportunity to youths to give effect to the results of their study. But all our intentions will be wasted effort if the capacity is not there. With Sir Herbert's example before them, however, South Africa's architectural profession should climb still higher and make South African building supreme."

Mr. F. Williamson, A.R.I.B.A., proposed the toast of "The Province of the Transvaal."

He declared that one might travel the world over without finding a province that indicated so much vigour and enterprise. The rapid development of the Transvaal had been unique. There was nothing to prevent its obtaining in other respects a status of the same kind.

"Our standard of architecture in the Transvaal," he said, "is second to none in the Union of South Africa—a fact due largely to the initial guidance and authoritative ruling of Sir Herbert Baker years ago. His influence in the country is one that will be felt generations hence."

With reference to the capital, Mr. Williamson maintained that in the future Pretoria would be one of the finest cities in the Union. This was the consequence of the helpful policy of the municipality in giving its architects an opportunity of assisting the city in its improvements. The province, moreover, was particularly fortunate in its Administrator, and in the great interest he had always displayed in art and architecture. As Principal of the University of the Witwatersrand it was under his guidance that the first chair in architecture was established. The Cape had forestalled them in the Ordinance of Town Planning, but he hoped that the Transvaal would not be far behind.

The Hon. J. H. Hofmeyr, Administrator of the Transvaal, in replying, welcomed Sir Herbert Baker home again on behalf of the Transvaal. Sir Herbert had made his mark, and would always stand out in our history as one of our benefactors, not only for what he had done in regard to our great public buildings, but also because of his influence on our domestic architecture. Art played a great part in enlarging and enriching life, and one of the biggest and most enriching factors in the life of Johannesburg was the high standard set by Sir Herbert Baker.

"A gathering of architects must contain an element of inspiration to us who are tainted with the tar brush of political life. You can keep your artistic ideals alive. I wish we also could express some.

"May I mention two characteristics of the great artist and the great architect? The first is vision. The architect has a great conception, of which he will

never let go. But we politicians must keep on grubbing about with the muck-rake, and we do not seem to create anything but words. I wish that we, too, could realise that we are making a real contribution, and could keep alive before us always the vision of a great and united country.

"The second characteristic is complete indifference to criticism not inspired by the essentials of truth. That is the characteristic of the great artist. All that matters to him in his ideal. I wish we politicians could say the same.

"I heard it said the other day that the Provincial Council joke in this country takes the place of the mother-in-law joke in other countries, except that it is much more serious. May I say here that, despite the faults of the Provincial Council, we are doing a lot of real solid work.

"In the last few years, with the help of the Union Government, we have placed the finances of this province on a stable basis, turned deficits into surpluses, and repaid some of our debts. We are spanning the rivers with bridges, steadily improving the roads, extending and improving hospitals, developing municipal institutions, improving school buildings and spreading education to the lonely places. It is important, but not spectacular.

"As things are to-day the provincial system of government seems to be a necessary part of the administrative organisation of the Union. People agitate for the abolition of the system. I am not one of those who champion the provincial system as a permanent part of our constitution. I see as clearly as anybody the weaknesses of that system and the problem of overlapping. But these problems are not to be solved by wiping out the provincial administration and putting nothing in its place.

"For economy and efficiency you want organs of local self government. We have not got them, and until we have it would be wrong to wipe out the local organ known as the Provincial Administration. The man who simply cries out for the abolition of that system is talking foolishness. The man who genuinely helps the development of local self-governnment in this province and moulds public opinion in that direction will be performing a real national service."

Mr. W. H. Stucke, F.R.I.B.A., then proposed the toast of "Our Guest." He said that in every part of the Empire the name of Sir Herbert Baker was known and honoured, and in South Africa, where he started to build up his great reputation, there could be no one so blind or so disinterested in the artistic side of life not to have noticed, studied and admired some of the many beautiful examples of his art.

"I think we can truthfully say that the modern practice of our profession never stood higher than it is to-day. There is breadth of view, a dignity of line and an elimination of trivialities more apparent in recent work than in that belonging, say, to the beginning of this century.

"In this I claim an advantage over that other great art, the art of painting. We, at least, have not suffered a degradation similar to that inflicted by the post-war impressionist and others of the same ilk.

"The art of architecture is not receding. We are progressing along sane and noble lines, and the standard is much higher than that which prevailed in the spacious day of Queen Victoria. How this has come to pass is not unconnected with the efforts of a type of Englishman well represented in the person of our guest this evening.

"What I have always admired in Sir Herbert Baker is that no matter how small or unimportant the job may have been, he has always succeeded in investing it with artistic merit In other words, at no period in his career has he ever lent himself to the execution of the mere potboiler. And he has had his reward. He has been entrusted with many of the greatest works that have been erected in the various parts of the British Empire in recent years. These works reveal the imagination, resource and culture with which they have been inspired. He has built in three continents, and he has been honoured by his King and country."

Sir Herbert Baker, A.R.A., F.R.I.B.A., in responding, expressed his pleasure at seeing before him so many old professional friends and pupils as well as so many of his old builder friends.

He was even more pleased to see the real advance in architecure accomplished in South Africa during his absence. For that the architects were to be particularly thanked and congratulated. Also to be thanked were the patrons, the people of the country. The architect was the interpreter of his patron, as the latter was the spirit of the day.

It had been his fortune to have worked in South Africa in three great periods, those of Cecil Rhodes, Milner and Botha. Cecil Rhodes was not so much the interpreter of the spirit of the day as the spirit himself. He built for love of country, and that spirit was revived by Lord Milner, when he encouraged people to establish new colonies and build homes—real homes.

"On my return here," said Sir Herbert, "I have looked with great interest to see how that spirit has been kept alive. In the result I heartily congratulate all the artists whose hands have been employed. I perceive the handiwork of many of my old friends tion of the great beauty of the old French and Dutch and of many of my young friends.

"If I may offer a criticism, I feel that the attraction of the great beauty of the old French and Dutch homesteads has rather obscured other considerations. There is a danger in using their multiplicity of gables too close together. In towns such a style can be overdone, in the sacrifice of strength to beauty."

Dr. Hjalmar Reitz proposed the toast of "The Profession," and in his speech criticised the placing of two black elephants at the proposed main front entrance of Johannesburg's new station. "I am prepared to admit," he said, "that they are better than the white variety, but they are not typical of South Africa. Why not, instead of elephants, have two koodoos, two rhinos or two elands ?"

The President and Mr. Gerald Moerdijk, A.R.I.B.A., replied, the latter in Afrikaans.

Mr. F. L. H. Fleming, F.R.I.B.A., proposed the toast of "The Visitors," and Mr. A. Law Palmer, Mayor of Johannesburg, responded.

In the course of his speech, Mr. Fleming paid a tribute to the charming personality and complete womanliness of Lady Baker, and asked Sir Herbert to convey to her their best regards and sincerest good wishes.

With acknowledgments to "The Star."

THE CASTLE, CAPETOWN.

F. W. MULLINS.

Although not the first fort that was built at the Cape by the Dutch East India Company, the Castle is the oldest building existing to-day in South Africa. Its predecessor, the original "Fort of Good Hope," was built by Johan van Riebeek, soon after landing at the Cape in 1652, and took the form of a structure with earth walls and bastions—a thing square in shape—within which were dwellings of wooden construction, and a tower of stone, the whole being surrounded by a ditch. Such in character was the first fortress, but the increasing business of the Company, followed by the natural growth of the settlement made it imperative that a much stronger and more substantial fortress of stone should be erected—one capable of accommodating a large garrison—one that would afford greater protection and security. So it came about that in the year 1665 the Company's Directors issued orders for the building of the present Castle—and numerous appointments and instructions followed. Commissioner Isbrand Goske, "to choose the site," Pieter Dombaer, an engineer in the Company's service, "to superintend the works," the Governor, Zacharias Wagenaar "to detain three hundred soldiers from passing ships for employment in preparing the stones and other materials." Slaves and convicts there were in large numbers.

The plan chosen for the Castle took the form of a regular pentagon—with a bastion at each one of the five points. The sides of the pentagon measuring almost five hundred feet from point to point, and the bastions rising to thirty feet in the case of the three facing North East—that is to the sea—and somewhat higher to the remaining two facing South and West, and overlooking the town. The connecting ramparts were recessed in the four sides.

This plan was one common to the fortresses of the preiod, and according to the rules of Vauban and Coehoern—well known and great authorities upon works of fortification.

The month of August, 1665, saw the arrival of Goske, and shortly afterwards the site was duly decided upon, presumably in consultation with the various naval and military chiefs and the Settlement's Council of Policy. On the 8th day of June the foundations were marked out by Sieur Hendrik Lacus, Land Surveyor and Fiscal. Five months were then occupied in the digging of trenches, and the getting together of the many materials. From Robben Island came the shells for lime, stone from Table Mountain, bricks from over the sea, and from Hout Bay many of the timbers.

The 2nd of January, 1666, the foundation stones were laid—well and truly—and as history tells us "a great ceremony amidst rejoicing and much feasting." Four of these corner stones were laid during that day, the first by Governor Zacharias Wagenaar, the Minister Johannes van Arckel, the Secunde Abraham Gabbama, and Hendrik Lacus, the Fiscal. Eight long years from its beginning— in 1674—the fortress had been sufficiently advanced for the garrison to move in—and he old original fort was demolished.

In this same year the war with England had reached conclusion, in consequence of which the possibilities of an invasion were no longer an immediate source of danger to the inhabitants, and building operations therefore eased off considerably—in fact almost ceased altogether. However, the excavations for the moat appear to have gone on steadily—mainly in the year 1677—for according to the historian Dr. Theal:

> "Governor Johan Bax, his lady, and his little son, all the Company's Officers and their wives, the Burgher Senate, and other leading inhabitants with their wives set to work for a considerable time to carry out earth from the moat. The Governor carried out twelve baskets full, his wife six."

and compelled by regulations, all the inhabitants of the settlement who passed the Castle had to assist in this work of excavation.

The progress at this stage in the proceedings amounted to the outer walls being carried up approximately two thirds the height all round, built in irregular rubble stone laid in shell lime and clay mortar, and rammed with gravel. But with the arrival of Governor van Der Stel in 1679, another and greater period of activity set in and the work was pushed forward with increasing vigour and enthusiasm. The outer walls were raised to their necessary and full height, and completed. The last few feet being carried out in brick. The bastions then received their names of "Oranje," Nassau,' "Catzenellenbogen," "Buuren," and "Leerdam." The original gateway or "poort" between the Catzenellenbogen and Buuren Bastions, which faced the sea, and at one time opened on to a strand of Table Bay, was closed, and another one built for the better security of the fort. This was in 1682, and it remains to-day the main entrance to the Castle. Known to all as the famous van der Stel gateway it is one of the many architectural monuments of the work of that Governor left to us.

Just without this main gateway are the entrance piers—broad and pedestal like—upon which are well proportioned heraldic-like lions, facing the town—the work of Anton Anreith. Also the quaint watch boxes in stucco, wherein the "night watch" took their shelter.

The main gateway bears a close resemblance to those of the town of Dordrecht, in Holland, and it is not at all unlikely that the materials used in its construction were brought out specially from the Fatherland. The archway itself is a three centred one, and spans an opening approximately twelve feet. Built of yellow Dutch "Klompjes" (they were called Batavian bricks at the Cape), which are now constantly toned down in colour. The pilasters flanking the sides, together with the frieze cornice, and broken pediment,

were carried out in greyish blue stone, identical with that which was so much in use, in combination with brickwork, on many of the buildings of Flanders and Holland. Heraldic enrichments cover the whole of the frieze, between the pilasters, taking the form of six shields bearing the arms of Amsterdam, Rotterdam, Delft, Middelberg, Hoorn and Euckhuzsen, and flanked either side in the frieze over the pilasters is the V.O.C. monogram of the Company. Within the pediment is carved the Lion of Holland, surmounted by a mural crown. The Cupola above, together with its base, is octagonally shaped, the whole being carried out in the similar small yellow "Klompje" brick. It still contains the old original bell, bearing the following inscription.

> "Benedicat Terra Dominum : Laudet et Superexaltet Eum in Saecula. Claudifremi me Fecit. Amstellodami. Anno 1697.'

Famous from earliest times the bell founders of old Holland shewed great care in the preparation of metals for their bells, and this particular one, even to this day, remains unimpaired in its tone, notwithstanding the fact that two centuries and more ago it rang out the passing hours and gave the alarm to call out the Burghers.

