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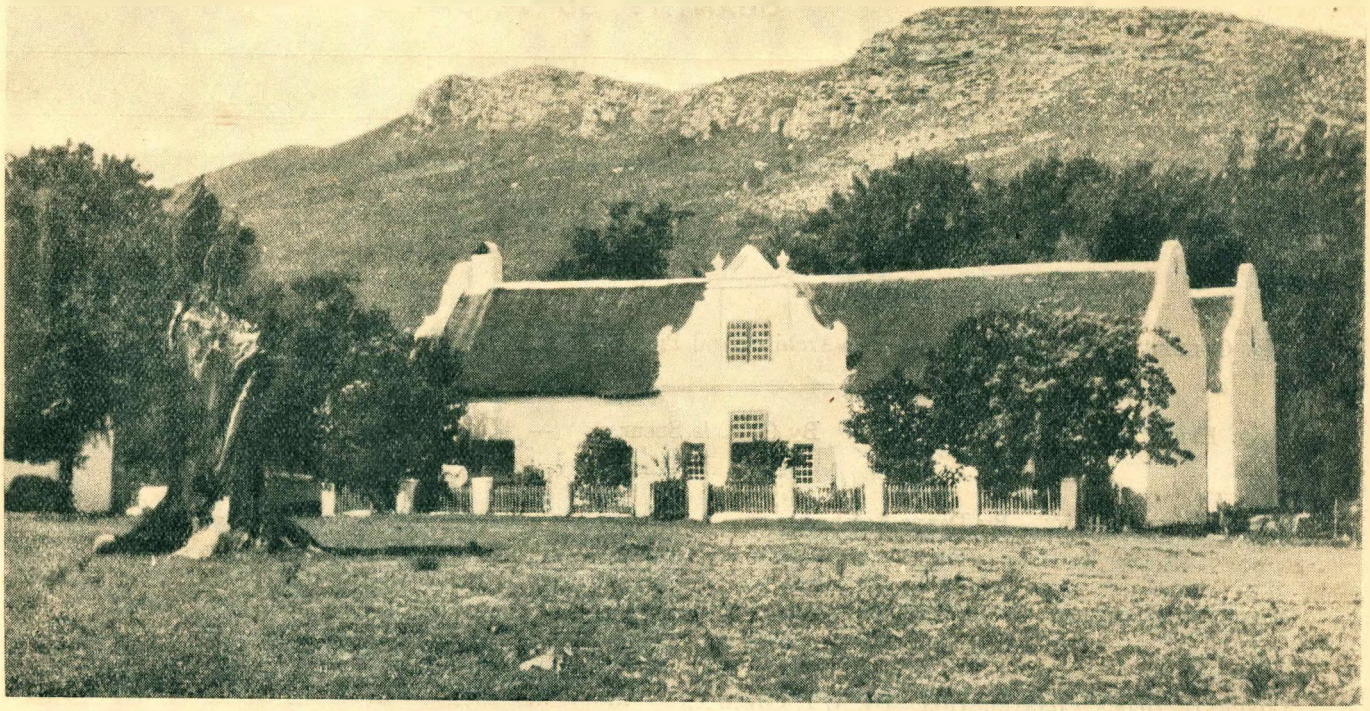

LA PROVENCE, NEAR FRENCH HOEK.

A delightful example of the XVIII Century Dutch Farmhouse. Peculiarly South African in its harmony with the countryside, and the sympathy between its materials and forms.

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THE GOLDEN ROAD.

IMPRESSIONS OF AN ARCHITECTURAL PILGRIMAGE TO THE CAPE.

REX MARTIENSSEN.

J. E. Flecker wrote of merchants making the Golden Journey to Samarkand. They brought with them "rose-candy and sweet jams meticulously jarred . . . and broideries of intricate design . . . and printed hangings in enormous bales." The memories of travel are as rich as these. And even if we cannot lay out our wares at the Gate of the Sun, they are none the less real to us. The picture of a shady patch of whitewashed wall, the scent of pressed grapes, the fantasy of a gable scroll are the treasures which refresh one after a pilgrimage to the Cape.

In January 1928 Professor Pearse took a party of architectural students to the Cape. His intention was to make complete surveys of as many of the old buildings as possible, consistent with careful study, and a true appreciation of their beauty. The ground covered was large, and the variety and richness of the homesteads sustained a keen interest throughout the tour. We spent the first week at Paarl, perhaps the most attractive small town in South Africa. Its seven mile road merges at each end into magnificent avenues of stone pines, whose lofty heads meet like the fan vaulting in a Gothic Cathedral; and its wine farms stretch from the road across the valley in lines of green on brown.

From Paarl we visited Vredenhof, the stately old house attributed to Thibault, with its air of sober dignity and complete repose. It reminded one of those old houses of the merchants in the Herengracht at Amsterdam, with plaster walls in place of brick, but with the same rigid symmetry, the rich central doorway and the great shuttered windows. Paarl is full of interest, wine cellars can be glimpsed between the oaks which border the main street, farm houses seem to have stolen from their true province, and nestle up to the town buildings. The result is delightful. There is no strict demarcation between town and country; they blend. The coolness under the trees is made more intense by the blazing sun from which we shelter. I recall a simple wine cellar, standing well up from the road, with white walls and steep thatch roof. The openings are small, and appear black when the sun touches the surrounding wall. By one small sign of instinct the building has become one with the trees, the shadows and the earth; for the owner has painted round his circular headed windows a wide border of apple green. Softer than the white, cooler than the brown of the thatch, and between these and the dark greens of the oaks, it links them in a glorious harmony of colour, a combination so satisfying that the eye is rested, the mind refreshed by contemplation.

We journeyed to Rhone, to L'Ormarins and to La Provence. At Rhone we saw them barreling wine for export, and as we lingered in the dark and sweetly scented cool of the cellar, and heard the slow gurgle of wine, we half expected to see Daphnis and Chloe pressing grapes nearby. We had plums and figs under the trees in front of the house, and marvelled at the play of speckled shadows on gable mould and broad wall. How gaunt and hot these old houses would be without their friendly oaks.

It is impossible to give a picture of La Provence. Its appeal is instinctive. Either you are in love with it or you are not. It is like the *Porte de Chinon* at *Richelieu*, or the Mermaid Inn at Rye, deliberate classification will not help you. Analysis dulls their charm, you like them, that is all you know, and it is sufficient. La Provence clings to the ground. It is low and broad. There is an uninterrupted sweep of ground before, and the vineyards stretch from the stoep behind to the bottom of the valley. There is complete quiet, and with the waning daylight the surrounding country with its deeper hues enfolds the farmhouse in a tender embrace. A faint breeze disturbs a willow, there is a sound of distant beating of iron, and night has come.

We visited Libertas with its quaint old brandy distillery still intact. With its rather startling wall paintings, and its associations of Adam Tas. We photographed dozens of gables and doorways. We ransacked windy Stellenbosch for hitherto undiscovered gems. We came by surprise on Spier quite late one afternoon, with its delightful outbuildings, and cool dairy.

We had afternoon tea with Lady Phillips, at Vergelegen, and sprawled under van der Stel's oaks and camphors. Miss Dorothea Fairbridge showed us her old prints and china. We talked painting with Professor Eric Walker, who has just written a South African history. We talked furniture with Colonel

Lyall at Nederburg, and envied him his delightful collection and priceless wall cupboard. We learned how to make wine from Mr. Louw, at Picardie.

We studied Sir Herbert Baker's Cape Work. We visited the new University buildings, at Rondebosch, designed by the late J. M. Solomon, and now being carried out by Mr. Walgate, who worked with Sir Edwin Lutyens, on the new Delhi. We spent some hours in the Archives with Mr. Graham Botha, looking out old records of building at the Cape. We photographed small houses in the Malay quarter. We climbed the tower of the Lutheran Church, in Strand Street, and measured its great wooden beams. We drove round Cape Point and Chapman's Peak. We wandered about in the gardens at Kirstenbosch, and lingered in Newlands Avenue, where one can see delightful houses of Georgian flavour, and with slate roofs.

We stayed a great part of our time with Professor Crawford, at the University Hostel, in the gardens, and were met with the most wonderful hospitality wherever we went. Our tour was packed with interest. We were doing interesting things or seeing interesting people from morning to night. We met Mr. Meyerowitz, the sculptor, who told us something about wood carving, and stimulated us with his views on architecture and its relationship to sculpture.

We had supper with Mr. Canitz, the painter, one Sunday night, by the light of candles in a fine Dutch candelabra, and drove back to Stellenbosch in moonlight which had transformed the countryside into the most entrancing fairyland imaginable. Great clumps of trees in unexpected places gave an eeriness to the white ribbon of road which stretched across the valley. The soft evening breeze of magic scents lulled us, and we drowsed to the hum of the car bearing us homeward. That memory is still vivid to me so I shall turn from our Golden Road, and " . . . muse awhile, entoil'd in woofed phantasies."

. . . . . .

There is a delightful inversion in measuring a building. The function of creative artist gives place to that of analyst. Although we may receive impressions of charm and inevitability (the inseparable qualities of great architecture) by merely looking at a beautiful building, it is necessary for us to know exactly, technically, how this beauty is produced. A painter creates forms directly. That is, the subject reaches a state of completion in one stage. In sculpture we have the same unity of creation with result. The final expression is linked as it were with the artist's original conception. There are no intermediate stages, the subject is worked in three dimensions, the ultimate result is directly due to a series of processes. There is a continuity in these processes, the medium remains the same, the ideas of the sculptor find direct interpretation in his material.

In architecture it is different. The processes which produce a building are more complex. The architect expresses his idea in terms of two dimensions on paper. There is a change in medium. On paper he can show the lines of building, but the ultimate effect of these lines is dependent upon factors which are peculiar to the final state. The third dimension, the foreshortening and perspective of certain parts, the colour and texture of the materials used, the relationship of the various forms, can only be completely realised when the structure is complete. The translation of one medium to another (that is from paper to brick or concrete) is the fundamental difficulty in producing fine architecture, provided, of course, that the taste of the designer is good.

Painting, one might contend, expresses three dimensions successfully in two. This is true. But painting creates an illusion. When the artist has depicted his forms on canvas his work is finished, he is not interested in the actual physical properties of those forms, he paints effects. He translates visual impressions on to canvas, and it is the *expression* of these *impressions* which we see when we look at his picture. Architecture in the embryonic stage seeks what might be called subjective expression from an objective standpoint. In other words when we design a building we have a preconception of different forms of building, which we intend to weld into one harmonious whole. The success of our venture is therefore dependent on our ability to visualise, beforehand, the final appearance of our unified forms.

There is no finer way of attaining this "feel" for architectural form than by measuring, studying, and actually drawing out those forms which constitute good architecture. The Cape is particularly rich in fine old buildings which afford a wonderful opportunity for the study of all the attributes of beautiful building. For we cannot ignore the surroundings, the atmosphere, the very flavour which permeates every building. In successful architecture there is a distinct sympathy, almost a mutual reflection of beauty and colour between the forms of the building and the forms of enfolding nature.

Picture a Cape Dutch farmhouse. Thatch and whitewash. Oak trees screening the open stoep. Then wide, green doors, windows delightfully proportioned, and great tiles covering the floors. There is nothing inconsequent about these elements, these materials They arose from a divine instinct for what is good, from a sure knowledge of the fundamentals of fine building. Architects to-day build houses in the "Dutch style." They must be Dutch, for they possess gables, they have stable doors. But thatch is not a practicable material. They use corrugated iron. They forget to plant the oaks. Granolithic is cheaper than tiles, asbestos replaces yellow wood and teak for ceilings, and so the cutting down goes on. The resultant house is a poor shallow thing compared with its predecessors. It does not resemble the latter even in spirit, certainly not in the letter. No, the lesson we learn from the old houses at the Cape is not so obvious. There is something more significant in studying the subtleties of a gable, than one would at first suppose. If we are not to abuse the privelege of study, we must not regard the gable as something "to be worked into a design" at the earliest opportunity. Our approach should be from quite a different angle. There are certain qualities in the form of the gable, certain effects of light and shade, of texture and of modelling, which please us. By close examination and the drawing out of these forms we can see exactly what it is that satisfies us aesthetically.

WINE CELLAR AT KLEIN CONSTANTIA.

This then is the basis of "measuring and drawing."

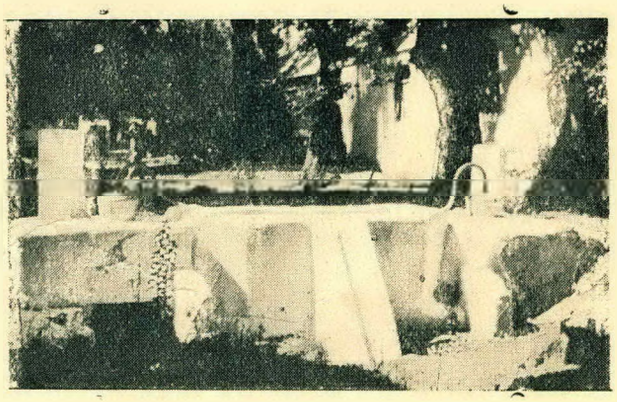
The methods are fairly obvious. An approximate drawing is made and dimensioned by actual measurement at the time. These rough sketches are later expanded into the actual measured drawings. The latter being as it were inverted working drawings, the building becomes diagrammatic, and the student can now read it in the architectural language of section plan and elevation. He is able to correlate his actual observations with a graphic record of the building. A comparison of the rough sketches and final drawings usually shows how different the latter are from the former in the matter of proportion and truth. This lesson is valuable to the student of architecture and provides him with a working knowledge of beautiful forms.

There is an equally important part of the study of buildings. It cannot be recorded by drawing. It is difficult to define, it is well-nigh impossible to analyse, it is not assimilated by all, and yet it should be—it is atmosphere. Atmosphere is not a thing that can be captured by imitation. It is the one thing lacking in an otherwise perfect copy. It is part and parcel of that which it surrounds. It is that very quality of vitality by which we judge a painting. Has it ambience? Has it a spirit? We speak of the atmosphere of a palace, of a theatre, of a railway station. It crystallizes our conception, it is one with colour, life, scent and movement.

The old farm buildings at the Cape are steeped in atmosphere. There is a glorious unity of material, of the building and the surrounding country. There is a feeling of fitness, of rightness in the whole. If you stand in the *Galerie des Glaces*, at Versailles, you feel that the vastness, the grandeur of the scale of that room would be difficult to reconcile with its surroundings. But look from the central window at the magnificent stretch of gardens. The formality, the breadth of lawn and water, the seemingly endless vista between the trees are in complete harmony with the building. Some of the detail may be trite, but the conception as a whole is magnificent solely because of the powerful unity between the chateau and its gardens. St. Paul's Cathedral is a living thing, throbbing with movement. On a wet cheerless night one feels it dominating the streets, serene rather than frowning, watchful, massive. The dome from Cheapside is superb in silhouette, but on paper the Cathedral looks rather foolish, that is, in "dead" elevation. The truth is that it cannot be separated from its soot, its pigeons, and the swirling crowds which throng its base.

Our humble farmhouse is just as much an organic part of the earth as the Chateau at Versailles, or St. Paul's, its intrinsic beauty may be just as great. Its appeal is different, but when our mood is adjusted, our enjoyment of its own type of beauty may be just as intense as that of the former. I believe that when Sir Herbert Baker first showed an interest in the old Cape homesteads, he was asked what he found beautiful "in this debased Hottentot building." His critics may have been lacking in taste, I think it is more likely that they were simply incapable of adjusting their viewpoint sufficiently to appreciate the wonderful architectural legacy which has been left this country. They had probably been schooled to regard the inanities of the late Victorian architecture as the criterion for architectural comparison and criticism. Fortunately for England men like Philip Webb, and later, Sir Edwin Lutyens realised that beauty in architecture lay in restraint and breadth, in fitness of material, rather than in the application of meaningless and trashy ornament to ill-designed and insipid buildings. And fortunately for South Africa Baker had the vision, the instinct for real beauty, which made possible the building up of an architecture, intensely South African in spirit, and with its roots firmly intertwined with the ideals of the old Cape builders.

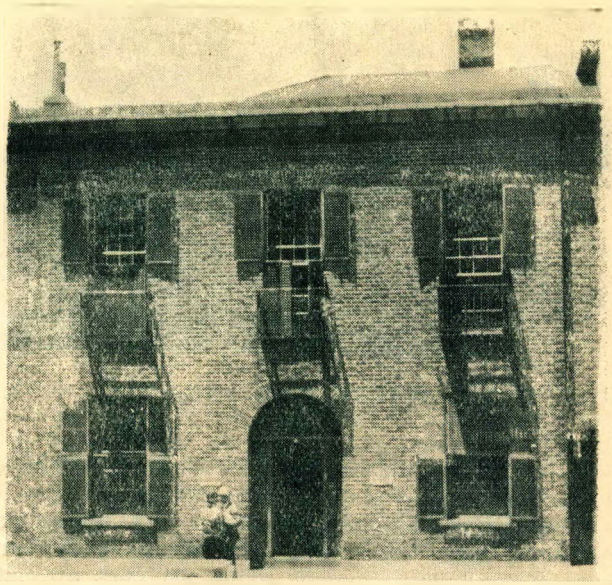
The Union Buildings are as important to South Africa as Ragnar Ostberg's Stadshus is to Sweden. One feels that these two buildings are the most significant that the twentieth century has produced. The Union Buildings, the creation of a master unhampered by petty considerations of cost, represents a considerable step in the evolution of our architecture, besides being from any standpoint one of the most completely beautiful buildings ever erected. Petty criticisms will not detract from its greatness, but serve rather to indicate the inability to rise to a plane of appreciation sufficiently high.



BRANDY STILL AT LIBERTAS,
NEAR STELLENBOSCH.

To anyone who studies the Union Buildings, the flavour of the old Cape architecture will be strongly apparent. They have risen considerably above the limitations of the old style. This is only natural, for it would be retrogressive to follow slavishly a style that was unsuited to present day requirements. Baker has welded his elements with the unerring instinct of genius. There are no gables on the Union Buildings,

SLAVE BELL AT MORGENSTER.



A HOUSE IN PARLIAMENT STREET, CAPE TOWN.

but his conviction of the rightness of the old Cape buildings influenced him in his design. He embodied the ideals of the old builders, the ideals of breadth and dignity; he did not copy, he respected the legacy, the spirit of which permeates his work.

This is not a diversion. For if we are to study the work of past centuries we must realise the relationship of that work with the buildings of to-day. Architecture is a continual development, and to plunge back into historical copying is to undo the work of the intermediate stages. The Cape Dutch style was the starting point of our South African architecture, let us study its beauty and appreciate its qualities, but let us realise its unsuitability for modern usage. Baker has covered one huge stride by himself, to be rational we must carry on from where he stopped. Again we must not copy, we must find our own solutions to the problems we will meet. The ideals must remain unbroken. The spirit live on.

SOME EARLY CHURCHES AT THE CAPE.

G. E. LE SUEUR.

Although the Cape prides itself upon a considerably longer history of European civilization than that possessed by some other dependencies of the British Crown, it nevertheless has but a short history. On this account the country lacks architectural material of historic character. An exception to this general statement is afforded by the existence of the Old Cape Dutch style. Of this—which was developed mainly in domestic architecture—much has been written; while little notice has been taken of public buildings belonging to the same period. Interesting examples of such buildings are to be found in ecclesiastical structures. Owing to the want of authentic records, precise information is difficult to obtain. The following matter, however, is deemed to be of sufficient interest to form the subject of an architectural thesis.

Before entering upon a description of these church buildings it will be well to consider in brief outline the growth of architecture at the Cape.

The settlement was founded in 1652 by the Dutch East Indian Company as a victualling station for its vessels engaged in trade with the East. The early settlers housed themselves in simple homes, hastily erected, built of any obtainable material which was suitable as a protection from the elements and against the numerous wild animals which frequented the settlement. As years went by, these pioneers prospered in the land and gained sufficient wealth to enable them to devote their thoughts to the erection of more permanent homes and necessary public buildings. Thus, after the year 1679, foundations were laid for many beautiful gabled and thatched homesteads which to-day are classed under the style of Old Cape Architecture.

This marked development can be attributed to the impulse given by Simon van der Stel, Governor for the last two decades of the century. A man of wider outlook and higher ideals than his predecessors, he did his utmost to direct the development of the colony on lines according with his own breadth of vision. His first endeavour in this direction was to improve the architecture, setting an example by the erection of a fine homestead—Groote Constantia—which is considered as the standard example of the Old Cape Style. This and other buildings influenced by van der Stel required far more skilled labour than was procurable in the country; therefore, in order to overcome the difficulty, he ordered the intercepting and detaining of all craftsmen aboard ships which called at the Cape on their way to richer lands in the East.

Van der Stel and most of the settlers were acquainted with the Flemish Renaissance Architecture of Holland, and also with the domestic architecture of the East Indies. Possessed with this knowledge they altered and combined, with most suitable adaptations, the two quite different styles to meet the conditions of country and climate, available materials, and unskilled slave labour.

This style, commonly known as the "Old Cape Style of Architecture," was developed mainly in domestic work. For, during the century in which it prevailed, comparatively few public buildings were erected; a fort, Government Offices, and some churches supplied the needs of the time. These edifices were built for various requirements and designed by various persons, each experimenting and striving to attain a satisfactory style suitable for work of a public character embodying the use of local materials and methods of construction. The first examples followed rather closely on the lines of domestic work. Each subsequent erection, however, tended to break away from this type of design—which, indeed, was unsuited to the architecture of public buildings.