This gateway from within—the south eastern side looking on to the outer or garden courtyard— is much similar in design up to the first floor level, having the same archway, pilasters and a straight cornice, but is in brickwork throughout. Above this level, to the first floor window and over, it is finished with a plastered gable, and in its treatment is not unlike the gable of "Groote Constantia," but somewhat "Rococo" in its ornamentated finish.

The fine and stately houses within the fortress were also the work of the two van der Stels—Governor Simon and his son Willem Adriaan, who succeeded to the Governorship in 1699. The residences of the Governor and the Secunde, or Chief Merchant—Sieur Samuel Elzevir—are built on the great cross wall which forms the dividing line between the outer and inner courtyards, also the residence which was once that of the "Admiral of the Fleet," on the south eastern main wall and facing this outer court and at right angles to the dividing wall. This residence no doubt was originally meant for the Governor also—previously to the one on the dividing wall being put up for him.

Beneath the house of the Secunde are the grain cellars, having a very fine example of vaulting to the ceiling, and built at the time of Simon van der Stel to retain therein some of the corn which was collected for consignment to Batavia.

In the Great Cross Wall within the Castle—which is fifteen feet in depth at the base—built in the same materials as the outer walls, and rising to the height of the ramparts—many curious features present themselves, when one comes to analyse its real meaning and purpose. Considering the enormous piece of work that it undoubtedly is, and the seemingly useless purpose it could serve in the position it occupies—a mere wall within dwelling houses—it is strangely difficult to understand how this came about, though much can only be surmised. Undoubtedly it was the original fortified crosswall dividing the inner and outer courtyard, a second line of defence within the Castle gates as it were, with embrasures and openings for cannon, quite a strong fortification in itself.

Van der stel (Simon) in one of his dispatches says :—

> "By order of Commissioner General van Rheede, we have completed a crosswall, masoned with stones and lime, a great, strong work, and none the less necessary for our protection to cover the bastions, being 542 feet long, 39 feet high, 12 feet broad at the base, and ten feet in the centre and at the top eight feet with a stone mantelet for defence of the bastion Nassau. The foundations of the church, cellars, stores and dwellings of the Company's servants have been laid."

A later dispatch of his, some five years afterwards, in 1696, contains the following.

> "The new corn stores, built on the Italian plan, on the side of the cross wall which runs through this fort, are at present so far advanced, that they can readily hold a large quantity of wheat, and we are doing our best to complete them."

From the foregoing we gather the fact that the houses became quite another addition to the original wall that was planned within the fort, and when these same additions came to be carried out, the great wall simply disappeared as it were, and became a mere divisional wall between the residences of the Governor and the Secunde, running centrally through each one. Pierced at many intervals as it was originally, with passages and openings, connection was easily obtained between the various suites of rooms erected on either side. May be, there are others too, now bricked up, which remain secret and unknown to us in this present age, but further exploring and investigation may lead to some interesting discoveries and in time bring them to light of day.

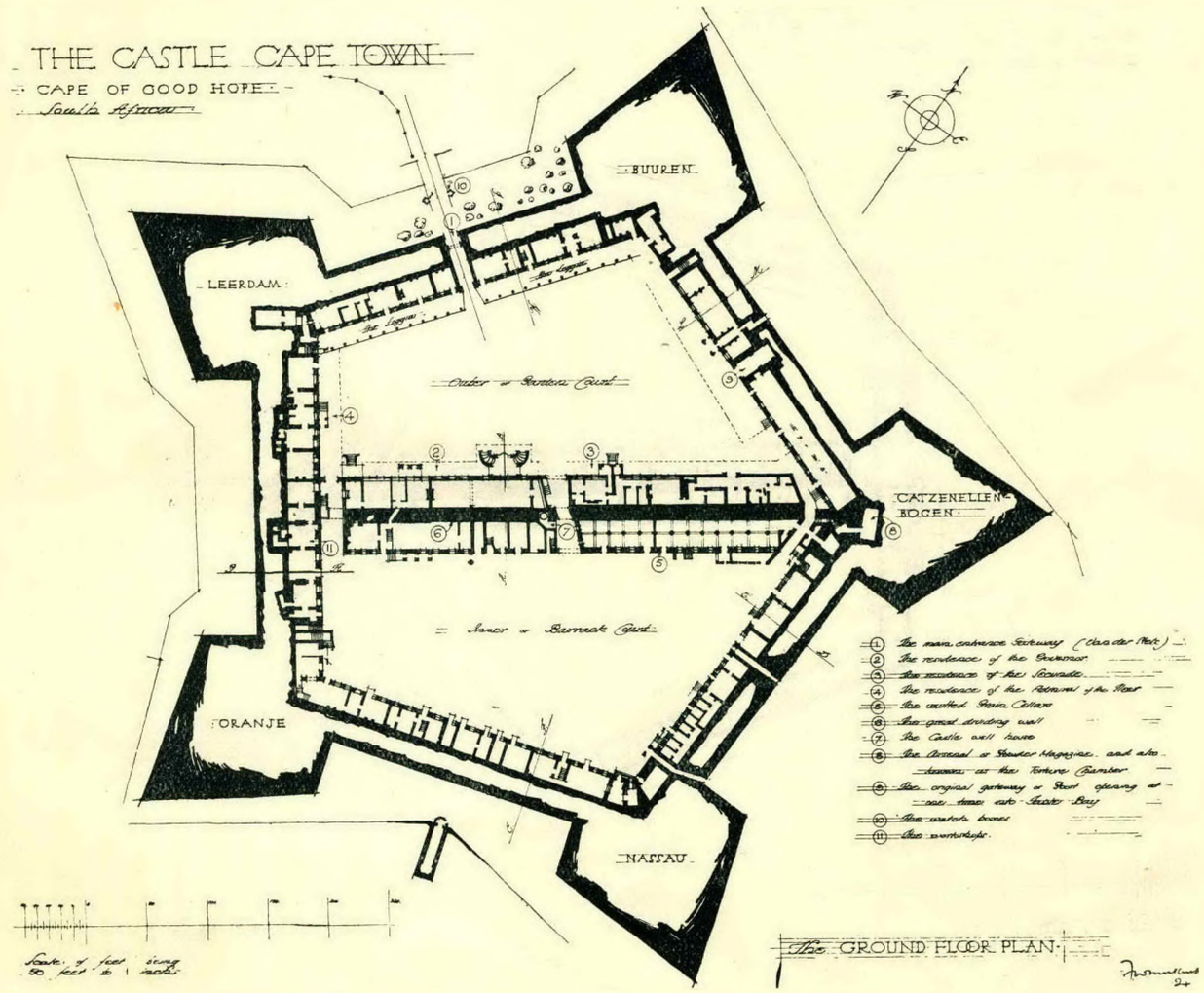
The great archway, over eighteen feet in width, with the sundial over, is centrally situated on this wall, the Governor's and Secunde's residences flanking either side, and it forms the principal access way between the inner and outer courts. The gate to the well house is immediately under the archway, and the well itself, is almost accurately placed in the centre of the Castle. The old pulley wheel which was the means of drawing the water to the surface two hundred and more years ago still remains in a fairly good condition.

Of the Residences within the Castle, undoubtedly that one in which most interest is centred is the Governor's. Built on the Cross Wall, west of the sundial, it retains many of its early features, though unfortunately much of its original beauty has been marred and in some cases completely obscured by the introduction of wooden and similar unsightly partitions dividing it up into its present day use as offices for the Military Authorities. The fine and stately Council Chamber of Simon van der Stel yet remains, the windows well proportioned built flush with the outside wall face, and helped by the great thickness of the walls ; the deep splayed jambs are panelled and finely moulded internally, a characteristic treatment and one to which this admirably lends itself. The flat broad ceiling, simply treated, is enhanced with some good carving in teak to the angles and central portion of the pattern design. Of this hall, a van der Stel dispatch of 1695 says :—

"The New Hall having been completed in the Governor's House, the first sermon was preached in it on the 22nd May (Whit Sunday, 1695), and regular services have been held in it ever since."

Known to everyone as "The Kat," this hall is said to have received its name from the Placcaatin of Edicts published from it.

Adjoining the Council Hall, and in its treatment much similar, is the large reception room, and opening from that again the old Dining Hall, in which is a quaint cast fireplace, somewhat Georgian in character, and let into the overmantel thereover is a picture which, so tradition tells, possesses a most sinister legend. Many highly coloured stories are told in this connection, one probably containing as much truth in it as another, to this effect, that anyone daring to remove the picture from off its bearings will court a sudden and painful death ; another relates that behind its covering lies some treasure and there also exists a secret passage way inhabited by the customary ghost —unearthly and fearsome. This historical old painting is a most ridiculous and absurd thing, typically ancient in its representation of a tree with an impossible sort of bird perched on the bough, beneath is a terraced wall with what appears to be meant for peacocks. Now fading with age, it was antique, it was old, but no doubt something most wonderful in those grand old days. Several of the fine and richly designed fanlights remain in their original positions over the principal doorways of this and the other dwellings. Ascending to the first floor we come upon the suite of rooms, made famous and historically interesting through the life of their one time occupant, Lady Anne Barnard. This wonderful lady was the eldest daughter of the fifth Earl of Balcarres, and spent five years at the Cape, where she came to live in 1797 with her husband, Andrew Barnard, when that worthy received the lucrative appointment of Colonial Secretary at the Cape of Good Hope, under Lord Macartney, an appointment which Lady Anne herself had engineered so skilfully from the Secretary of State, Melville. She has many claims to immortal fame, as the authoress of the treasured ballad, "Auld Robin Gray," and her well known "Letters," from the Cape, which in their descriptions of the life in those early days have become a South African classic.



Here again, in this suite of rooms, it is necessary to reconstruct them over again to visualise their original charm and beauty, nothing whatever remains to-day, and their appearance with so much match boarded partitioning and disfigurement is unsightly and most pitiful. The low heavily beamed ceilings

in teak, and the casements with many small panes, and delicately beaten wrot iron hinges and fastenings (now hidden beneath layers of paint), and the one time deep and low window seats presented a particularly fine appearance. Surroundings ideally in keeping with the cheerful and hospitable rule of Lady Anne, and for a century after her the official residence of the Generals Commanding.

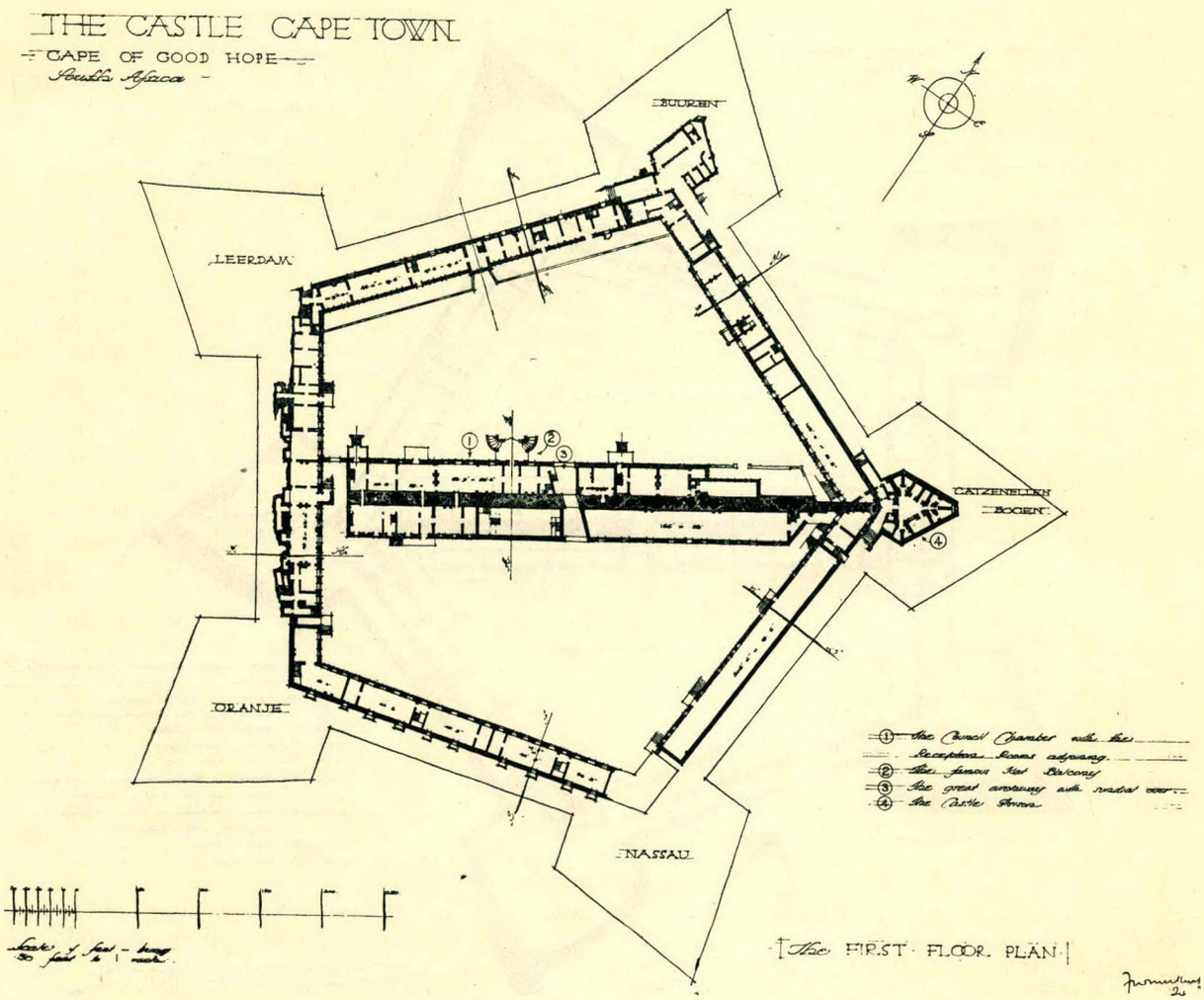
Lady Anne writes in one of her letters:—