Thus it will be seen that old Cape buildings, other than domestic, must be classed as individual examples —intensely interesting in their own way, but not coming under the heading of a style.

Little information exists regarding early Cape architects, and as only scant architectural records were kept it is often impossible to state definitely who was responsible for the design of a specific building. Many of the fine examples of domestic work are attributed to the Governors themselves, or to persons in the employ of the Company.

The first architect of whom any definite indication has been found, is J. Meerman, his name appearing below a plan dated 1714, for a church at Paarl.

The architect of greatest renown in our early history is Louis Michiel Thibault, of Pecquigny, near Amiens, who arrived in the latter half of the eighteenth century. He designed many public buildings, and did much towards founding a style for this type of architecture suitable to our climatic conditions and building materials.

Most of the fine sculptured work on Thibault's buildings and others of the time is attributed to Anton Anreith—a master sculptor who landed at the Cape in 1777. Although some of his works, executed in perishable mediums, have been destroyed, those which remain bear witness to the genius of a highly skilled craftsman.

From the above brief outline it will be seen how Cape Architecture was derived and developed, and how far the style of the time affected the design of those ecclesiastical buildings which form the subject selected for this thesis.

About forty years after the foundation of the Cape Settlement, a necessity arose for some means of public worship for the inhabitants. Then, as the Commander and most of the settlers were adherents of the Dutch Reformed Church—the state religion in their native land—the Dutch East India Company established that Church here; and prohibited, under heavy penalties, the practice of any other form of worship.

The application of these regulations admitted of one exception; for the German Lutherans, owing to the similarity of their doctrines with that accepted by the Dutch, were allowed to hold services in private houses when vessels called at the Cape with Lutheran Ministers on board—which quite frequently happened in the case of Danish ships bound for Tranquebar. Although some forbearance was shown to the Lutherans, they were not allowed to build themselves a church. Eventually, however, in the year 1770, one Martin Melck, a rich merchant and staunch Lutheran, evaded the law by obtaining permission from the then Governor—Ryk Tulbagh—to erect a spacious wine store, which on completion he converted into a church. His building stands to this day as the Lutheran Church, of Cape Town.

It was in December 1700, during the Governorship of Willem Adriaan van der Stel, that the foundations were laid of the first Dutch Reformed Church for public worship at the Cape. This church occupied the same site as the enlarged church now existing at the top of Adderley Street. The old tower remains, mellowed by age but still in perfect condition.

The Church took four years to build, being completed and opened for service in the year 1704. It was square in plan and of about 60 feet side with a tower attached on the east and a vestry on the west. There were two entrances of equal importance facing north and south. The northern entrance overlooked the Heerengracht, now Adderley Street, through which flowed a canal constructed in the time of Jan van Riebeek, Governor for the first ten years of the settlement.

The church, which was a plastered and whitewashed building, had a thatched roof in accordance with the custom of the time. Gables similar in outline to those in use for domestic buildings were placed over the two entrances and another on the west or vestry side formed a finish to the steeply pitched thatch roof. A stucco-finished wall, about seven feet high, enclosed the graveyard which surrounded the church. The general appearance must have been very picturesque and well in harmony with its surroundings, situated as it was amid the high-stoeped thatched houses scattered on each side of the tree-bordered canal.

To understand the aesthetic value of this building, it must be remembered that the Dutch Reformed Religion is a simple faith, unceremonious and free from all outward signs or symbols. A Dutch church is, therefore, in plan and section quite unlike the orthodox form of building used by the Church of England. It is more of a preaching place, or auditorium, where people gather to hear the Scriptures read and sermons preached. The minister conducts the service from a raised pulpit below which the congregation is seated. The organ, with choir gallery, is usually situated at the back of the people and directly opposite the pulpit. The seating accommodation is often increased by galleries down one side or both sides of the church. There is no significant orientation as is the case with the Anglican church. The placing of the pulpit which is the object of chief importance in the interior, depends entirely upon the planning of the building, as governed by the relationship of approaches and aspect.

The designer of this Church might have done more to show the true significance of the edifice; but it is perhaps unfair to criticise too harshly, for regard must be paid to the fact that there were no traditions to follow and no sacred symbols to embody in the design. The chief feature of the design was its simplicity of line and treatment, quite in keeping with the faith which the building represented and the purpose for which it was erected; and it is only natural that its form and construction should have been in harmony with the surrounding domestic architecture.

The walls, from four to five feet in thickness, were built in rough sun-dried bricks set in clay mortar. The brick bonding in walls built at this period was very irregular, the bricklaying being done mainly by slave labour. Lime plaster was used both externally and internally. These old stucco surfaces must be seen in order to realise the pleasing texture that was obtained by the pioneer craftsmen at the Cape.

A thatched roof, which took a cruciform shape, was supported internally by four round plastered columns about three feet in diameter and twenty-five feet high, without base but having marble capitals resembling the Roman Doric in outline. The roof timbers were rough yellow-wood balks spiked, lashed and halved together.

Each corner of the building not covered by the thatch was roofed by a flat lime concrete roof supported on wooden beams and boarding. The craftsman's method of constructing these flat roofs, many of which remain in Cape Town to this day, is interesting. From original manuscripts and inspection of remaining examples it appears that they were constructed in the following manner. Wooden beams at about two feet centres supported boarding on which rested a layer of eight-by-four hard bricks laid on their flat. This brick surface was coated with a plaster composed of four parts of stamped shell lime to two parts of finely powdered brick. These were well mixed together whilst dry, and then cocoa-nut oil was added until a thick plastic consistency was obtained. This mixture was applied by means of wooden mallets and worked into a homogenous mass about 1½ inches thick, laid to falls. The second coat, which was added while the first was still green, consisted of ten parts of finely sifted brickdust and one part of "Bengal Gor" (sediment of sugar). This was laid in the same manner as the first coat, to the thickness of about one inch. The third or last coat was a liquid mixture of cocoa-nut oil and "Gor," rubbed in and worked to a finish with a steel trowel.

The ceiling of the church was formed with about six-inch wide boarding. The main portion was flat and uninteresting, but between the four columns it took the form of two flat interpenetrating vaults. On the walls within the church hung monuments to the notabilities whose remains lay beneath the pavement. There too were displayed the armorial hatchments which were carried at the head of funeral processions. Although a few of these hatchments were found in recent times intact in the old tower, most of them were lost or destroyed when the church was rebuilt in 1835.

The floor was paved with stone slabs of a grey slaty nature, probably from Robben Island, eighteen inches square and from two to three inches in thickness. These slabs were re-used in the present building, many of them bearing memorial inscriptions commemorating persons buried in the surrounding graveyard or in the vault, the burial place of the Dutch Governors. This vault, situated below the floor of the church, has now been filled in; and as no records remain it is impossible to give descriptive details of its construction. Probably the vaulting was of the same type as is found in the Castle and other buildings of that time. These are intersecting semi-circular vaults built in small Batavian bricks, rising from square piers without base and with no springing marked, the whole being plastered and whitewashed.

The church was lighted by semi-circular-headed teak windows about eight feet wide and fifteen high. These windows were glazed in small panes of clear glass having the appearance of the old "hand-blown" variety in both texture and colour. The entrance doors were also in teak, and were hung to heavy square, rebated, frames.

A pulpit is usually the finest piece of furniture in a Dutch Reformed Church. It is to be regretted, however, that few definite details of the original pulpit of this particular church have been recorded, except that it was built of East Indian Chiaten wood, stood on the west or vestry side, was octagonal in shape, and had a finely carved wood canopy supported by eight spiral-shaped posts of ebony.

The general external appearance of this building was of pleasing line and proportion. The character of the plaster mouldings was such as to give the design just that craftsman's touch required to finish and enrich the walls built by unskilled slaves.

In the year 1780 the church was slightly enlarged, but to what extent it is hard to say, as there is no definite record except that the tower was heightened and a clock inserted. This tower, the only remaining portion of the old building, is of special interest. It is about twenty-eight feet square and sixty feet high from the ground to the level of the balcony below the clock. The walls of sun-dried bricks are five feet thick at the base and three feet thick at the top, or balcony level. The base of the tower is surrounded at six feet above the ground by a heavy moulding, below which the wall has a nine-inch batter from the vertical giving the feeling of a firm and solid foundation.

The tower entrance, now unused and hidden from view by surrounding buildings, is simple in outline and of pleasing proportions. This arched doorway with its moulded frieze and two sentinel pilasters has just that dignity required for its purpose

Just below the main cornice surrounding the clock balcony are small louvred windows with semi-circular heads. These are the belfry windows. Two fine brass bells which have not been rung for many years hang from massive teak beams in the tower. A simple wrought-iron railing surrounds the clock balcony, which is three feet in width and paved with 11in. x 11in. quarry tiles. The clock turret added in the year 1780 is built in yellow-wood timber. The exterior is covered in zine sheeting with projecting quoins and voussoirs imitating the plaster treatment on the walls below. The spire, roofed with octagonal slates, is surmounted by a beautiful and delicate weathervane.

In the year 1835 the congregation had increased to such an extent that the size of the church was found to be quite inadequate for its purpose. It was, therefore, decided to pull down the entire building with the exception of the tower, and to build a new church on a far larger scale. Such a decision was perhaps hastened by a severe outbreak of smallpox which prevailed at this time amongst the inhabitants of the settlement. As a safeguard against the spread of this epidemic, the Government issued orders that the vault below the church floor and all open tombs were to be filled in. Therefore during the year 1835 this church, which had served the needs of the people for a hundred and thirty years, was pulled down to make room for a new and larger edifice, now known as "De Groote Kerk."

In November 1836, foundations were laid for this new church, which was completed and opened for service in January, 1841. It cost £19,000; and has a total seating capacity for 3,000 persons. The building was designed by H. Schutte. It is rectangular in plan, and measures internally; one hundred and thirty-seven feet in length by eighty-one feet in width, thus having a total floor area of just over a quarter of an acre.

The church is planned so that the old tower retained from the original building is on the centre line of the east side. The main entrances face north and south, and are of equal importance and similar design. There are also four minor entrances, two on each of the long sides facing east and west.

Just inside each of the main entrances is an oak staircase which leads up to a gallery, twenty feet wide and extending the full length of the wall. The organ, with choir gallery, is recessed in a large archway which breaks back into the old tower. On the west side, directly opposite the organ, is the pulpit, which stands in front of a similar archway recessed into the adjoining building, a portion of which is utilised as a vestry.

The walls, four and a half feet in thickness, are built in brick and finished in lime plaster both internally and externally.

The roof and ceiling are the two interesting and outstanding constructional features of this building. The former is probably the finest piece of roof construction in the country. It is also claimed to be one of the largest timber roofs of unsupported span in the world. It has a clear span between wall plates of eighty-two feet, and is built of yellow-wood timber in trusses at six feet centres, framed and bolted together by means of wrought-iron ties. These trusses support purlins which, in their turn, carry boarding and the roof covering, which was originally sheet zinc but has now been replaced by corrugated iron.

It is interesting to compare this roof with the largest hammer-beam roof in England, that of Westminster Hall, London, which has a clear span between walls of sixty-eight feet; while the roof of the Cape Town Church, built under great disadvantages as regards materials and labour, has a clear span of eighty-two feet, or one fifth more than the span of Westminster Hall roof. It will be seen from the above comparison that this roof is indeed one of the unique examples of roof construction in the world.

The ceiling is another very interesting piece of construction. It is a plaster ceiling taking the form of intersecting, flat, elliptical vaults with plain round ribs six inches in diameter. The plaster has the appearance of a mastic mixture somewhat similar to that used for the flat roof construction, but with the addition of a small percentage of hair. It is laid on laths of split bamboo placed about one inch apart, with the smooth or rounded surface uppermost, and attached to ceiling joists at three-feet centres suspended by droppers from the tie beams. This ceiling, which has stood the test of ninety years, is still in perfect condition—there is not a visible crack over the quarter of an acre of its surface.

At the three intersecting points of the vaulted ceiling are circular rosettes or bosses fifteen feet in diameter, worked in plaster relief. They were added some years after the church was erected and are the work of a Cape Malay. The conventional floral design of these bosses is cleverly arranged in order to allow necessary ventilation to the roof.

The joinery work generally is not up to the standard of that done at the Cape in the earlier periods. This is perhaps due to the fact that, owing to a large increase in building operations—craftsmen were scarce and the work was hurried—with the result that the care paid to detail by the earlier workmen was not a thing of the past.

The entrance doors are in teak two inches thick and formed in small rectangular panels of plain and simple design. The windows which are also in teak, have pointed-arch heads and are rather Gothic in outline. They are glazed with twelve-by-nine inch panes of clear glass. This glass unit is larger than had hitherto been used at the Cape, a nine-by-seven-inch pane being the most common size in use for windows of the early period.

The pulpit, of teak and mahogany, was built in 1789 by the sculptor Anton Anreith and a carpenter Jan Jacob Graaff. It cost 2,000 rix-dollars, of which Anreith received 900, and Graaff 1,100. (A rix-dollar is equivalent to four shillings and two pence).

Two life-sized lions support the pulpit. These and the other details carved in wood bear witness to the genius of Anreith. The surmounting canopy or sounding-board, which is ten feet square, has the appearance of being unsupported. It is entirely cantilevered from two ten inch square upright posts at the back. The construction of this canopy, although perhaps unsound as a matter of design, is certainly an engineering feat. It is quite apparent that the pulpit is the work of two men, for the panel treatment and the sculpture are absolutely unrelated to each other. Indeed the significance of that massive strength which is expressed by the lions is to a great extent spoilt by the delicate joinery work above.

There is little else to be noted in the interior, the seats for the congregation, the galleries, the staircases and other joinery work being of no particular interest.

The general design of the building is on classical lines. The two main facades are of Greek proportions; the pediment with its six supporting pilasters is a crude yet suitable adaptation of the Doric order for a plaster treatment, the windows are undoubtedly Gothic. Surmounting the pediment are six short pinnacles, which needlessly break the skyline and tend to destroy the simple charm that the building otherwise possesses.

As already stated, this Church was built in 1770, by the merchant Martin Melck for an alleged wine store. It is a rectangular building planned like a Dutch Reformed Church with a pulpit at one end and a raised gallery for the choir and organ at the other. The main entrance faces east, on Strand Street. On the west is an attached vestry.

The design of this building is undoubtedly on the lines of old Cape Domestic architecture. It originally had no tower; a high pointed gable decorated with hanging plaster festoons then formed a finish to the steeply pitched zinc roof. The delicate plaster work on the gable and the window surrounds is believed to have been the work of the sculptor Anton Anreith. It is probable that the entrance facade was entirely rebuilt when the building was converted from a wine store into a church. This statement is borne out by the fact that panes of glass, ten by eight inches in size, are used in the front windows, whereas the windows down each side of the church have nine-by-sever-inch panes, the size in most general use here during the eighteenth century. If this facade was rebuilt, it must have been done some years before the tower was added in or about the year 1820; for there exists an old sketch drawn by Lady Anne Barnard, showing the pointed gable, now destroyed, with the door and windows as they exist to-day.

The general construction of the building is similar to that already described in the case of the two Dutch churches. The walls, some four feet in thickness, are built in brick and plastered in lime. The roof, which is framed up in yellow-wood timber has a clear span between walls of sixty-six feet. It was originally covered in sheet zinc, but this has been replaced by corrugated iron. The clock tower is constructed in timber and covered in eighteen-inch square sheets of zinc like the turret on the Dutch church tower.

The ceiling of this church is in six inch wide boarding formed into a barrel vault, which finishes on a heavy built-up wooden cornice supported by wooden pilasters attached to the wall. Cornice and pilasters were most likely added some years after the church was built, for they are quite unrelated both in design and workmanship to the rest of the structure.

The floor is paved with eleven-inch quarry tiles, which after years of polishing have become glossy black in colour.

The joinery work found in this church is of special interest. The doors and windows are in teak very solidly constructed and neatly finished. The organ gallery and the two galleries along the side walls are panelled in stinkwood. These and other details are characteristic examples of the excellent joinery work done at the Cape during the eighteenth century.

The pulpit, which is another example of Anreith's genius, is somewhat similar in size and outline to the one in "De Groote Kerk"; but, it is from many aspects better in design. It is built of wood, the carving being in teak and the panelling of mahogany and stinkwood. Every detail has been carefully thought out to give a sense of unity to the whole design.

Two Herculean figures at the front corners support the weight of the pulpit. These figures are of realistic proportion and powerful expression. The back corners are supported by weird, yet cleverly designed, conventional leopards. The book-rest is carried by a small wooden cherub arranged to give a central point of interest to the design. A carved wood canopy of light construction, cantilevered from the upright panelled back, forms the surmounting feature of this most interesting pulpit.

The extensive use of cast-iron in this church is rather unusual for an eighteenth century building. This metal is used for the balustrade of the choir gallery and the Corinthian columns which support all three galleries. On examining this cast-iron work, which was most likely imported from Holland, it appears to be far superior in quality to any cast-iron imported into the country to-day.

The vestry is a rectangular room with a heavy beamed and boarded ceiling, which carried a lime-concrete flat roof constructed in a similar manner to that already described.

Much can be learnt from a study of the joinery and other details of this church, which reveals the fact that the early Cape craftsmen knew how to handle, with fine feeling, the materials in which they worked.

From the foregoing it will be seen that from its early beginnings architecture at the Cape was a living thing, the buildings being designed in such a way as it was natural for men to build when striving to express and reflect the feelings, ideals and aspirations of the time.

THE NINTH ACADEMY.

DENYS LEFEBVRE.

The ninth academy had points of interest. Here and there a new name gave one something of hope for the future, but, on the whole, the work was undistinguished, I am referring here more particularly to the pictures.

To take the new names first, for after all it is to the young artists that one looks instinctively and it is they who need most encouragement. C. Thornby-Stewart showed considerable promise. "Mimi" was strong, if unequal, and sometimes a little unpleasant. But the artist had something to say. M. E. Davidson's portrait of Mrs. Rutherfoord was done with a distinct sense of decoration and colour. I hope the artist will send more work next year. Thos. Shillington, is only a comparative new-comer, but "The Old Green Hat" is cleverly painted. There is a delicacy and refinement about his work that only needs a little more decision to go further.

NEAR CAPE TOWN. *Sydney Carter.*

PORTRAIT OF LADY. *A. E. Gyngell.*

Alfred Palmer had two charming studies in tempera, "The Bathers" and "The Pool," which emphasise his instinct for colour and decorative sense. I was sorry not to find any of his kaffir studies this year. In some he has exhibited elsewhere, he has shown a strength and insight into character which seem to suggest that he could make a name for himself in a field which still offers much to the explorer.

C. Percival-Small's work is new to Johannesburg. In a painter of his experience and command of technique, I think the drawing of the left arm in Mrs. Saner's portrait, is a little unfortunate, though in both that and the portrait of Mr. John Martin he has put in some excellent painting.

A. E. Gyngell's black and white studies were once again some of the best things in the exhibition. The "Forerunner" is distinctly clever and also the portrait of a lady hung nearest, I think, to the entrance; another black and white portrait of a lady was less pleasing, the effect being somewhat hard. The portrait in oils of Councillor M. J. Harris was an excellent likeness and on the whole a very able piece of painting.

I was rather surprised to find that so little notice was taken locally of Clément Sénéque's oil, "Morning, Capetown," and I was pleased to find an experienced painter echoing these sentiments in my hearing lately. I am glad to think such an excellent piece of landscape was represented at the Imperial Institute Exhibition.

Bertha Everard's fine oils deserved careful study. To those who object to the moderns, I can quite imagine they will not make an appeal. But there was no doubt about their merit, the composition and bold technique giving them an individual effect enhanced, no doubt, by tasteful framing.

SIR WILLIAM THOMPSON. *A. E. Gyngell.*

Edward Roworth was characteristically represented. As usual, his drawing was decided and his brush work also put on without hesitation. To my taste, the realism was rather over-accentuated in the portrait, but there was no doubt that the artist painted as he saw and saw as he painted. The landscapes were not so convincing as usual. It was pleasant, however, to see him so much and on the whole, so well represented.

Sydney Carter was particularly good in his "Water Carriers" and "Near Capetown." He has a gift of showing light on trees and of painting the trees themselves in a way that few artists in this country seem to be able to attain to.

Apart from those artists whose landscapes I have mentioned and a few of the younger artists whose work is competent, but not exhilarating, my impression is that, on the whole, the average of landscapes was not a high one, this applies to the watercolours, in which several well-known artists seemed to fall short of their usual standard.

Dorothy Kay had one or two nice etchings, but her portrait of "Miss Buckland" was much less convincing to me than some of her previous work. Allerley Glossop had some oils in the manner which she has made her own. The atmosphere and feeling of the country were faithfully rendered.

John Ferguson had an example each of pencil and oil, similar to some he exhibited last year. A bigger effort should produce some much finer work. Emily Fern's "David" was a good piece of painting which was only wanting in tone to have been one of the best she has done. Chas Sache had an interesting oil, "Winter Morning, Magaliesburg."

The Art School sent a very encouraging exhibit, especially perhaps in linoleum printing and design, in which there were some very promising students indeed, A. Ross Munro, J. Visick and N. Arbuckle being some whose work particularly attracted me. Leatherwork was to be seen in great variety, both that of students and adults. More attention to design and harmonious colouring would, in many cases, have led to far more satisfactory results. The Art School came to the fore again in metalwork, of which there were some good examples.