" . . . It is a palace, containing such a suite of apartments, as I have fitted up in the style of a comfortable plain English House. Scotch Carpets, English linen and rush bottomed chairs, with plenty of lolling sofas, which I have had made by regimental carpenters and stuffed by regimental tailors . . . I shall not be stinted for room as I shall have a hall of sixty feet, a drawing room of forty feet, a dining room of twenty, a tea room of thirty, and three supper rooms . . ."

Another description from the English translation of 1688, tells of the Jesuit who touched on his way to and from the East.

"' . . . We were come to pay a visit to the Commissionary—General and Governor' . . . 'gave us a soldier to conduct us to their apartments.' 'This house consists of a large pile of buildings, two stories high and very solidly built. It is covered with a very fair Tarrass, paved with broad freestone, with balconies and iron rails all round.' . . . 'We went first into a great hall, where they preach every Sunday, until the church be finished that was begun to be built without the fort. On both sides of that hall there were pretty and handsome apartments."

Fronting this residence of the Governors, and erected much later—between 1780 and 1790—is the little balcony that covers the main entrance doorway, and from which edicts were read, and newly appointed officials presented on their arrival to the burghers assembled in the square.



It is the work of Louis Michel Thibault, the greatest architect at the Cape at that time, in association with Anton Anreith, the sculptor, and is without question the most beautiful and refined piece within the Castle walls. I have made a special and minute study of this fine example, the original structure being carefully measured up and a complete series of sketches made in the course of a special business visit to the Cape, when the question of its repair and

possible reconstruction in exact detail was under consideration by the authorities, owing to the lamentable and appalling state of dilapidation into which it had been permitted to fall. The preservation of this masterpiece is indeed one of national importance.

It is singularly graceful, both in plan and elevation, and well proportioned in all its detail. The balcony is flanked by curved steps rising to a quarter circular shaped and ramped dwarf walling, giving the approach to the entrance doorway of the Governor's House, on the main ground floor, 4ft. 7in. above the courtyard level. The balcony floor is paved with thick slates from Robben Island, greenish blue in colour, laid in regular squares of 16¼ in. The steps are similarly paved, but irregularly shaped. The central balustrade of wrot ironwork, is a splendid example of the craft, many of the terminals being split and scrolled and others beaten flat in a leaf shape form. The side balustrades and those to the flights of steps are more in the nature of railings with squarely shaped and beaten balusters pierced for the circular hand rail and intermediate rail. Every baluster is finished with a brass moulded finial, of fine outline and proportion. Four full columns and two half columns at wall, in the Ionic Order, support the first floor balcony, constructed of teak, worked out of the solid baulk. The shafts are fluted, with finely carved caps and bases, the proportions are to ten diameters, the shaft being 1ft. 3¼in. at base and the full over-all height averaging 12ft. 7in.

The entablature in height is just over one fifth the columns, consisting of cornice with modillions and pateae between, bellied frieze, and architrave, the latter member being out of solid teak, bolted together in segmental sections to the shaped outline of the balcony. and the remainder of the entablature, including the surmounting parapet wall, finished in plaster, having for the core small Batavian bricks The modillions were of teak with long end tail pieces left, which were built into the core walling. A curious illustration of the methods adopted to overcome their difficulties of construction, and of the way in which they indiscriminately mixed their materials. Crowning the whole feature is the decorative treatment to the parapet front, the work of that master sculptor, Anton Anreith, one of his best works. The study consists of the Lion of Holland on a shield, surmounted by a Crown, and flanked by two figures reclining, cannon, chests, and much floral and swag decoration is worked into the scheme. On examinatin of this work it was noticed that something had gone wrong with the right hand figure, the head covering having fallen from its position and the ornament flanking the shield quite out of keeping with its opposite. Unquestionably an accident and not by design, and it is presumed that at some time or other, many years ago, repairs were necessary through damage or other unknown causes, and in the patching up process this was the result.

The great teak doors and the finely detailed fanlight forming the main entrance to the residence are splendid examples of the work at this period. Heavy and massive, they are richly carved on the panel moulds, and with a realistic presentation of a Lion's Head carved out in teak to the middle panels of each leaf, another fine example of Anreith's craftsmanship, a feature which is charasteristic of the old doorways, is the heavy bolection moulds to the panels, the latter in addition being fielded and shaped at the angles. There is a wealth of good brass furniture to the doors, the hinges, escutcheon plates, and handles being well designed.

Flanking this doorway are fluted pilasters, with caps and bases carried out in the same proportions and to the same order as the balcony.

The flat roof of the balcony, forming as it does, access from the floor over, is constructed in the following manner, a method common with flat roofs, large and small in area, of this and later periods. Firstly, heavy timber beams span the opening on top of which good thick boarding is closely fitted, then a good layer of shell lime mortar is applied, sometimes more than one layer, bricks are put down to cover the whole of this surface (invariably the smaller kind, one course being the usual rule), and then run in with lime mortar. Several finishing coats are applied, put over in layers with a sufficient interval for setting between each, the last being graded to necessary fall. The whole having the appearance of a concrete flat, and from the underside a heavily timbered and boarded ceiling.

The Secunde's Residence—east of the Sundial—was completed in the time of Willem Adriaan van der Stel, little of outstanding interest existed in this one, except perhaps the entrance with some neat hand railings in wrot iron, with finely moulded ornamental brass finials over the standards protecting the neat small brick steps leading up thereto.

The Admiral's Residence—(now in use as the office of the General Commanding troops) retains some of its good features, the doorway and large windows being particularly fine.

Throughout the Castle no two walls are of the same thickness. Internally and externally oil was the means for lighting. Most of the timbers are in teak, with much oak and yellow wood.

No Castle could be considered complete without its torture chamber, and this one in Capetown is not lacking in this respect. Situated deep down in the bowels of the earth far below the Catzenellenbogen bastion, and reached by a long corridor, lined in stone, narrow and winding, and down many stone steps, is the dark, vaulted room. It may only have been the Company's arsenal and powder magazine, but history tells us that a torture chamber was in existence. As evidence an entry from the "Journal" of August 24th, 1708 :—

> "The Landrost and deputies from the Court of Justice busy this morning in the Torture Room to bring certain offenders, condemned eight days ago, ad actum proximum."

The roof of this chamber is lofty and composed of arches, finely groined, in brick, and has the appearance of a crypt in some ancient cathedral.

Between the "Leerdam," and "Oranje" bastions at the junction of the great cross wall, are the workshops and the Castle Armoury. Here Anton Anreith had his shop, and with Thibault, Schutte, the Dutch Architect, and Jacobus Graf, the carpenter, they worked together at their plans and their models. Quite a select little Renaissance School of thought went on daily in this spot within the Castle walls.



The Ramparts are accessible from several points, the principal one being by way of the "Leerdam" bastion, up many flights of steps paved in blue stone. The old execution ground is situated in this corner.

The roofs are finished in many different materials. Large red tiles cover the cross wall portion and slate over most of the outer parts, whilst concrete is also the finish in others, constructed in a manner previously described.

Between the "Catzenellenbogen" and the "Buuren" bastions is the roof garden, with a splendid aspect towards the sea, and on the opposite side between the "Leerdam" and "Oranje" is the ancient Captains "look-out" tower.

Over the "Catzenellenbogen" bastion are the old prison quarters, constructed about 1786, by orders of Governor van der Graff, a network of plastered cells, irregularly shaped, and close by to the prison set in the side of the stone wall is a stone with a carving representing a Dutch Galleon, of the old Company, which was at that time the subject of the official seal.

The outer or Garden Courtyard, the scene of many historical events, in its old time appearance presented a picturesque appearance. The younger of the van der Stell, Willem, made a fine garden propagating the many valuable plants sent in the Company's vessels from oversea for the enrichment of the settlement. Lady Anne Barnard in her letters tells us of the ornamental walls and the dolphin fountain that once were there, but to-day all has vanished.

Like the outer court, the Inner or Barrack Courtyard is something of the past age, something we can only imagine and visualise for ourselves from the information available. We know that it was originally divided into two squares, that portion immediately in the rear of the Governor's House laid out in a garden with arcading and in the centre of which was Thibault's fountain. The church was on the dividing line. But in almost every instance the main surroundings are to-day just as they were then, barracks, stores and the Company's stables.

This completes a brief history of the Castle of the Cape of Good Hope, of its work and execution, and of some of the people who carried out the undertaking.

It is the oldest building existing to-day in South Africa, and as the central point of civilisation when the colony was young, it can be said also to be the cradle of the South African Nation. Weeds make their appearance on the ramparts when the rains come down: the old time moat is now devoid of the waters that flowed in from the canal which skirted "Keizergracht," now Darling Street, but the grand old walls of Table Mountain Stone stand to-day in a wonderfully good state of preservation, just as they were completed over two and a half centuries ago. As a means of protection it is, in this present age of modern warfare and big guns, totally inadequate, in fact obsolete, but it is an inheritance handed down from those who laid the beginnings of what we know South Africa to be to-day. In the past few years it was permitted to fall away and decay, but it is good to know that a wave of restoration has now set in, and commendable efforts are being made in this direction. Paintwork is being scraped away, brass and ironwork are taking on their early appearances, and many of the rooms being restored to their original and ancient beauty.



MODERN ARCHITECTURE,

WITH PARTICULAR REFERENCE TO SHOP DESIGN.

REX MARTIENSSEN.

"The old order changeth," and architecture is undergoing a slow transition; slow because a *bouleversement* in architecture is almost impossible, but nevertheless steady, as viewpoints change, and requirements limit the scope of the architect in his practice. Men trained under the old system of design are loath to leave the comfortable path of tradition, and the younger men come under their influence to an extent depending upon their own personalities. Thus the discarding of old and wasteful methods is a lengthy process. There are signs, however, that a reasonable architecture is emerging from the comparative chaos of the past. Unfortunately we must turn to France, Austria, Holland and Belgium to see this new architecture which is at a stage beyond the experimental. In England the "Modern Architecture" is distinctly amateurish, just as the English Renaissance building of four hundred years ago smacked of the amateur, handling forms and combinations of forms which he could not understand or appreciate. Compare the treatment of Kirby Hall with that of the Palazzo Bevilacqua, at Verona, or the Pandolfini, at Florence.

It is the tendency to-day to be frank in speaking of the weakness of traditional customs or institutions. Shane Leslie has given us searching pictures of Public School and University life in England. To C. E. Montague and other writers we owe a debt for their clear sight and reasonable outlook in investigating the problems of our social system. Let us be frank about the problems of architecture, and condemn rather than connive at those influences which are stunting her normal growth.