The Ceramic Studio deserves special mention for its pottery. Apart from the students' work, the modelling was of a fair standard, but not strikingly original. E. Quail's "The Wave of the Rock" continued the promise the artist showed last year. Once against the Architects contented themselves with a very modest display as regards quantity.

Taking the exhibition as a whole, the crafts were rather stronger and the pictures weaker than the average. A few well-known names were missing, partly perhaps on account of the large number of exhibitions, individual and general now being held all over the country.

Johannesburg owes much to the people who initiated and have carried the exhibition through for so many years, in spite of many difficulties and with so large a measure of success, and, for this reason alone, the public, lay and artistic, should endeavour to give the Academy even more support than they have done in the past. The Academy Committee in view of the great competition from other exhibitions should now consider very seriously what steps should be taken to increase the Academy's prestige and influence. Johannesburg is the largest centre and also, I believe, the biggest buyer of pictures. There seems every reason why its annual art exhibition should be the first in the Union, both in quantity and quality. If artists and laymen alike will only co-operate in a single-hearted endeavour, I see every reason for the hope that this very reasonable aspiration will be realised.

CONCRETE II.

W. G. SUTTON.

The previous article dealt solely with the resistance to bending of reinforced concrete beams of various classes. The provision of adequate resistance to bending is not, however, the sole criterion of the strength of a beam, for with it must be considered the question of shear stresses occuring.

According to a well-known law of state shear force is a measure of the rate of change of bending moment. consequently there is a definite relation between shear stresses and the horizontal normal stresses occuring at any section of a beam. The magnitude of the horizontal shear stress at any point can thus be determined from a consideration of the change in intensity of normal stress across cross sections as we proceed along the beam.

Investigations show that the horizontal shear stress across any cross-section increases from zero at the top to a maximum at the neutral axis (according to a parabolic law), and thereafter remains constant until the reinforcement is reached, whereupon it recedes to zero. The actual magnitude of shear stress below the neutral axis is given by the quotient of the shear force at the cross-section concerned divided by the product of the breadth of the beam times the lever arm. Now, since a shear stress in any plane is accompanied by an equal shear stress in a plane at right angles to the former plane, it follows that the magnitude and distribution of horizontal stress as expressed above represents also the magnitude and distribution of vertical shear stress at identical points in the cross-section.

The horizontal shear stresses occuring in the concrete bring about the change in tension in the reinforcement—the actual agency of communication being the bond or adhesion between the steel and concrete. If this rate of change of tension takes place too rapidly (indicating high shear stresses in the concrete) the adhesive or bond stress called into play may exceed the

safe limit and slipping of the steel relatively to the concrete take place, thereby bringing about a state of affairs entirely contrary to the initial hypothesis that the steel and concete act together as one compound material. It is consequently essential to ensure that the bond stress does not exceed the permissible working limit—usually accepted as 100 lbs. sq. in. The magnitude of the bond stress at any section can be shown to be equal to the shear stress in the concrete multiplied by the ratio of the total perimeter of the reinforcing rods at that section to the breadth of the beam at that section. Bond stress can therefore be effectively reduced by employing a number of small reinforcing rods in place of a few large rods of equal area. The provision of adequate bond is a relatively simple matter and need not be further considered; the question of resistance to shear stresses is, however, an involved matter, but nevertheless of such importance as to be worthy of close investigation.

Concrete is relatively strong in pure shear, the working limit of which is about 120 lbs. sq. in.; however, when in a state of shear combined with bending, ancillary conditions associated with the existence of the shear stresses occuring produce a state of affairs which make the subject of resistance of concrete in shear a very complex one.

Since a shear stress in any plane is accompanied by an equal shear stress in a plane at right angles to the former plane, if follows that the magnitude and distribution of the horizontal shear stress detailed earlier also represent the magnitude and distribution of vertical shear stress at identical points in the beam, Now the effect of two equal shear stresses at right angles to one another is to give rise to a tensile stress and a compressive stress at right angles to one another—these being respectively equal in magnitude to the shear stresses and making an angle of 45 degrees with their direction. The most troublesome factor in the theory of reinforced concrete design thus arises. Although we have, in the design of horizontal reinforcement resisting bending moment, assumed that concrete in a state of tensile strain does not contribute anything to the strength of the beam, we are now faced with the fact that it must be capable of withstanding certain diagonal tensile stresses associated with the existence of shear stresses. On this account the allowable working shear stress in concrete is based, not upon tests of direct shear, but upon tests of shear combined with bending in which failure has resulted from diagonal tension associated with the shear stresses occuring. The allowable working stress under these conditions is the working tensile resistance of concrete —namely 60 lbs. per sq. in. If the shear stress in the concrete exceeds this value it is essential to provide shear reinforcement to deal with the increased diagonal tensile stress. The usual manner of effecting this is by the introduction of inclined or vertical stirrups.

Since the function of stirrups is to make good the inadequate tensile resistance of the concrete due to tensile stresses occuring on diagonal planes, it is advisable that we focus our attention upon the diagonal compressive and tensile stresses occuring rather than upon the pure shear stresses which are usually adequately resisted by the resistance of concrete to direct shear.

The diagonal compressive stresses may be looked upon as a series of columns extending from the horizontal reinforcement to the area of horizontal compressive stress above the neutral axis, while the diagonal tensile stresses may be looked upon as a series of wires crossing these compressive columns at right angles and likewise connecting the horizontal reinforcement with the compressive area above the neutral axis. If we consider a small length of the horizontal reinforcement it will be found that the columns in compression acting on the length give rise to a vertical and a horizontal force, while the series of wire in tension in the same length give rise to a vertical and a horizontal force of equal magnitude. The equal vertical components are opposite in direction and thus give rise to no resultant force on the horizontal reinforcement; the equal horizontal components act in the same direction and give rise to the increase in tension of the horizontal reinforcement as we proceed along the beam. If we assume that the series of diagonal wires representing the diagonal tensile resistance of the concrete have a very limited strength, then, in order to augment this resistance it will be necessary to insert bars or stirrups capable of contributing the required additional strength. Inclined stirrups placed in a direction parallel to the series of wires representing the diagonal tensile resistance of the concrete will obviously do this most effectively. The diagonal tensile resistance to be provided by such inclined bars occuring in any length will be equal to the amount by which the total diagonal tensile force across a diagonal plane included in this length exceeds the diagonal force due to permissible strength associated with concrete in tension, namely 60 lbs. per sq. in. Theory indicates that inclined stirrups should be rigidly attached to the horizontal reinforcement, otherwise slipping may occur; for this reason inclined stirrups have not found a wide range of use in practice.

In place of the theoretically more perfect system of inclined reinforcement there has been generally adopted the vertical stirrup, which, from a practical point of view, has many merits especially as regards ease and security in placing. The action of vertical stirrups can, as in the case of inclined stirrups, be studied from a consideration of the diagonal tensile stresses (represented by series of wires) and diagonal compressive stresses (represented by series of columns) acting on any length of horizontal reinforcement. As was previously noted the vertical components due to each type of stress being equal and opposite balance one another while the equal horizontal components combine to give rise to the change of tension in the horizontal reinforcement.

If these diagonal stresses become very high (corresponding to a condition of high values of shear), the resultant vertical component due to the diagonal compressive stress may exceed the resultant vertical component associated with the permissible limit of diagonal tensile stress in the concrete, namely 60 lbs. per sq. in. Under these circumstance there will be an unbalanced vertical force tending to push the horizontal reinforcement out of the concrete. This unbalanced vertical force may be resisted by means of vertical stirrups designed to resist the excess vertical force

over that which can be dealt with by the concrete which subjected to its permissible limit of tensile stress. It should be clearly realised in arranging and securing these stirrups that they act as tension members and not as members subjected to shear.

In the case of inclined stirrups it was pointed out that the tensile force in these has a horizontal component which combinde with the diagonal tension of 60 lbs. per sq. in. in the concrete together with the diagonal compression in the concrete was responsible for the change in tension of the horizontal reinforcement. In the case of vertical stirrups in tension these can contribute no such horizontal component and analysis shows that under circumstances the diagonal compressive stress in the the concrete is twice that which would occur in the case of inclined reinforcement less 60 lbs. per sq. in. In fact if the tensile resistance of the concrete is considered nil, the diagonal compressive stress in the concrete will, in the case of vertical stirrups, be twice that which would occur in the case of inclined stirrups. Under these ircumstances there is a limit to the extent to which vertical reinforcement can be used, for it may be augmented to such an extent that failure of the compression columns may occur due to overstressing.

Shear reinforcement may be looked upon as forming the tensile web members of a stress, whose top and bottom chords respectively on the concrete in horizontal compression above the neutral axis and the steel forming the horizontal reinforcement, together with diagonal compressive members represented by diagonal columns of concrete in compression.

In the design of shear reinforcement the question of the possibility of bending up some of the horizontal reinforcement at points where the bending moment is low should be considered. This is generally advisable towards the ends of simply supported beams and at points of low bending moment in the case of continuous beams. If some of these horizontal rods are appropriately bent up they have all the merits of inclined stirrups together with the added advantage that slipping due to inadequate attachment is a factor which does not come into account.

The main possibilities of adding to the strength of reinforced concrete beams subject to shear have been considered above and it may be noted that it will often be possible simultaneously to make use of bent-up bars, vertical stirrups, and possibly the actual diagonal tensile resistance of the concrete up to 60 lbs. per sq. in. Some designers consider that the actual resistance may be assumed to be the sum of these three quantities; there are, however, many reasons which might be given to show the inadvisability of accepting this assumption. The more conservative designers neglect the possible tensile resistance of the concrete when the actual stresses due to shear are high. This is a sound precaution for, owing to the fact that the ultimate tensile strength of concrete is about 240 lbs. per sq. in., it is not likely that the concrete in diagonal tension will have cracked, but it will have very nearly reached this point. It is therefore logical to consider that, if we take the tensile strength of concrete into account when shear stresses are high, we are employing a much reduced factor of safety. Generally speaking when the shear force at section is in the neighbourhood of 200 these circumstances the diagonal compressive stress in times the product of the breadth of the beam times its lever arm, the extent to which concrete can be used to deal with high shear stress is a matter that should be left to the judgment of an experienced designer.

The design of columns supporting main beams as also the design of footings follow more or less empirical lines which usually have reference to axially loaded columns. In actual practice columns are subjected to bending moments depending up to relative stiffness of the beam and column and are therefore equivalent to eccentrically loaded columns; however, the various empirical rules laid down by authoritive institutions for the design of columns have been drawn up on a conservative basis and allow a fair margin for possible eccentricity. While this represents the general trend of present day practice, there is good reason to believe that in the near future greater attention will be given to this side of the subject and that the security of columns will be based upon more accurate and rational methods of design rather than upon the adoption of conservative empirical rules.

Reinforced concrete structures have many advantages which make an appeal in respect of utility. They are built as monolithic structures, have great lateral rigidity, can be built as skeleton frameworks, which are later clothed in an enveloping covering of suitable material, they are durable and offer great resistance to fire. In addition they have the advantage that the materials used in construction are usually readily available, they are relatively easy to build and lastly, since a considerable degree of standardisation can be effected in the use of form-work, they combine with relatively few disadvantages most of the merits of a structure combining both economy and utility.

CONCRETE BLOCK CONSTRUCTION.

N. T. COWIN.

This may be called the age of concrete as its use not only in engineering structures but buildings of all kinds is becoming increasingly common.

People have been slow to recognise that concrete is a valuable material; engineers have done so and architects should not lag behind in the march of progress.

A concrete house competition was held recently in England with a view to giving a wider public recognition of the advantages of concrete and it was a great success.

The increasing use of concrete blocks or artificial stone in building construction calls for a consideration of its merits and treatment. No one would advocate it in preference to good natural stone for face-work unless forced to do so on the score of economy which as every architect knows is insistent in almost all building schemes.

Many failures unfortunately have occured in the use of stone for the facades of some of our principal buildings due, no doubt, to inexperience in the weathering qualities of the particular stone selected. That there are durable and lasting stones in this country is beyond question, but these generally are hard and costly to work and the price becomes prohibitive in consequence.

In the craze for cheaper work with the maximum of effect and show that can be obtained concrete block work is outstanding as a building material.

It is inexpensive and durable and can be effectively treated on the surfaces to be exposed; its success in use in many prominent buildings in our large towns, notably Johannesburg and Pretoria mark it for greater recognition. In comparison with cement plastering it is more lively as no two blocks appear exactly alike and the dingy look so noticeable in plastering that has weathered is entirely absent from the cast blocks under similar conditions.

There are firms now who have had large experience with it and have improved the methods of construction and its quality to such an extent that it can no longer be said that it is still in the experimental stage and that we must be wary of its use.

It is notable that the Quantity Surveyors Institute has deemed it advisable to publish an Addendum to the Standard System of Measurement dealing more fully with Pre-Cast Concrete. The Public Works Department, after much hesitation, has recently decided on its use in some of their new buildings. So the future use of this material is assured in greater quantity and every consideration should be given to perfecting it.

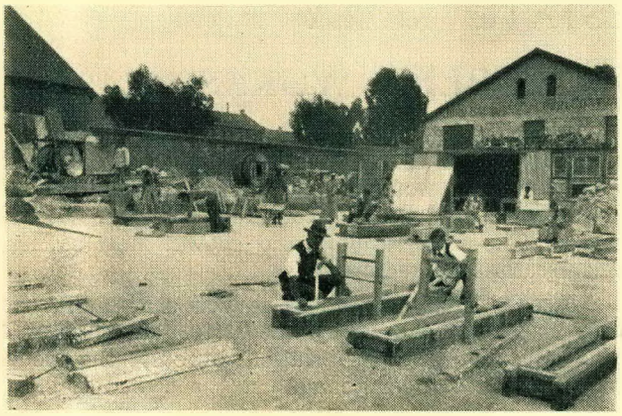
Two methods of manufacture have come under the writers notice; the dry and the wet processes.

The dry process consists in a facing about 1in. thick of fine topping composed of $\frac{1}{8}$in. stone, cement and sand in equal proportions, just damped, when mixed, and the main body of cement concrete composed of four parts $\frac{3}{4}$in. stone, two of sand and one of cement. The facing thus appears like a skin on the blocks and there would seem to be a danger of its becoming detached, and this undoubtedly might happen in a climate liable to heavy frosts.

The wet process differs from the last only in the facing; neat liquid cement is placed on the face of the mould firstly, followed by a mixture of topping and then the backing, but the whole is incorporated together, resulting in there being no clear line of demarcation between the different layers.

Various finishes are imparted to the faces of the blocks; a plain face (fig 1.); a Malthoid face (fig. 2); and a granite face (fig. 3) are illustrated. The Malthoid face is obtained by casting the block against a sheet of Malthoid damp course placed in the mould and gives a pleasing effect; this cannot be made to apply to moulded work. A granite face may be obtained by using fine granite chips.

Colouring matter may be put into the surface coating to give various tints to the material; there are many coloured cements on the market now and it is preferable to use these. Mineral pigments such as oxide of iron and manganese are more reliable than vegetable colouring matter. The natural colour of the cement, a warm grey, is after all most effective and lasting and it has been found that if White's South African Cement is used a very light grey almost white surface is produced which is pleasing and satisfactory. An addition of a little white lime to the outer coating brightens the cement colour considerably.



Concrete Block Construction.

The work of casting the blocks should be done on a clean level floor of concrete finished smooth in cement and the blocks should be allowed to season for about three weeks after removal from the moulds before use and well watered during that time.. In large blocks provision should be made for hoisting by casting iron hooks or loops into the blocks. A casting platform with the blocks in proces of manufacture is illustrated (Fig. 4).

In buildings of steel or concrete frame construction the concrete block facing need not be more than two or three inches in thickness and the writer has seen it down to one inch thick in casing to a steel stancheon on a facade where nothing thicker was possible and this is standing well.

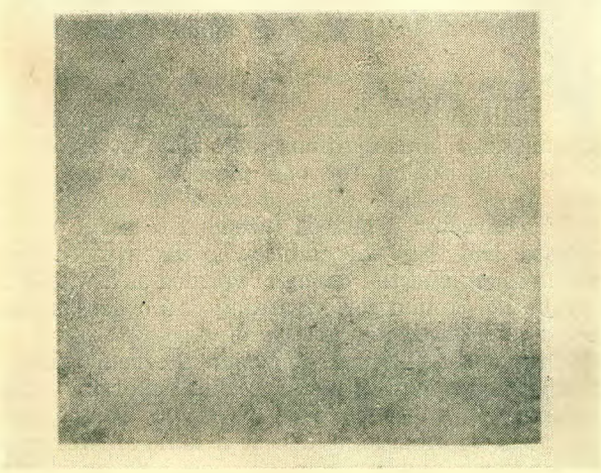


Fig. 1.

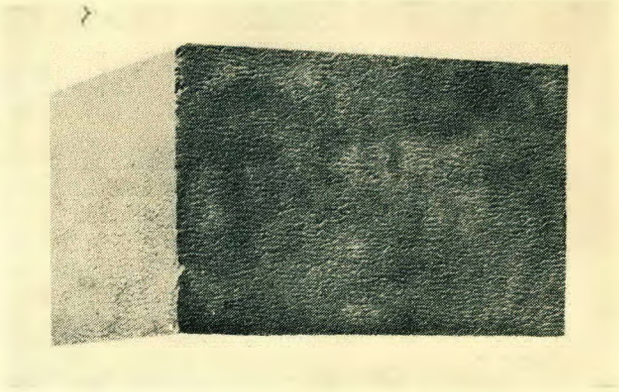


Fig. 2.

A good example of this class of work is given in the accompanying illustration (Fig. 5) of the Chemistry Block at the Witwatersrand University; all the main buildings here have been faced with this material.

The cost of concrete block work is about 7s. to 10s. per cubic foot fixed in position including all casing and moulds, and the price varies according to the amount of repetition or duplication and a corresponding reduction in the number of moulds required. Compared with stonework or granite this price is, of course, very moderate.

An entirely satisfactory method of measuring concrete block-work has not yet been devised. As the greatest proportion of the cost is in the casing and moulds, it is obvious that the number of these that are required and the variations on them must be clearly set out and to do this effectively and intelligibly the greater part of the work should be separated and numbered and not cubed up and lumped in two or three items.

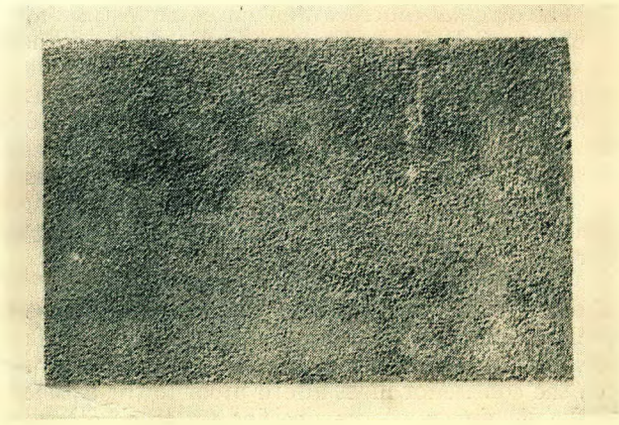


Fig. 3.

TRUSTEES INSOLVENT ESTATE KELLY AND HINGLE v. MINISTER OF PUBLIC WORKS.

MERCANTILE LAW—(1) Building contract —Penalty clause for delay—Variations in building ordered by building owner—Items omitted by order of building owner—Time saved by—Set-off against delay—Decision of building owner's engineer as to extra time—Finality of—"other causes beyond contractor's control"—Meaning of—*Ejusdem Generis* rule.

(2) Building Contract—Schedule of Quantities—Items in specifications omitted from—Extra remuneration.

(3) Superior materials—Enrichment—"Stone"—Includes granite.

Plaintiffs sued Defendant on a building contract entered into between the insolvents, a firm of building contractors, and Defendant, for three separate amounts. The claims are dealt with separately below.

First Claim.—Plaintiffs sued for £1,544 2s. 8d. being the balance due to them under the contract. Defendant admitted this amount, but claimed to set off £1,700 as liquidated damages under a penalty clause for a delay of 68 days, over and above the time stipulated for completion of the Contract. Defendant pleaded that the contractors (now insolvent) were in fact 216 days late, but that 146 days were allowed by their engineer as extra time, and, in terms of the contract, his decision was final. The penalty clause provided for a penalty of £25 for every day's delay over the stipulated time. Plaintiffs replied that the delay was caused by Defendant himself. Defendant, in his rejoinder, denied this, and pleaded that if any delay was caused by Defendant himself such delay only amounted to 25 days, and in computing this 68 days nett delay due allowance was made for these 25 days.

The original contract was varied from time to time by order of Defendant's engineer, duly authorised thereto, and Plaintiffs alleged that the delay was entirely caused by these variation orders. Plaintiffs, however, failed to prove that the full delay of 216 days was caused by these variations, but did prove that some delay was caused thereby. It was argued that as soon as some delay was shown to have been due to Defendant's variation orders, the penalty clause ceased to operate.

There was a clause in the contract to the following effect: "If the works should be delayed by reason of special inclement weather, combinations or strikes of workmen, or other causes beyond the contractor's control, the contractor must afford proof to the satisfaction of the Engineer, whose decision as to whether extra time shall be allowed or not is final."

The Engineer referred to was a servant of the Defendant as building owner.