If we are to be successful in our modern architecture, we must be reasonable, we must be logical, we must work forward from the obvious starting point, namely "What is the function of the building we are designing?" We must view every new problem in its own light. It is hopeless to look back at other problems we have solved, and make the solution fit the new problem "in a sort of a way." This is working backward, and it is the adoption of this method which makes our English architecture basically wrong. How can our building be reasonable when an architect searches amongst his stock-in-trade for fragments which he can piece together to form an architectural medley. This resulting "Period Architecture" is simply archaeology which has flowed into the wrong channel.

Members of the old school mumble vaguely about tradition and the glories of a past architecture. "When will we see another building," they say, "as restrained as the Parthenon, as superb as Albi Cathedral, as exquisitely simple as a Cotswold cottage of the sixteenth century." Granted these buildings were successful when they were fulfilling a specific need. It is not unreasonable for mediaeval cathedrals still to be used for religious purposes. Religion is enduring, emotional, aesthetic. But we must not worship in sham Albis, we must not sell motor cars in fragmentary Parthenons; we know in the cold light of reason that to do so is wrong, it is simply avoiding the problem.

In domestic work, to a certain extent, we are bound to be influenced by tradition. We must agree with Mr. Guy Dawber, when he urges us to build "in is modern spirit as we wish, but using the materials at hand." It would be illogical to use "green Westmoreland slates in Kent, red tile hanging in the heart of stone districts, and stone houses in the places where stone is not." Let us preserve the fair face of the country side, by making our new buildings harmonise at least with the old ones.

We still live under much the same conditions as we did centuries ago, our requirements are basically the same. Hence there will be a quite considerable resemblance between our modern houses and those of four hundred years ago. Let us revere by all means the beautiful old houses which a bygone age has given us, but only as we would some precious work of art. We must not use them as prototypes for "desirable modern villas." If we build a new house let it be the outcome of our requirements, a frank expression of our ideas on planning, convenience, and aesthetic needs. A building is good architecture only when it satisfies the practical needs, as well as those of beauty. Thus a humble farmhouse of thatch and brick, in a thatch and brick district is far more pleasurable than a pretentious neighbour decked out in imported materials. The worth of a building is not to be found in the cost, it is far more likely to be traced to the instinctive good taste of the designer. The moral is obvious.

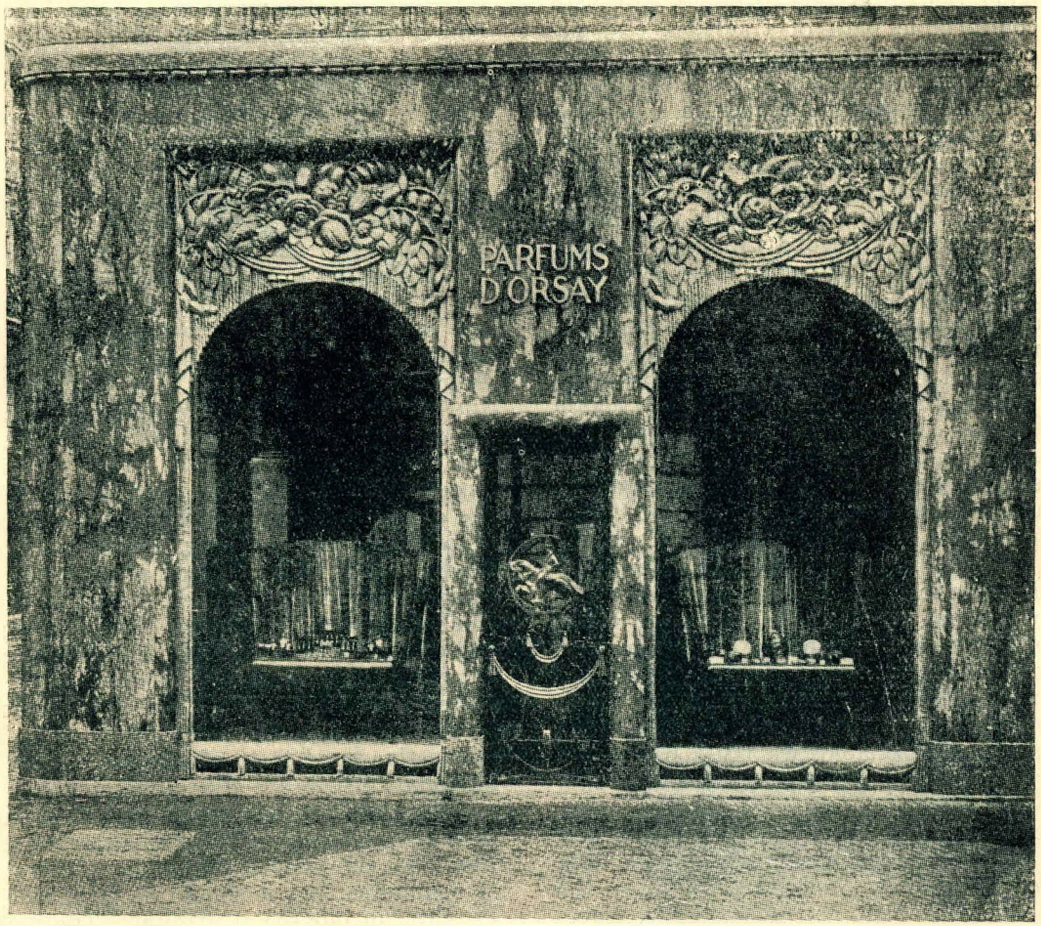
There is a tendency to use the domestic work of past centuries as a cloak to be draped in a hesitating way over commercial buildings. There is no disgrace in commerce that it should be disguised; it is still an essential of our social system The point is that the requirements of commerce to-day are incomparable with those of other times. The problem in shop architecture is to provide buildings suitable for a diversity of merchandise. It is clear from this that a general solution will not fit all the problems we are likely to meet in present day practice.

Before we examine some concrete examples of shop architecture in more detail, and try to find in what respects the average English shop differs from its continental counterpart, let us consider the question of functional expressiveness. This is of vital importance in shop design, for if the man in the street cannot see from the street what type of goods is being sold in a shop, the shopkeeper has lost a potential customer. The shop should invite, the windows give a suggestion of better things inside, but, most important, the external decorative treatment should

in all cases be a foil to the displayed articles. It should emphasise the importance of the goods, and not detract therefrom. This statement may appear obvious, but if the reader will examine a number of typical English shop fronts he will note the abundance of irrelevant detail, the infinity of dentils, consoles and mouldings which do not help the composition in the least, but serve rather to distract the eye, or soothe with their weary reiteration, than stimulate an interest.

This monotonous practice of reviving classic details, "full of sound and fury, signifying nothing," and applying them to shop facades regardless of the type of merchandise to be sold reduces all shops thus destroyed. Had the architect not limited himself, in the first place, to inflexible classical motives this difficulty would never have arisen. Unfortunate Corinthian columns are called upon to support spans which they never knew in their youth. They were designed to support spans limited by stone, not reinforced concrete; the result is distortion. Modern and Classic will not mix.

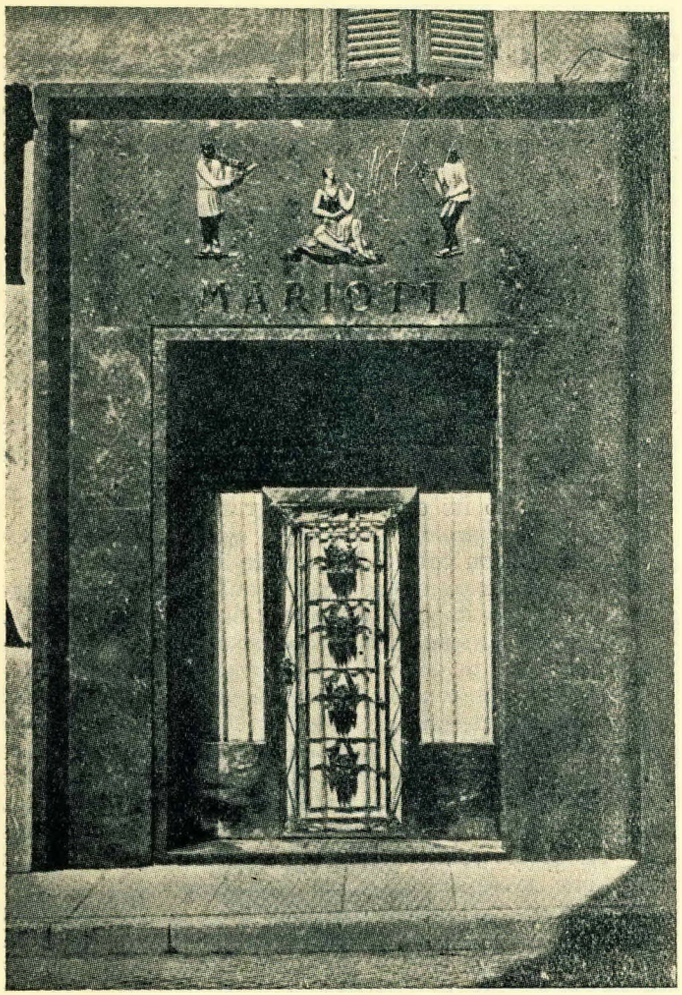
The Dutch are masters of brick work; they have devised new forms which suit the characteristics of brick. To have ground the unwilling bricks into classical forms would have been to destroy their fitness to produce texture and a subtle rythm of light



Parfums d'Orsay. Paris. *Architects' Journal.*

treated to a dull uniformity of appearance which makes them a hindrance to sales. This brings us to the question of amateurish design mentioned earlier. Let us suppose our architect realises that his client's goods require a special system of exhibition, and starts as usual to work backward adapting old types to fit new requirements. Immediately he finds himself trapped. It is essential for the exhibits to have large sheets of glass—he therefore stops his classic treatment with a jerk, and inserts his slabs of glass, probably in plain concrete frames. The result is a complete lack of sympathy between the two treatments—the unity of the building is completely and shade. We still persist, however, in wresting from concrete, forms which were intended to be carved out of marble with loving care. The result is a travesty. Subtlety of line, of undercutting, of modelling, all disappear in the hands of the soulless mould. Concrete is a delightful material; we must realise its limitations, but its possibilities are infinite. With its use our architecture becomes sculpturesque, but on a broad scale; there must be nothing niggling about our concrete work, and dentils are niggling.

The new architecture of the continent may be likened to a well constructed book. The theme is clear, the side issues never detract. They lighten, they



Mariotti's, Rome. *Architects' Journal.*

relieve, but always they strengthen the unity of the book. Some of our architecture is like a scrap book. Scraps indiscriminately flung together, struggling against each other, feverishly asserting their own right to prominence, and reducing the whole to a writhing impotent jumble. To be successful, architecture must appeal, it must thrill the onlooker. Especially shall the architecture of amusement, commerce and relaxation have the ability to arouse a keen interest in him.

To the writer, coffee taken in a modern tea room in Oxford Street was a drab lifeless affair. One felt vaguely conscious of the decorative treatment, it was not annoying, not amusing, one accepted it with resignation. But enter the restaurant in the new Jaarbeursgebouw, Utrecht. What a difference! It seems too good to be true. Colour and form exploited to the utmost, but with what admirable discretion, what subtlety. Lighting, decorative schemes for ceiling, walls and openings, furniture, deep luxurious rugs, all contribute to the whole. Contrasts yes, but not a jarring incongruous note is struck in the whole composition. Every detail is studied with exquisite sympathy, but the whole is not laboured; we cannot imagine the architect struggling with his problem, the thing is too joyful, too spontaneous—like a Brangwyn painting.

If the reader refers to the *Architect's Journal,* for June 15th, 1927, he will see 145 views of shop fronts. Comparisons are odious, but as we cannot use abstract standards in architecture we must compare.

Compare then the unattractive, gloomy entrances of a well known Piccadilly shop with that of the irrestible *Parfums d'Orsay,* Paris; with that of the "exquisite little draper's shop in the Corso Vittoria Emanuele, Milan." The former repels, the latter allure. Could anyone in Rome resist entering *Mariotti's,* the hairdresser in the Via del Pozzo. Would anyone voluntarily enter a well known chemist's at Southsea. The two Ionic piers in the middle of the facade seem to be doing their best to squeeze the customer before he passes in.

A little shop in the Brinkaan, Bussum, near Amsterdam, is an excellent example of modern Dutch design. The peculiar unsymmetrical treatment of the upper floors lends a charm to the whole, difficult to analyse, but fresh and arresting. The Dutch shops certainly strike a new note, and Amsterdam, Rotterdam, Utrecht and even the smaller towns are rich in the variety and ingenuity of their window treatments.