It was contended for the Defendant that delay caused by variation orders fell under the term "other causes beyond the contractor's control" and that therefore the Engineer's decision as to how much extra time was to be allowed therefor was final. It was further contended that some of the variation orders, enabled the contractors to save time, being orders to omit items, etc., and that if such time saved were set off against delay caused, it would be more than sufficient to compensate for any delay occasioned by other variation orders. The final result would show a nett saving of time by the contractors.

HELD: That as soon as it was shown that some delay had been caused by the Defendant himself (in this case, by giving variation orders) the penalty clause ceased to operate against the contractors.

HELD FURTHER: that the words "other causes beyond the contractor's control" must be read subject to the *ejusdem generis* rule, that is with reference to the preceding specific causes of delay, and that, if so read, they would not cover the case of delays caused by the building owner himself. Therefore, in the present case the engineer had no power to give a final decision as to the extra time to be allowed.

HELD FURTHER (following Martin *v.* Wilson, 1911 T.P.D. 737); That where the terms of a contract are ambiguous, and one construction would lead to an unreasonable result, the Court will be unwilling to adopt that construction, and that an unreasonable burden is cast upon the contractor if the work to be done in a limited time, subject to a penalty clause, may be increased at the will of the building owner. Further, that where the terms of a contract are such as to make the building owner judge in his own cause on questions of delay, such provisions are to be restrictively interpreted.

On these grounds, too, the engineer had no power to give a final decision as to extra time to be allowed.

HELD FURTHER: that time saved on some variation orders could not be set off against delay caused by others.

PER FEETHAM, J.:

"Individual variation orders may provide both for omissions and additions, and may in effect result in the substitution for one piece of work, which is omitted, of another piece of work of a slightly different character, which is intended to serve the same purpose, and then the addition is taken in relation to the omission, and the change regarded as a whole, there may be no ground for regarding the order as causing delay; and particular groups of variation order taken together and all issued at about the same time may jointly have a similar result. But, generally speaking, I think the effect of each variation order must be separately considered, and that it is no answer to delay for a certain number of days caused by one variation order, that by another variation order issued at another time, and affecting a different part of the works, the contractors have been relieved from the obligation of doing work which would have taken a similar or greater number of days. I think, therefore, that the argument based on the theory of compensating for additions by omissions and setting off "time saved" against "time allowed" fails; that the time saved by omissions cannot, except perhaps in certain special instances, be taken into account against delay caused

by the ordering of additions, and that as some delay was clearly so caused, the contractors were absolved from their obligations under the penalty clause."

Judgment accordingly for Plaintiffs on the first claim for £1,544 2s. 8d.

Cases followed :—
Holme *v.* Guppy, 3 M. & W. 387 ; 150 Eng. Rep. 1195.
Hansen & Schrader *v.* Deare, 3 E.D.C. 36.
Dodd *v.* Churton, 1897, 1 Q.B. 562.
Wells *v.* Army and Navy Co-operative Society (1902) 86. L.T. 764.
Martin *v.* Wilson, 1911, T.P.D. 737.

Second Claim—Plaintiffs claimed £3,999 15s. 1d. for items of work done and materials supplied, which were necessary to complete the building in accordance with the drawings and specifications, but were omitted from the Schedule of Quantities.

Plaintiffs alleged that it was a term of the contract that if the items were omitted from the Schedule of quantities, the Schedule should be rectified, and the items measured and valued at rates for similar items, or at a reasonable value. Alternatively, they relied on a custom of the trade to the same effect. Alternatively, they alleged that it was a term of the Contract that the contractors were bound to complete the work in accordance with the drawings and specifications, and that if necessary items were omitted from the Schedule of Quantities, the contractors were bound to supply such items and to be paid therefor. A further alternative was that the Defendant had warranted that all items necessary to complete the work as specified were included in the Schedule of Quantities and that owing to a breach of this warranty the contractors had suffered damages to an amount of £3,999 15s. 1d. Further, Plaintiffs claimed that if the said items were not supplied under the contract, Defendant had accepted the benefit of them and was bound to pay for them.

It was a term of the contract that the contract should consist of the agreement itself, and of the drawings, conditions, specifications and Schedule of Quantities, all of which should be read as forming part of the agreement.

Defendant contended that it was the duty of the Contractors in pricing the Schedule to satisfy themselves that the Schedule was complete, and in case of omissions, to report such omissions before tendering, so that the Schedule might be altered, or to make allowance in the tender for such omitted items.

Plaintiffs contended that the contractors were entitled to rely on the Schedule as embodying all items necessary for completion of the work in accordance with the drawings and specification. It was a term of the contract that a system of measurement known as the "Standard System" was the only system recognised, and the standard system provides as follows :—

"Everything shown on the drawings and described in the specification should be embodied in the Quantities and nothing should be left to assumption."

Plaintiffs relied on this clause, among others.

HELD : That the contractors were entitled to rely on all measurable items being separately measured in the Schedule of Quantities in tendering, except where their attention was specially called to the exclusion of items by the terms of the Schedule itself. If necessary items were omitted from the Schedule, and the contractors supplied them, they were entitled to be paid for them on the basis of prices quoted for similar items in the Schedule, or at a reasonable valuation.

PER FEETHAM, J. :

"It is of the essence of the Schedule that it should include all measurable items : it is not only worthless to the individual tenderer if he cannot rely on it as including all such items, but, if it is not intended, to give a complete and correct measurement of every measurable item of work and material, its value as a basis of comparison between the different tenders received is destroyed. The practice of issuing specifications and drawings with the Schedule of Quantities may justify the shortening of descriptions of work and material contained in the Schedule, but cannot, in my opinion, be regarded as altering the essential character of the Schedule in respect of the implied obligation that it should include all measurable items."

The Court then considered each item separately, and in the result, there was judgment for Plaintiffs in the sum of £635 1s. 11d. on their second claim.

Third Claim—Under their contract, the contractors were bound to supply hard, durable stone for concrete, to be aproved by Defendant. Defendant refused to approve various sorts of stone, and by a process of elimination, made it clear that he wanted granite.

Defendant did not order granite in writing as an "extra" as the contract demanded in the case of "extras." The contractors did not immediately, in writing, signify their intention of claiming extra remuneration if granite was supplied, as they should have done under the contract, but they provided the granite.

Plaintiffs now claimed extra remuneration alleging firstly, that the granite was superior to the material stipulated for in the contract, and should be treated as an "extra," and secondly they claimed on the doctrine of enrichment, alleging that the contractors were only bound to supply stone, that they had in fact supplied granite and that Defendant had accepted the benefit of their superior materials.

HELD : That under the contract the contractors were not bound to supply granite. Defendant had not ordered granite as an "Extra" and could not insist on it by eliminating all other suitable stones. Under the circumstances, the contractors need not have provided granite but since neither party had adopted the property procedure for claiming an "Extra" Plaintiffs could not now claim on the granite as an "extra."

HELD FURTHER, on the claim of enrichment, that granite is a sort of stone. The contractors were bound to supply stone, and if they chose to provide an expensive sort of stone they were only carrying out their contract in a way expensive to themselves. They could not therefore claim that the granite supplied fell outside their contract and that Defendant had been enriched at their expense.

Plaintiff's third claim therefore dismissed.

E.C.N.

CONTEMPORARY JOURNALS.

J. PEEL NELSON.

The English *Architect & Building News*, May issue, contains the first part of an article dealing with the architectural section of the Royal Academy exhibition. One design which is sure to be of interest locally is that of Sir Herbert Baker, for the new South African Reserve Bank, in Church Square, Pretoria: the principal front is interesting, having the central portion recessed above the ground floor, the whole composition being treated in a scholarly manner. There is another design published by the same Architect, for the Hall of Rhodes House, Oxford University, a feature of which is the fine open beamed ceiling.

Amongst the thirty odd other illustrations, we prefer that of a house by Thomas S. Tait, in point of interest. This design is in the ultra-modern manner, and it is a pity that it is not accompanied by a plan. Another attractive design in domestic architecture is that of Oliver Hill, for a house at Hurtwood, but once again the absence of a plan is regrettable.

Messrs Gordon Jeeves, in conjunction with Raymond Hood, show a design for new premises for the National Radiator Company's Offices. This consists of a simple, rather square treatment of window openings crowned by the usual cornice and having an attic storey slightly set back. The most noteworthy point in connection with the façades is that they are to be carried out in black marble, relieved by gilded casements. Perhaps it will be recollected that this same Company's premises in New York were carried out in black brickwork with yellow dressings of the same material. We are, however, inclined to be somewhat dubious of the success of this "colour scheme" in an atmosphere as sombre as that of London.

No less than five of the designs reproduced have been attractively presented by Cyril Farey, whose bold and broad technique in water colour would seem to be in increasing demand.

Contained in the same issue is an article on the Stuttgart Railway Station (architects Paul Bonatz and F. E. Scholer). This design calls for little or no comment, being "Teutonically" severe and we are inclined to think that the choice of materials has been rather unfortunate. Also, the absence of sufficient weight above the large arched openings in the end pavilions is far from happy.

The *American Architect*, for April, contains a very full and profusely illustrated description of the estate of Mrs. Marshall Field, at Long Island, New York.

Included in this scheme are all the units that go to make up a large country estate, such as the main residence, servants cottages, barns, stables, power houses, bath houses, indoor tennis courts, kennels, etc., etc. With true American aptitude for organisation, the architects have approached the project in a thoroughly systematic manner. A very efficient co-operation between the various contractors was obviously necessary for the avoidance of delay and for the smooth progress of the work as a whole. A beautiful setting and an (apparently) unlimited purse provide an opportunity such as is dreamed of by all architects, but which comes to few, and John Russell Pope is to be congratulated on a satisfactory result, which, whilst luxurious to a degree, does not in any respect overstep the bounds of good taste.

Included in the illustrations are numerous delightful studies for the exterior and interior by Otto Eggers.

The American Architectural Record for March consists entirely of recently erected apartment houses in the United States.

The tremendous increase in the number of apartments houses in America and elsewhere is due, we suppose to economic pressure and the desire to avoid domestic responsibilities. New York has had to face the problems entailed by the concentration of her population and has done so by legislation designed to ameliorate and eventually to abolish unsatisfactory conditions among the cheaper classes of tenements.

There is a parallel tendency towards apartment house life to be observed in our own town. Almost anywhere one looks in Johannesburg there are blocks of flats in course of erection and others recently completed.

The illustrations cover a number of widely different schemes and a cursory examination of the plans shows that conditions in America are vastly different from those prevailing locally. For instance, in the case of the smaller and less important plan units (such as bath rooms, etc.), direct lighting and ventilation by means of windows is frequently dispensed with: lighting by electricity and ventilation by forced draught is substituted. This makes for simpler planning from the architects' point of view and enables him to keep his external walls free from unsightly pipes, etc.

The design by Arthur Loomis Harmon for Warburton House, Philadelphia, though somewhat forbidding externally, lends itself to some interesting internal treatments. There are two other designs which appeal to us as being suited in many respects to our climate and conditions. These are Larchmont Hills Apartments, N.Y. (E. D. Parmlee, architect), and the Villa Carlotta, Hollywood, California (Arthur E. Harvey, architect). The latter shows the influence of the Spanish tradition in California to a marked degree, and in its setting of palm bordered streets is very attractive.