The French shop of the "intimate" type is without rival. Just as the Dutch handle brickwork, so do the French use marble and ironwork with consummate skill. Note the doorway of the *Parfums d'Orsay,* the gay modelling of the metal work is in keeping with the character of the business inside.

The possibilities of unbroken surfaces of marble are well shown in the *Banque Libre,* Lyons. The simple openings and the well studied lettering combine to form a striking composition, the plainness of which does not detract from the richness of the whole effect.

When a shop is an isolated unit in a comparatively old building, undoubtedly the most successful method of treatment is to set it in a definite frame. *Henry à la pensée,* and *Robert Linzeler,* Paris, are good examples of this type. For a perfect gem of architecture, however, we must turn to Rome. The little shop of the hairdresser, *Mariotti,* is without equal The simple frame of grey marble, flecked with black and white, the small figures in coloured ware above the door, the restrained lettering, the unique door itself, draw one like a magnet. The relationship of the doorway to the whole, the simple drapery combine to give a feeling of rightness to the composition.

Large sheets of plate glass, well handled, are shown in the illustrations of two garages in Paris by Legrand. The futility of combining large expanses of glass in the ground floor with a classic treatment in the upper floors is exemplified in a well known shop in Great Portland Street. The irritating qualities of applied classic detail are apparent in numerous examples of "pure" classic design, and in those of the mixed variety.

To mention further examples would be to make a catalogue. I have indicated the essentials of good shop design; the causes of failure in bad. The remedy is in the hands of our architects. Let them design shops worthy of the name. Let them discard the "Orders" the tee square the scale. Let them design the building, model it—seize crayons, plasticene, and work out the scheme in terms of light and shade, form and colour—study the main lines, the relationship between voids and solids, the combinations of materials used—then consider the elements in detail. Let all the other shop fronts go hang, bully the client, ignore protests, but do not confuse carelessness with exuberance, bad taste with originality.

REINFORCED CONCRETE. I.

PROFESSOR W. G. SUTTON.

Concrete is a material made up of stone, sand and cement, adequately prepared for specific purposes and mixed together with the required quantity of water. The resulting mixture soon sets hard and forms a substance capable of withstanding high compressive stresses, but weak in its resistance to tension. Concrete has accordingly found a wide sphere of usefulness in the construction of structures mainly subjected to compressive forces—for example, columns, piers, arches, dams, retaining walls, etc.

It has long been realised that the resistance of concrete to forces leading to tensile stresses might be increased by the incorporation of metal bars in the concrete. In past days this was effected in a somewhat haphazard manner with little definite knowledge of the relative action of the two materials However, of recent years the steady improvement in the production of high grade Portland Cement, coupled with more definite knowledge regarding the economic design of concrete mixtures for specific functions, and the fuller appreciation of the action of steel embodied in concrete, have led to a rapid progress in the general use of reinforced concrete for construction purposes.

The principle aimed at in reinforced concrete work, is the combination of concrete and some reinforcing material (usually steel) in such a manner that they act as one material, and so placed relatively to one another that the concrete tends to take up the compressive stresses and the reinforcement to deal with the tensile stresses. For two materials to act satisfactorily as a compound material they must have approximately equal co-efficients of expansion, otherwise internal stresses of considerable magnitude would accompany any change of temperature. Fortunately steel and concrete fulfil this requirement; if this were not the case, it is extremely doubtful whether the use of steel as a reinforcing material would have been possible.

Before considering the combination of these two materials, it is advisable that we have a clear conception of their most important separate properties.

The elastic properties of steel both in tension and in compression are well known, but those of concrete are not so well defined. The strain which occurs in steel when subjected to tensile or compressive stresses within defined working limits is proportional to the stress occuring. This is also reasonably true of concrete within an extremely small range of tensile stress while it is, for all practical purposes, true within the range of working stresses to which concrete is subjected in compression. Observations show that for the same amount of strain, within the working limits of stress, the stress in steel is 15 times that in the concrete. It is upon the basis of this fundamental relation that the theory of reinforced concrete design has been developed.

A concrete normally suitable for reinforced concrete work can, when three months old, generally be relied upon the develop a resistance to crushing of 600 lbs. per square inch, and under most circumstances can be expected to withstand a tensile stress of 60 lbs. per square inch without breaking. These two values are commonly adopted as the allowable working stresses permitted in practice.

Under these conditions a beam made of concrete of breadth 8ins. and depth 12in., spanning a distance of eight feet could not be relied upon to carry a load in addition to its own weight greater than about 50 lbs. per foot run. If, however, it were reinforced with steel of section area 9/16 square in. placed at 1½in. from its lower edge, the beam would be able to carry in addition to its own weight a load of over 900 lbs. per foot run. In the former case the concrete would have been stressed to only 60 lbs. per square in. compression before the tensile resistance of the concrete had been exhausted—that is the concrete would have been stressed to only 1/10 of its permissible compressive stress. In the latter case the concrete would have been stressed to its maximum limit in compression, namely 600 lbs. per square in. while the tensile stress in the steel would have just reached its maximum working stress of 16,000 lbs. per square inch. These figures are sufficient to illustrate in an illuminating manner the immense contribution to the strength of the beam which results from the insertion of merely 9/16 square in. of steel in the position in which it would add most effectively to the resultant strength of the compound beam.

In the action of bending the upper longitudinal layers of the beam will be shortened and be in a state of compressive strain, while the lower ones will be lengthened and in a state of tensile strain. In the case of the plain concrete beam, since the maximum compressive and tensile strains are equal—the strain cannot be permitted to exceed that corresponding to a stress of 60 lb. per square in. In the case of the reinforced beam the compressive strain in the concrete can be brought up to the limit, corresponding to a stress of 600 lbs. per square in, while the strain in the lower layers can be brought up to the value at which the steel is stressed to 16,000 lbs per square in. Now when the tensile strain in the lower layers reaches this amount it will far exceed the tensile strain associated with the permissible working tensile stress in concrete, for this reason it is assumed that, since minute cracks must have appeared in the lower layers of the concrete, the concrete itself is no longer able to offer any contribution to the horrizontal tensile stresses which form a portion of the system of forces making up the resistance to bending of the beam. The actual design of reinforced concrete beams upon the relations dealt with above is a relatively simple matter. The validity of the theory based upon these hypotheses is adequately supported by a wide range of tests of reinforced concrete beams and structures.

In the early days of reinforced concrete work reinforcing steel was inserted in a somewhat haphazard manner, consequently we may assume that it was used inefficiently, and certainly without any definite knowledge of the actual measure of strength that would result from its use. Economic design, however, precludes the use of haphazard methods—it requires the most rational solution of the problem confronting the designer. This problem is usually the following: Given concrete which can be relied upon to develop a certain compressive strength and steel of known tensile strength— in what proportions and in what relative positions should these two be combined so that, for a given system of loading, each shall be stressed to the working limit simultaneously. Let us assume that the design is to be based upon a limiting compressive stress in the concrete of 600 lbs. per square in., and a limiting tension in the steel of 16,000 lbs. per square in.

The concrete at the top of the beam will be subjected to a certain compressive strain when stressed to 600 lbs. per square in., while the steel placed at the bottom of the beam will be subjected to a certain tensile strain when stressed to 16,000 lbs. per square in. Since, for equal strains, steel is stressed 15 times as much as concrete, the strain in the steel will be equivalent to the strain in concrete stressed to 1.067 lbs. per square in. Now, if the strain causing shortening at the top varies uniformly to the strain causing extension at the bottom (a state of affairs which is known to be true, since normal planes before bending remain planes after bending) there will exist a neutral layer at which there is neither compressive nor tensile strain. This layer will be situated at a distance from the top of the beam equal to $\frac{600}{600 + 1067}$ = 0.36 of the depth from the top of the beam to the centroid of the reinforcement. The fixing of the position of this neutral layer (or neutral axis) is an important consideration, for it represents the position of the layer above which all the material is in a state of compressive strain and below which there exists a state of tensile strain.

If there was reason to believe that the concrete could not be relied upon to withstand a greater compressive stress that 500 lbs. per square in., while the steel was still capable of being stressed to 16,000 lbs. per square in., then the position of the neutral axis associated with these stresses would be at a distance $\frac{500}{500 + 1067}$ = .32 of the effective depth of the beam below the top of the beam. Similarly for stresses of 450 lbs. per square in., and 15,000 lbs. per square in., it would be situated at a depth $\frac{450}{450 + 1000}$ = .31 times the effective depth below the top of the beam. These considerations relating to the state of strain occuring in the beam, show that for a definite ratio for working stress in the concrete to that in the steel there is a definite position for the neutral axis; conversely, when the position of the neutral axis is settled, then the ratio of these stresses is also a fixed quantity.

The conditions of strain across any cross section having been determined, it is possible to consider the actions which result from the stresses due to these strains. Since there is no resultant horizontal force across the cross section of the beam the resultant of the compressive forces must be equal and opposite to the resultant of the tensile forces acting over the cross section. The compressive stress is proportional to the strain, which varies uniformly from zero at the neutral axis to a maximum at the top, accordingly, since the distribution of the compressive stress over the cross section is known, the resultant compressive force can be determined. Again since the tensile stress in the concrete may be taken as zero, the area of steel necessary to balance the compressive force above the neutral axis follows directly. This leads to the second important condition regulating the behaviour of a reinforced concrete beam, namely that the proportion of reinforcing steel to be used will depend upon the position of the neutral axis, which itself depends upon the ratio of the working stresses in the steel and concrete. The designer having settled upon the principal proportions of the beam in such a manner that maximum economy in material is effected, must next settle the actual dimensions of the beam to effect the required resistance to bending. The beam derives its resistance to bending from the normal forces occuring over vertical cross sections—the actual position of these forces on any vertical cross section is definitely known from the conditions of stress and strain previously investigated. The resultant of the compressive forces acts at a distance equal to two thirds of the depth to the neutral axis above the axis while the resultant tensile force acts at the centroid of the steel area. These two equal and opposite forces acting at a distance apart known as the lever arm form a couple which offers the necessary resistance to the bending-moment occuring at the section concerned. If the bending moment which the beam may be called upon to resist is known, the requisite dimensions of the beam can now be calculated directly.

The mode of investigation of the stresses in reinforced-concrete beams has been standardised in such a manner that the ratio of the depth of neutral axis to depth of reinforcement (usually known as the effective depth) is expressed for all beams as a definite function of the stresses occuring in the steel and concrete; the ratio of the area of steel to the cross sectional area of the beam follows directly, thus giving rise to two general equations applicable to all simply reinforced rectangular beams. From these two equations follow an expression giving the resisting moment as a definite constant (merely depending upon the ratio of the stresses just mentioned) multiplied by the breadth of the beam times the square of its effective depth, so that complete control of design and a wide range of choice in the final dimensions of beam is left in the hands of the designer. From a purely theretical standpoint, economy in material increases as the depth of the beam is increased; however, against this economy in material have to be balanced such factors as ease and cost of erection, headroom available, together with certain theoretical objections to very thin deep beams. From a practical point of view maximum economy and the most balanced type of design is generally accepted as having been gained when the effective depth of the beam is about 1½ to 2 times its breadth.

The simply reinforced rectangular beam represents the most elementary form of reinforced concrete beam; from this have developed more complicated

types, the most common of which are the T beam and the doubly reinforced beam.

A consideration of the elements determining the resistance to bending of a simple beam will show that the concrete below the neutral axis contributes nothing to the strength of the beam in bending, and that its function is merely to act as a mode of communication between the area of compression and the reinforcing steel. Under these circumstances it is rational to limit the amount of concrete to the amount actually required to effect this purpose, which, it will be shown later, depends upon the shear force occuring at the section.

If the concrete below the neutral axis in excess of that required to act as the necessary communicating medium is removed, the result will be the production of a section similar to that of the letter T—a type which represents a further economy in the use of material without the sacrifice of any essential factors contributing to strength. In this form of T beam the compressive stresses immediately above the lower flange of the T are extremely small, consequently the area of concrete immediately above the lower flange is used in a relatively inefficient manner. In order to increase the actual service effected by the concrete in compression a modification of the elementary type of T beam has been evolved in which the neutral axis is depressed to a position below the lower flange of the T. This is effected by appropriately modifying the amount, and possibly the position of the reinforcing steel, in such a manner that the concrete in the flange is placed more effectively in compression without stressing any of it above the chosen working limit, while, at the same time, the reinforcing steel is just stressed to its working limit. The net effect is to bring about a more effective use of the materials available.

T beams are divided into two classes. In one class the neutral axis falls within the flange and, under these circumstances, the resistance of the beam to bending is the same as that of a simply reinforced rectangular beam of breadth equal to that of the flange and depth equal to the depth to the reinforcement. In the other class the neutral axis is below the flange and, under these circumstances, the determination of the resistance to bending and the solution of the stresses occuring form a moderately complicated problem.

The T beam offers great advantages in the design of reinforced concrete structures but, at the same time, involves considerable complications which arise from the reversal of bending moments occuring over the points of support. The presence of these negative bending moments in the regions near the supporting columns has given rise to the well known launching of beams at the columns, or to the use of systems of double reinforcement. Double reinforcement of a beam—that is the addition of compressive reinforcement as well as tensile reinforcement—is not an economical process, and is usually called into vogue only when it is required to increase the bending resistance of a beam without adding to its depth. The development of the relations which control the resistance to bending of doubly reinforced beams follow directly from the principles previously enunciated; however, as in the case of T beams, the design of this type of beam should be left in the hands of experts.

The above has dealt with the reinforced concrete beam from the point of view of bending only; however, before we can be satisfied as to the strength of the beam, it is necessary to investigate to what extent it is able to resist stresses due to the shear force occuring at any section. The resistance of beams to shear will form the subject of a later discussion.

A RECENT BUILDING IN JOHANNESBURG.

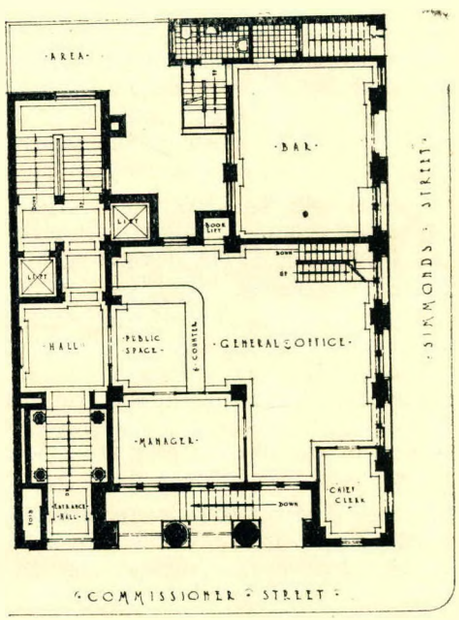
E. C. GILHAM.

Amongst the many buildings which have been erected lately in Johannesburg's business centre, the new office block for the North British and Mercantile Insurance Co., is worthy of note.

It occupies a prominent position at the corner of Commissioner and Simmonds Streets (opposite the Corner House). Its modern treatment in concrete facing blocks is in sharp contrast to the adjacent buildings and its classical facades mark it out for impressive dignity.

This building was designed by Messrs. Cowin, Powers and Ellis, F. & A.R.I.B.A., and is an excellent example of their work.

The main facade is striking for its simplicity, the disposition of solids and voids, and the contrast between the plain treatment of the upper storeys and the deeply recessed loggia, with its Ionic columns and delightful detail below. The Simmonds Street facade is pleasantly broken by Ionic pilasters, the same height as the columns to the loggia. Both facades are treated with balconettes and above these



are cartouches, one on each front, which serve to lead the eye up to the crowning feature, the entablature, with its deeply recessed windows in the frieze.

The ground and first floors are occupied by the Insurance Company and the remainder of the building is for letting purposes, with the caretaker and native quarters situated at roof level.

A well lighted show room and record room occupy the lower ground floor and is a special feature of the building.

The general character of the building internally is in keeping with the quiet treatment of the exterior, and the entrance vestible and hall deserve special notice ; a very pleasing effect is produced here by the judicious employment of concrete facing blocks and vitrolite panels, set off by a domed ceiling from which is suspended a lantern well executed in bronze.

Two lifts are installed ; one a high-speed pilot and the other a low-speed automatic, and both with handsome polished teak cages.

The woodwork is of teak throughout and the construction is reinforced concrete with windows of steel.

The floors throughout are finished in cement paving covered with Malthoid patent sheet asphalte floor covering which makes an excellent warm and durable surface.

The general contractor was Mr. John Barrow. who is to be congratulated on the execution of the work.



BOOK REVIEWS.

ENGLISH GOTHIC CHURCHES, *by Charles W. Budden. Published by B. T. Batsford, Ltd., London. 7/6.*

This little volume, though short, is written clearly and should be of value to the architect and layman interested in ecclesiastical work in England.

Its main object, as the author states in his preface, is to assist the tourist student in his rambles round the old churches of England, and to which he may refer as a ready guide to the discovery of the actual period to which any part of an old building belonged.

In this the author has been successful, but at the same time it should be found useful as a book of reference.

It deals with the planning of the greater churches, viz. : Abbey, Priory, Collegiate and Cathedral Churches, and devotes a chapter to the growth of the parish church.

Some valuable knowledge is to be found in the several chapters devoted to the details of the old churches, as the walls, porches, doorways, windows, roofs, towers and spires.

In conclusion, a list is given of the best and most interesting examples of old churches to be found in England.

Of course, the author has not attempted to deal thoroughly or minutely with Gothic architecture in England, but deals chiefly with the Norman and early English periods.

The volume is illustrated by means of sketches, plans and photographs, which in themselves should be found very useful. H.G.T.

PLASTERING, PLAIN AND DECORATIVE, *by William Miller, edited and revised by George P. Bankart. B. T. Batsford, Ltd., London. 30/-.*

A dictionary compiled by eminent lexicographers : an encyclopaedia from the pens of acknowledged authorities, or, indeed, any recognised text book bearing upon a subject, or subjects which cannot be regarded as stationary, belongs, essentially, to an epoch : marks a period ; consequently, however valuable it may be, in the light of the knowledge available at the date of its publication, there comes a time when the call for revision is insistent.

Amendment, modification, addition, deletion, are vital, due to discovery, research, advancement, development.

Sometimes art is sacrificed upon the altar of economy and, for a time, vulgar and meretricious substitutes are tolerated. Ere long this economic suicide is recognised. Then comes the awakening, with its natural corollary, renaissance. Art comes into its own. It must, since it makes a cogent appeal towards the civilising of hearts and minds.

William Millar's standard work, "Plastering Plain and Decorative," has held the field, upon its own sheer merit, for thirty years; and now, with the revival of interest in, and renaissance of, the plaster craft, it has been edited and brought up-to-date by George P. Bankart, whose expert judgment and practical skill and knowledge are universally recognised in the realm of decorative plasterwork.

It is a happy collaboration, which has resulted in the retention of a storehouse of impirical knowledge, dressed, amplified, and remodelled, upon academic lines.

The illustrations, from drawings and photographs, are numerous and diverse, and are worthy of the text.

Space has been allotted to an interesting historical glimpse at plasterwork, generally, throughout the ages and in all countries, and there is a separate chapter on modern plasterwork, whilst the practical side of the craft, including chapters on tools, materials, appliances, etc., has been treated widely and comprehensively.

The work must, indeed, be regarded as the plasterer's *"vade mecum."* At the same time, its appeal to Architects, Builders and others of kindred interest is beyond question.

The arrangement is precise and sequential, and where deletion and condensation have been called into play, the book has not suffered: the editing has been done by one who knows the use and value of expert pruning.

The bulk of the original work by William Millar was, perhaps, its greatest fault.

D.M.B.

THE ORDERS OF ARCHITECTURE, *By R. Phené Spiers. B. T. Batsford, Ltd., London. 12/6.*

The late Mr. R. Phené Spiers' work is probably the most widely known students book on the Orders, ever published.

The new edition, just published, is a splendid production.

CLASSIC ARCHITECTURE, *by Charles F. Mitchell and George A. Mitchell. B. T. Batsford, Ltd., London.*

The absolute futility of attempting to acquire anything approaching utilitarian geographical knowledge without the aid of an atlas in known to all, except perhaps, the indolent schoolboy, who still has a shot at it, but he, too, makes the discovery ere he has got very far, when he becomes the fierce protagonist of the use of the atlas and not only theory.

And so it is with regard to drawings, plans and diagrams: their value instructionally, cannot be over estimated; they are a sort of inspiration.

It is with a full realization of this, that the late Charles F. Mitchell and Mr. George A. Mitchell jointly produced their work *"Classic Architecture,"* being a series of ten plates and explanatory notes, illustrating typical examples of the Grecian and Roman Orders with full details, and a selection of Grecian and Roman Ornament, published in portfolio, thus rendering the practical educational value associated with the geography book plus atlas combination.

The information afforded is far reaching and comprehensive.

Whether for drawing, Office use, or for educational purposes, the portfolio is such that may be profitably perused,, since there is much of value in it.

ENGLISH DECORATIVE PLASTER WORK OF THE RENAISSANCE. *J. Jourdan. B. T. Batsford. 30/-.*

In her latest work Miss J. Jourdan had added a notable contribution to the enviable task of attempting to rescue the craft of the plasterer, which began to wane so long ago as the eighteenth century, when the manufactured substitute began to assert its claims.

The book presents numerous examples in the field of decorative art, covering the period from the early renaissance to the late Stuart, and including the classic revival associated with the brothers Adam.

Historical research, knowledge and industry are reflected in its pages,, as one follows evenly and chronologically the mirrored achievements of the outstanding craftsmen through the centuries.

The work is strong in its artistic appeal, and, at the same time, eminently practical:—a *vade mecum* for student, artist and craftsman: always concise and of commendable precision, it maintains an even balance throughout, and is always to the point—genius in design, and skill in execution, each receiving its merited place and attention.

Features of value and interest are the numerous drawings to scale and voluminous descriptive notes, together with a comprehensive list of the names of the principal designers and craftsmen, and the varied collection, unique in its range, of English Renaissance Ornament.

It is a happy circumstance that there is a revival tendency in the direction of Plastic Decoration, and it is felt that the book under review comes at an opportune moment.

To any sympathetic mind, untramelled by convention and prejudice, such a revival must be welcome, since it means providing the necessary basis for the expression of personality and charm, without which there cannot be art.

THE ARCHITECTURE OF THE RENAISSANCE IN FRANCE, *by the late W. H. Ward, M.A., F.R.I.B.A. B. T. Batsford, Ltd., 94, High Holborn, London. 2 Vols. 2 guineas.*

This excellent work published by Messrs. B. T. Batsford, Ltd., is a successor to the original edition published in 1911. The present edition has been edited and slightly revised by Sir John W. Simpson, M.A., P.P.R.I.B.A., K.B.E., and a number of new illustrations have been added. Sir John Simpson, in his preface pays tribute to the work and its author who died as the result of war service. The present two volumes form an extremely invaluable addition to any architect's library, containing as they do a very complete history of the Renaissance Movement in France. They are profusely illustrated with photographs, engravings and drawings to the number of 473.

The letterpress is concise and ranks highly from a literary point of view. The work is in two volumes, the first dealing with the Early Renaissance and the second with the Later Renaissance, the total period covered being from 1495-1830, nothing of interest to the Architect has been neglected. The principal buildings of the period, together with interiors, details, ornament and gardens are all described and illustrated in the fullest detail.

The printing and general quality of the letterpress and illustrations fully maintain the standard which Messrs. B. T. Batsford, Ltd., have set themselves in former publications.

We have no hesitation in recommending these volumes, and in endorsing the publisher's claim that the work forms an almost indispensable text book for students and those interested in Architecture and its Allied Arts.

PROFESSIONAL NEWS.

TOWN PLANNING ASSOCIATION.

Minutes of the Eighth Annual General Meeting of the Association held in the Scientific Club, 100, Fox Street, Johannesburg, on Thursday, the 30th June, 1927, at 5 p.m.

Present:—The President, Professor G. E. Pearse, in the Chair, Mr. C. P. Tompkins (Vice-President), Sir Llewellyn Andersson, Messrs. B. W. Brayshaw, D. M. Burton, P. E. Easton, T. S. Fitzsimons, A. Stanley Furner, H. Sharp, F. K. Webber, J. Wertheim and the Secretary, M. K. Carpenter.

Apologies for absence were received from Dr. Charles Porter and Mr. Harold Porter.

1. *Minutes.*—The Minutes of the Seventh Annual General Meeting held on the 10th August, 1926, published in the South African Architectural Record in September, 1926, and circulated to members, were on the motion of Mr. T. S. Fitzsimons, seconded by Mr. A. Stanley Furner, taken as read and confirmed.

2. *Council's Annual Report.*—The Eighth Annual Report of the work of the Association presented by the retiring Council to members was read by the Secretary and on the motion of Mr. Brayshaw, seconded by Mr. H. Sharp, unanimously adopted.

Your Council submits this, the Eighth Annual Report of the Association's proceedings for the past year, together with the Annual Accounts.

Council Personnel.—At the first meeting of Council following the last Annual General Meeting in August, 1926, in conformity with the Constitution, Professor G. E. Pearse was unanimously elected President for the year and Mr. C. P. Tompkins, Government Land Surveyor, Vice-President.

Election of Members to Council.—In terms of the Constitution nominations for members of the Council for the current year have been invited and seventeen persons duly nominated, which include the following members nominated by the Institutional members, these seventeen nominated persons will form the constituted Council, it was therefore not necessary to take any steps for an election:

Andrews, G. S. Burt, Civil Engineer, Association of Transvaal Architects.
Burton, D. M., Architect, Association of Transvaal Architects.
Brayshaw, B. W., Land Surveyor, Institute of Land Surveyors.
Tucker, J. B., Land Surveyor, Institute of Land Surveyors.

Porter, Dr. Charles, British Medical Association, also Mr. B. W. Brayshaw, the immediate past President, will be an *ex-officio* member of Council for the forthcoming year.

New Townships.—During the year the Townships Board has submitted plans of five new Townships to your Council for criticism and report and further has agreed to accept and enforce your Council's proposals that plans of all new Townships should be contoured to a five foot V.I.

Membership.—In view of the fact that further resignations of members took place during the year, and there appeared to be an increasing lack of interest in the Association's activities, your Council decided to invite members to meetings at which subjects in which they were particularly interested would be considered. Further the Secretary of the Municipal Association of the Transvaal and various Municipal representatives on this Association were approached with a view to bringing before the Municipal Association the aims

and objects of the Town Planning Association with the object of interesting the respective public authorities and eventually obtaining them as new members.

It is gratifying to report that the Mayor of Vereeniging and Councillor T. N. Leslie attended one of the meetings of the Association during the year. It is regrettable that the present Mayor of Johannesburg (Councillor Law Palmer) has taken little or no interest in the Association as his predecessors in office have done. The Council would welcome suggestions and assistance from members for increasing the membership and creating greater public interest in the Association's activities.

Activities.—During the year certain criticisms were levelled at your Association and accusations made that matters affecting public improvements were dealt with by them at the eleventh hour. Your Council therefore prepared a report on the activities of the Association since its inception which conclusively proved that all matters affecting Town Planning in the Transvaal had been taken up by your Association immediately they were brought to their notice and that any misunderstanding or criticisms were due rather to the apathetic way in which local authorities and their officials had treated your Councils offers of assistance. The report was published in full in the "Sunday Times," of November 21st, 1926.

Town Planning Regulations.—It is interesting to report that the Provincial Administration of the Cape has promulgated a draft Town Planning Ordinance. Copies of this were obtained and circulated to members of the Council and will come up for discussion at the Annual General Meeting.

It was felt by your Council that the time was opportune once again to approach the Provincial Council of the Transvaal and the Union Department of the Interior with a view of obtaining financial support to our activities.

The Secretary of Public Health and the Surveyor General had promised to support our application and the Administrator and various Members of the Provincial Councils were being written to in the matter.

Civic Survey for Johannesburg.—During the year your Council was approached by the Municipal Council of Johannesburg asking for its views on future development generally, and forwarding a complete general plan of the Municipal area. As a result of this request a Sub-Committee was appointed to meet the Acting Town Engineer and discuss the general question of a Civic Survey. This meeting had taken place and the main principles were discussed. A report was to be issued by the Town Engineers Department for discussion by the Works Committee of the Municipal Council and it is understood that your Council will be approached again in the matter.

Lay-out—West End of Johannesburg Town Hall.—

A considerable amount of time has been given by your Council and a Sub-Committee during the year on this vexed question which arose out of the proposal to erect Tram Shelters at the East end of the Gardens. At the request of the General Purposes Committee a Sub-Committee of your Council met the Town Engineer to discuss the whole question. Your Council associated themselves with the Association of Transvaal Architects in urging that before any lay-out was discussed the whole question of the arrangement of tram tracks should be gone into with a view to their removal. The lay-out of the whole area could then be considered.

Meetings have taken place with the various Municipal Officials concerned and your Council are still awaiting their report on the matter. In the meantime in spite of urgent representations by your Council the Municipality are continuing with the scheme piecemeal.

New Railway Station, Johannesburg.—The scheme proposed by this Association for a southern railway line and station was circulated to the various public bodies to obtain their views on the subject.

In view of the lack of support for this scheme it was felt that, while your Association had done its duty in pointing out to the Railway Administration and public bodies concerned the inadvisability of proceeding with a building on the present site, no further action should be taken in the matter. Your Council has been invited to inspect the plans for the new Station and members have expressed themselves satisfied that the best had been done under the circumstances.

Gifts.—The Council have to report that a plan of the Township of Luderitzbucht, South West Africa had been kindly presented to the Association by the Acting Town Engineer, Mr. E. H. Waugh, and a copy of a new map of the Municipal Area of Johannesburg, completed in the Surveyor General's Office by the Surveyor General.

Meetings.—There have been nine meetings of Council during the period under review and the following are the attendances made by Council members :—

Sir Llewellyn Andersson	3	G. E. Pearse	8
G. S. Burt Andrews	1	H. Porter	7
B. W. Brayshaw	6	Dr. Charles Porter	2
D. M. Burton	4	H. Sharp	8
T. S. Fitzsimons	4	C. P. Tompkins	8
A. S. Furner	8	G. A. Watermeyer	4
W. M. Harries	2	J. Wertheim	5
E. O. Leake	1	F. K. Webber	1

3. *Annual Accounts.*—The Revenue and Expenditure Account and Balance Sheet for the year ended 31st March, 1927, were presented showing an excess of expenditure over revenue of £21 13s. 5d.

The President referred to the short fall in revenue due to resignations and the fact that many members had failed to pay their yearly subscription. To provide funds to continue the work of the Association the Council had attempted to obtain a grant in aid, firstly from the Minister of the Interior and secondly from the Administrator of the Transvaal, but without success. Mr. J. Wertheim suggested that representations might be made to the Johannesburg Municipal Council through the General Purposes Committee to receive a deputation from this Association with a view to putting forward our aims and objects with the

hope of obtaining a small subsidy from the Johannesburg Municipal Council. This was seconded by Mr. B. W. Brayshaw and agreed to, and the President, Professor G. E. Pearse and Sir Llewellyn Andersson were appointed the Sub-Committee to meet the General Purposes Committee.

On the motion of Mr. H. Sharp, seconded by Mr. A. Stanley Furner, the Revenue and Expenditure Account and Balance Sheet to the 31st March, 1927, were adopted.

4. *Election of Council.*—The following seventeen members having been nominated to Council were declared, by the President, to be duly elected for the current year:—Sir Llewellyn Andersson, Messrs. G. S. Burt Andrews, B. W. Brayshaw, Charles Brammer, D. M. Burton, J. H. Dickinson, P. E. Easton, T. S. Fitzsimons, A. Stanley Furner, Professor G. E. Pearse, Dr. Charles Porter, Mr. H. Porter, Mr. H. Sharp, Professor W. G. Sutton, Messrs. C. P. Tompkins, J. B. Tucker and J. Wertheim.

5. *Valedictory Address.*—The retiring President, Professor G. E. Pearse, then addressed members and said:—

"I want to take this opportunity of emphasising the value of the work done by this Association in the past few years, more particularly in Johannesburg, and the fact that we have had little or no assistance from official sources to help carry on the work.

"The members of Council have given a great deal of time to the study and interests of the community, offering assistance on matters in which they are particularly capable of assisting and urging the necessity of the immediate preparation of a civic survey whereby large sums of public money could be saved in the future.

"It is but right, therefore, that I should once more stress the aims of this Association and mention briefly one or two of its more important activities.

1. "The criticism of all projected new Townships in the Transvaal submitted to it by the Township Board a work which involves a considerable amount of time and thought. From the statements of the Surveyor General it is evident that this work is of considerable value to the Townships Board.
2. "The preparation of Town Planning regulations at the request of the Secretary for Public Health. This entailed several months work during which time similar regulations, adopted in other countries, were considered and evidence collected from various public officials affecting local conditions.
3. "Advice given to different Municipalities in the Transvaal on the lay-out of new Townships or the development of existing.

"The Association's work you will see, therefore, is not entirely confined to Johannesburg, but is of a widely varying nature and we look to public spirited town Councillors and Officials in every Municipality to bring to our notice any matter which concern public health and amenities.

"Other matters that have been dealt with concern traffic and traffic control, open spaces, whether as parks or children's playgrounds, business, traffic or civic centres, zoning, tree planting, etc.

"Our Councils are fortunate in having representatives from various technical and professional societies peculiarly fitted to give advice on these matters.

"Coming now to the question of Johannesburg, I can speak more feelingly as I have had my home here for the last 33 years.

"I can remember the days when we had open spaces in this town which even with the unpaved streets and resultant dust storms presented a certain amount of dignity. All these have disappeared and serious enough consideration has not been given to the so called improvements that have taken place. To instance a few examples:

"Von Brandis Square originally had a Church in the centre marking practically the highest point in the town. This had to be swept away to meet the pressing needs of Municipal and Government requirements, but what do we find in its stead. The New Law Courts placed in such a way that the imposing entrance is not even central with the street approaching it. Crowded behind this is the Fire Station and the Telephone Exchange (once a Technical Institute). In between these is a medley of yards and buildings.

"Plein Square, I remember as a railed-off enclosure providing some sort of forecourt to the Station and with the original telephone tower, quite a picturesque structure in those days, placed centrally on Joubert Street. Our Municipality first surrounded it with the most wonderful group of wood and iron buildings popularly designated the "Tin Temple," and they did not oppose the erection of substantial buildings at one end, regardless of the future need of the Station, now a matter of serious discussion and dispute.

"Market Square had wonderful possibilities. The Post Office as originally designed had some architectural pretentions, as is still seen in the two lower stories, and in the centre of the square we had quite an attractive market building. This had to be removed to meet the enormous demands of our rapidly growing town and the present Town Hall and Municipal Buildings, from the town planning point of view, one of the worst groups of public buildings in this country, was erected by the Municipality and so badly placed on the site that it is one of the standing jokes amongst visitors and critics from rival South African towns. Had it been centrally placed and planned so that its main entrance had some direct communication with the Town Hall instead of leading via an ornate marble staircase to a group of Committee Rooms we might now have reason to be proud of it. The rest of the square is about one of the worst efforts in town planning that could be devised, a shunting ground for trams with a useless turfed enclosure which provides an excellent funnel for our dust laden west winds and a War Memorial flanked by a hideous public convenience. Presumably the stone walls being erected at present are to act as a first line of defence against our attacks.

"Joubert Park might have made a fitting setting for our Art Gallery, but for some unknown reason this fine building has its main entrance on top of a railway cutting and is not even centralised with the Union Ground. What the asphalte road, shut off with iron gates, is for I have not yet been able to discover. "The Union Ground might be considerably improved at very little cost and maintained as a parade ground. A scheme was formulated for this, but it is no doubt to-day pigeonholed in the Municipal Offices.

"The Market Place has great possibilities of traffic control and tree planting. These open spaces have all been irretrievably ruined by the Municipal Authorities and can only be remedied by great expenditure and it is to prevent further mistakes of this nature that the Town Planning Association is constantly offering assistance though it entails a great deal of valuable time to individual members. What would have happened, I wonder, if representations had not been made about the new Station. Would the Municipality have moved in the matter. I very much doubt it.

"One could say a great deal more about our subways, main roads and road junctions, which are serious sources of danger. There is also the question of the new Gas Works which appears to this Association to be badly sited with reference to the prevailing winds, but no notice was taken of these protests.

" A civic survey would pick up all such points and consider them in regard to the future development of the town.

"Such a survey was made Sir C. Wren after the great fire of London, in 1665, but vested interests, however, prevented the carrying out of his scheme. As a result the local authorities have spent something like one or two hundred millions in essential improvements which closely follow his projected arrangement.

"We are talking of changing the status of our town and calling it a city. Surely, therefore, the time has come when every effort should be made to make this town attractive to visitors. Opportunities have occurred and been lost. Large areas of ground have been offered at comparatively small cost, but been turned down. The most beautiful part of our town is towards the North and much more might have been made of the development here.

"We should see that the siting of any future public buildings are more carefully considered.

"The New Library and Museum buildings, as also the Magistrates' Courts and Post Office should be very fully discussed before anything is done both in regard to siting and design. With reference to the latter building the Town Planning Association put forward suggestions at a public meeting in the Selborne Hall, and in spite of the lack of support from other public bodies it is satisfactory to know that these suggesions did, in this instance, carry some weight with the Town Council.

"Pretoria might be cited as an instance where Town Planning questions have been given some consideration and I think all will agree that to the visitor the Town with its carefully laid-out open spaces, its planting of avenues, its well designed tram shelters, and public conveniences, etc., is an infinitely more attractive centre than Johannesburg. Mr. Jameson, a former Town Engineer, and Mr. Rees Poole, the architect, are mainly responsible and it is worth recording the fact that they were invited to Kenya to advise and lay-out the Port of Mombasa.

"Durban, realising the value of Town Planning, has a Municipal Committee working in co-operation with experts and the new development at Durban North will in the near future prove the advantage of a well considered scheme.

"Cape Town has its first garden suburb, which in time will be one of the attractions of that City, and the Provincial Administration have promulgated a draft ordinance for controlling future town development.

"Bloemfontein has done much.

"We alone are lagging behind. Mistakes are being made every day, and unless the whole problem is systematically tackled, the efforts of our Publicity Association to advertise this town will be of little value.

"The visitor wants something more than the mere fact that Johannesburg has grown up so rapidly and the attractions of its Mining Industry. He wants to have other attractions to while away a few hours. We should set to work to develop to the greatest advantage what centres we have left, Milner Park, Cottesloe, Ellis Park and the Municipal freehold ground now occupied by the prison authorities and link them together with attractive main arterial roads and drives.

"I want, therefore, to make an urgent plea to the Press and Public to help us in our efforts to impress on the Town Council the urgency of a Civic Survey and make Johannesburg a city worthy of the name. The cost is small, practically nil compared with the savings in the immediate future.

"In conclusion, I wish to thank all those members of the Council for their splendid efforts during the year and especially for their co-operation and assistance to myself."

Following a discussion on the foregoing, Sir Llewellyn Andersson moved and Mr. B. W. Brayshaw seconded a hearty vote of thanks to the Professor for his services to the Town Planning movement during the past year and for his able address and suggested that it be circulated to the Press for publication.

Mr. T. S. Fiztsimons, in supporting the motion, was of the opinion that opposition to the activities of the Town Planning Association were due to a misconception of the ideals Town Planners had in view. The movement was one to enhance the amenities of living and not for the supposed cause of exploiting fantastic ideas, and he had great pleasure in supporting the vote of thanks to the President for his address. This was agreed to unanimously.

Professor Pearse, in acknowledging the vote, welcomed Mr. P. E. Easton and looked forward with interest to the aid Mr. Easton would be able to give in the direction of the proposed Civic Survey for Johannesburg.

The meeting then terminated.

SOUTH AFRICAN INSTITUTE OF ART.

The Second Annual Meeting of the General Council of the S.A. Institute of Art was held in the Town Hall, Durban, on Thursday, July 5th, 1927. Mr. John Williams, President of the Natal Soceity of Artists, welcomed the delegates to Durban and invited them to a luncheon at the country club, on the following day. There was a good attendance of delegates, representing Port Elizabeth, Johannesburg, Rhodesia, Natal, Kimberley and the Akadimie vir Taal.

The report of the President, Mr. Leo. Francois, showed a year of satisfactory progress. The President is in communication with the Governnment in regard to a grant in aid.

It was agreed to communicate with Professor Gotch, President of the British Colonial Society of Artists, in reference to his offer to send out an exhibition of the work of British Artists to the Union during 1928-29. The Council agreed that it be suggested to Professor Gotch that only the best work be sent out here and that it be of medium size. The exhibit should also include representative British craft work. Subject to a satisfactory reply, the executive was empowered to enter into negotiations with the Royal British Colonial Society of Artists.

Professor Oxley said that during a recent visit to England, he had acquainted various art bodies with the aims of the Institute. He had also collected a number of examples of printing and posters for exhibition in South Africa. He had further interviewed the advertising manager of the Union-Castle Co., and made certain tentative suggestions for advertising South African artistic work. It was decided that the President and Professor Oxley should go into the matter with Mr. Leiefe, the local manager of the company, at Durban. A letter was sent to the Publicity Department of the High Commissioner's Office, thanking the officials for the great courtesy shown to Professor Oxley while in London.

The President reported that Mr. A. H. Smith, of Durban, had given a travelling bursary of £60 per annum for three years, to be called the Baron Beaumont Travelling Bursary. The Council passed a vote of thanks to Mr. Smith for his generous gift.

Mr. V. Jones (Port Elizabeth) proposed to establish sub-councils in various towns under the District Councils. The principle was unanimously adopted.

The President proposed that District Council should consider the establishment of propaganda subcommittees on lines similar to one that had been established in Durban. Professor Oxley agreed and pointed out that members of the Institute now reaped considerable advantages. For instance :—Free admission to the Institute's Annual exhibitions, free admission to any other exhibitions of English or S.A. Art promoted by the Institute, besides free admission to lectures. There was also the incentive of helping a good cause.

A circular embodying this proposal will be sent to the various District Councils pointing out the advantages derived by members and also making suggestions with regard to a propsal that the reproduction of an etching be presented to members annually.

It was agreed that the holding of the second annual exhibition should be offered to Johannesburg, but in the event of Johannesburg not accepting, Port Elizabeth should be asked to hold it there.

Subsequent to the meeting of the Council, the President has written to Professor Gotch acquainting him with the views of Council. The first annual exhibition has now closed and has proved a financial and artistic success. The Johannesburg District Council has decided to offer the exhibition to Port Elizabeth for next year and it is understood, therefore, that in the event of Port Elizabeth undertaking the work, the headquarters of the Institute will be moved to Port Elizabeth next year in terms of the constitution, for a period of two years.

ARCHITECTS' REGISTRATION.

Attention is drawn to the fact that application for registration as an architect or enrolment as a quantity surveyor must be made within six months from 20th June, 1927.

All persons desirous of being so registered or enrolled should therefore apply to the Secretary of the Provincial Institute of which he wishes to become a member or of which he is already a member (excepting those already registered in the Transvaal) or to the Chapter of Quantity Surveyors for forms of application.

Addresses of Provincial Institutes :—

Cape of Good Hope.—Secretary, St. George's House, St. George's Street, Capetown.

Natal.—Secretary, 339 Smith Street, Durban.

Transvaal.—Secretary, 67, Exploration Building, Johannesburg.

Orange Free State.—Secretary, 115, St. Andrew Street, Bloemfontein.

Quantity Surveyors' Chapter.—Secretary, P.O. Box 364, Johannesburg.

A registration fee of £5 5s. for architects and £3 3s. for quantity surveyors must accompany each application.

The following are the clauses in the Act relating to registration and enrolment :—

10. (1) The Inaugural Board shall forthwith open a register in which the names of all persons who are registered under Act No. 39 (Private) of 1909 of the Transvaal shall be registered as architects.

(2) Any person who has attained the age of twenty-one years shall, after due application for membership of a Provincial Institute within six months after the commencement of this Act, be entitled, upon payment of a registration fee of five pounds five shillings to the Inaugural Board, to be registered as an architect; provided that he proves to the satisfaction of the Provincial Institute that—

(*a*) prior to the fist day of May, 1926, he was publicly and *bona fide* performing the work of an architect in the Union; or

(*b*) he was engaged as an assistant to an architect in the Union for six months and has at least a total of five years' experience in the work of an architect: or has been employed for a like period by the Union Government, South African Railways and Harbours Administration, a Provincial Administration, or a local authority mainly on architectural work; or

(*c*) he is a person entitled to vote as a member of one of the following bodies:—The Cape, Natal or Orange Free State Institutes of Architects, the Port Elizabeth Society of Architects, or of some other society of architects which the Inaugural Board may declare to be of a standing equivalent to one of the aforesaid institutes; or

(*d*) he is possessed of qualifications and experience which have been declared by the Minister by proclamation in the *Gazette* to be equal to those referred to in any of the preceding paragraphs;

provided that any person aggrieved by a decision of a Provincial Institute under this sub-section may appeal therefrom to the Inaugural Board.

13. The Inaugural Board shall forthwith open a roll in which any person who has attained the age of twenty-one years shall, after due application for membership of the Chapter within six months after the commencement of this Act, be entitled, upon payment of an enrolment fee of three pounds three shillings to the Inaugural Board, to be enrolled as a quantity surveyor, provided that he proves to the satisfaction of the Chapter that—

(*a*) prior to the first day of May, 1926, he was publicly and *bona fide* performing the work of a quantity surveyor in the Union; or

(*b*) he is qualified for enrolment in terms of section *fifteen;* or

(*c*) he is a member of the South African Institute of Quantity Surveyors, or any other institute or society of quantity surveyors which the Minister may declare to be of equal standing; or

(*d*) he was engaged as an assistant to a quantity surveyor in the Union for six months prior to the first day of May, 1926, and has a total of five years' experience in the work of a quantity surveyor, or has been employed for a like period in the service

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of the Union Government, the South African Railways and Harbours Administration, a Provincial Administration, or a local authority doing the work of a quantity surveyor; or he has qualifications and experience which the Minister may by proclamation in the *Gazette* declare sufficient to entitle the applicant to be enrolled as a quantity surveyor;

provided that any person aggrieved by a decision of the Chapter under this section may appeal therefrom to the Inaugural Board.

15. Every member of the Institute who has been in the practice of preparing his own quantities and pays, within six months after the commencement of this Act, the enrolment fee as prescribed by Section 13, shall have the right to be enrolled as a member of the Chapter.

"Architect" means a person registered as a member of the Institute of South African Architects in terms of this Act.

"Work of an architect" means the designing or supervision of buildings or works accessory thereto.

"Quantity surveyor" means a person enrolled as a member of the Chapter of South African Quantity Surveyors in terms of this Act.

"Work of a quantity surveyor" means the measurement of or preparation of bills of quantities for work in connection with buildings or works accessory thereto.

COMPETITION.

1. The Inaugural Board invite Architects to submit designs for a Seal to be used in connection with certificates of membership of the Institute.
2. The Inaugural Board, on which there are three registered Architects will be the Assessors.
3. A premium of Five Guineas is offered to the author of the design placed first, which design will become the property of the Institute.
4. The design to be drawn full size to occupy a space not larger than 3in. by 3in. to be executed in Indian ink on white Bristol Board.
5. The title of the Institute in the dual languages is to be a feature of the design but may be abbreviated to suit the design and space available:
   "The Institute of South African Architects.
   Die Instituut van Suid Afrikaanse Argitekte."
6. The design to be enclosed in an envelope in which another smaller envelope containing the name and address of the Author of the design, is to be enclosed. No name or number or distinguishing mark is to appear on the design.
7. Designs to be delivered to the Secretary, Inaugural Board, P.O. Box 3722, Johannesburg, not later than noon on the 30th September, 1927.

By Order of the Board,

MURRAY K. CARPENTER.
Secretary.

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OBITUARY.

CYRIL WALTER REID.

It was with the greatest regret that we learnt of the death of Cyril Reid, on the 28th of August last, aged thirty-four.

On leaving school in 1910 he immediately joined his father's business and started taking classes in Architecture, and was the first South African trained student to take his Diploma (this in 1915).

Among the buildings which show the work of his hands are the Polana Hotel and the University of the Witwatersrand Medical School.

Apart from his reputation as an Architect, Cyril Reid was well known as a sportsman, rotarian and stamp collector.

All who knew him will feel the greatest sympathy with Mrs. C. W. Reid, her son and daughter, and Mr. and Mrs. Walter Reid.

GEORGE NESS.

A loss which will be felt very deeply by a large number of friends has to be recorded in the death of Mr. George Ness, the metalworker, whose work is known among architects and art lovers generally practically from the Cape to the Zambesi.

Mr. Ness had been ill for about a fortnight, and on the 6th inst. was removed to Johannesburg Hospital, where he died early Sunday morning.



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