The Journal of the *Architectural Association* of March contains an interesting paper by Mr. J. M. Holmes, on "Evolution and Revolution in Painting," illustrated by several reproductions of canvasses by the Old Masters and a few by Moderns. We can recommend this article to those who, like ourselves, are sorely puzzled as to the respective merits of Realism

and the Abstract. Much of what Mr. Holmes has to say is readily understandable, and he makes a good case for those painters who, like William Blake, say "copying from Nature is not the art of painting. Anybody may do it, and the fool often will do it best, as it is the work of no mind." ; or, like Ganguin, "Painting has been ruined by too much study of Nature."

There is also an article describing the new A. A. Premises in Bedford Square, which appear to be very attractive from the photographs reproduced. The remainder of this issue is mainly occupied by one of a series of "Lectures on Architecture," by the late Sir John Soane, R.A., illustrated by drawings by the lecturer and others.

The Architects Journal for May has an article on "Modern German Architecture," by Werner Hegemann. The buildings illustrated show, in the Author's own words, "a spirit of verticality combined with a certain spirit of horizontality," but very little else. A review of Architecture at the Royal Academy, by E. Maxwell Fry, contains a dozen good reproductions of exhibited designs, some of which we mentioned above as having been contained in the *Architect and Building News.* Of the other designs, that of the new British Embassy, at Washington, is attractively presented in three perspectives by Cyril Farey.

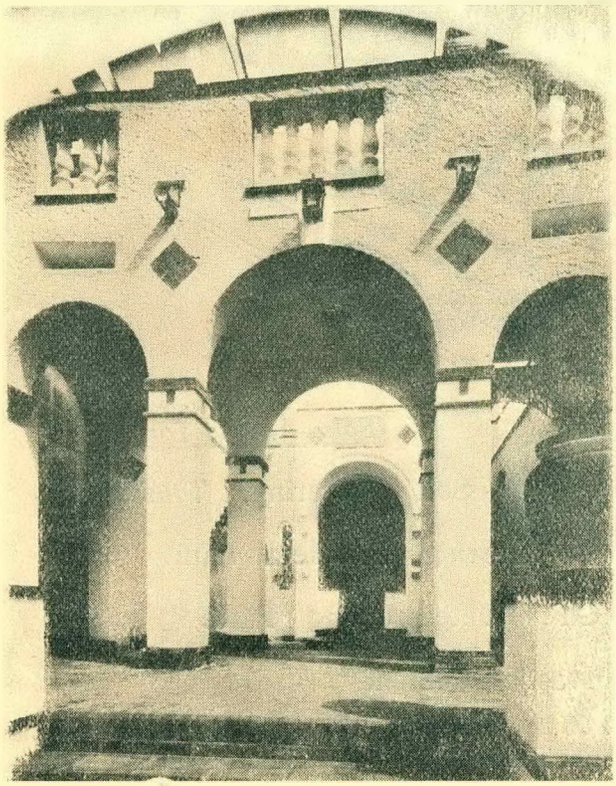
Of the latter's work, Mr. Fry says that a first glance at the architectural section of the Academy gives one "the impression of a one-man show . . . his perspectives includes embassies, office buildings, banks, colleges, country clubs and houses.

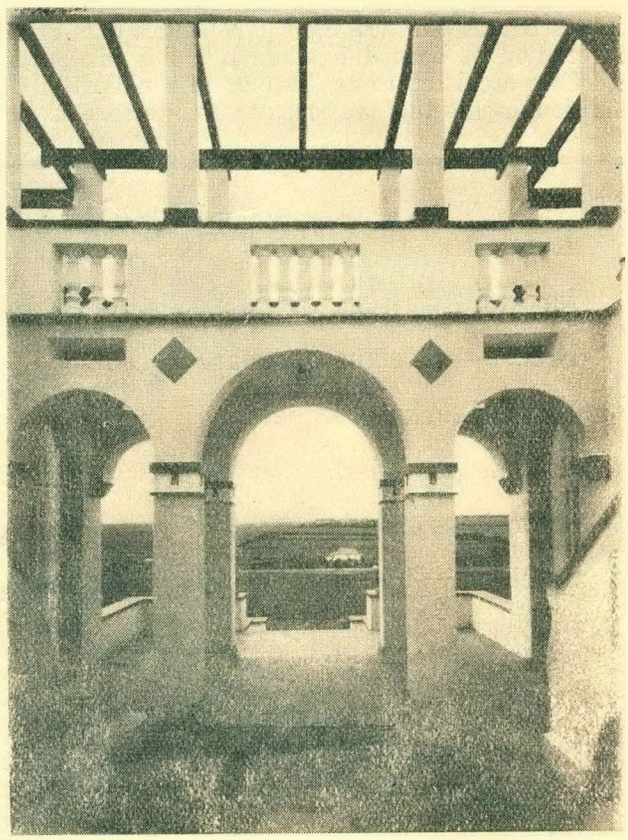
Sir Herbert Baker's design for the new India is illustrated by two perspectives by P. D. Hepworth, who favours the "Walcot" tradition.

A RECENT HOUSE IN THE FREE STATE.

The accompanying photographs are of the newly completed Residence for Mrs. M. J. Van der Merwe, at Bethlehem, O.F.S., from the designs of Mr. G. J. C. Bernhard.

The foundations are of local freestone of a yellow ochre tinge, the superstructure walls of brick roughcasted and colourwashed a rich cream, the panels, pergola piers, etc., being plain cement plastered and kept dead white.





The elevation is relieved by terra-cotta tiles to hood molds over windows, caps and bases to piers, gargoyles, etc., and green shutters to windows.

The building is planned around an Atrium from which two stairs lead to the flat roof, the latter being of reinforced concrete throughout 5in. thick gravelled

and asphalted. The Atrium is paved with red quarry tiles and bricks on edge laid to pattern and has a small fountain in the centre.

The main entrance Hall is circular at back and is floored with Messrs. Enduro's 9in. x 4½in. tiles set herringbone and with black granolithic border and skirting. This floor treatment is repeated in the Bathroom, the walls of which are lined to a height of 7ft. 0in. with Messrs. Enduro's "Scagliola" marble slabs taken into window revels and sills.

All the bed rooms are fitted with built in wardrobes and washhand basins, and a complete drainage scheme is installed including Septic Tank, etc., and an independent hot water boiler system. Messrs. Crittalls steel windows have been used throughout set in wood frames.

The site is on the slope of a hill overlooking the Municipal dam, the spot chosen for the house being a natural plateau about two thirds of the distnce up.

A splendid view is obtained from the flat roof of the dam and the Drakensberg mountains towards Mont Aux Sources in the distance. The Contractor responsible for the completion of the building is Colonel W. F. Barker, of Bethlehem.

BOOK REVIEW.

HOW TO APPRECIATE ARCHITECTURE, *by Sir Banister Fletcher, F.S.A., F.R.I.B.A., F.S.I. A talk broadcast from Savoy Hill, London, on the 16th February, 1928. B. T. Batsford, Ltd.. London. Price One Shilling.*

This booklet is significant, not so much for the actual content, but because it shows a realization of the necessity of a fuller appreciation of architecture by the people.

Sir Banister Fletcher, in a wireless talk, has tried to awaken an interest in architecture. In twenty minutes he has outlined the fundamentals of a critical appreciation of beautiful building. For his purpose he defines architecture as "Beauty in Building." His definition implies that we consider architecture as more than mere building. We must read into its material forms an emotional, a spiritual significance. To prepare us for this enjoyment of beautiful building, to train us to appreciate beautiful forms, in other words to form our taste in architecture, he advises us to study the architecture of the ages.

He traces broadly the development of the historical styles. He mentions examples familiar to his listeners: The Parthenon, Westminster Abbey, St. Paul's Cathedral and Blenheim Palace.

One feels that Sir Banister might have laid more stress on the relationship between the people and their architecture, for the success of architecture is dependent upon the interest of the people.

It cannot be ignored, tolerated, or treated as a rather boring pastime for wealthy patrons. Its vitality is dependent upon the life which it shelters. If our interest in it declines, building becomes futile, the essence of its existence is lacking. Architecture belongs to the people, the architect is interpreter of their wishes. If their interest is careless, their architecture will be dull, flat and uninspired.

Sir Banister does realise this dependency, for he pleads for better art training in the schools. Painting, music and architecture must take their place in the educational system. Their elements must be inculcated at an age when the mind is ready to receive impressions of beauty of form and sound. The attitude of the average man to art is one of distrust, of misunderstanding, simply because art is not an essential part of his composition.

One wonders how many people in this town spare the time to visit the Art Gallery. How many people go to a Chopin recital because they feel that beautiful music is necessary to their existence. How much more often is it treated as a rather tiresome convention. The people who appreciate good music, who enjoy good pictures (without regard for their monetary value), who are thrilled by a rose or a sunset, are the people who make fine architecture possible.

It is so simple, and yet critics expect good building to flourish on ground barren of intellectual or emotional content.

The economic fundamentals will always ensure building, but without the aesthetic fundamentals building will never be beautiful

A campaign to try to raise the standards of critical appreciation is essential, and Sir Banister Fletcher's booklet represents a serious attempt to urge the man in the street to a fuller understanding of architecture, and to fill in the gaps which an unsympathetic education has made possible. As such it should be read by architects, and the message conveyed to their clients.

The ultimate values of architecture are so often obscured by the trivial considerations of the hour, that it is well to pause and consider the responsibilities involved in building.

R.M.

PROFESSIONAL NEWS.

SOUTH AFRICAN QUANTITY SURVEYORS.

Minutes of Third (Special) Board Meeting, 1928, Session, held at the Scientific and Technical Club, Johannesburg, on Saturday, 28th April, 1928, at 6.45 p.m.

Present: Messrs. H. Rowe Rowe (President), E. B. Farrow, F. D. Hickman, T. Moore, W. E. Puntis, A. W. Springthorpe, and A. M. Loots (Secretary).

Mr. A. T. Babbs, of Cape Town, specially attended on invitation and was welcomed by the President.

Apologies for absence were received from Messrs. H. Bell-John and D. J. Laing.

Item No. 1—*Honorary Member.*—The following resolution was moved from the Chair:—

"That Dr. Hjalmar Reitz, in appreciation of his services, be elected as Honorary Member of the Chapter of South African Quantity Surveyors."

Mr. Moore strongly supported the resolution and it was carried unanimously.

Item No. 2—*Constitution of the Board.*—The President stated that this Special Meeting had been called principally to discuss a letter which had been received from Mr. R. Howden as Convenor of the First Central Council Meeting asking the Board to decide in accordance with Regulation 7, the number of members not exceeding twelve (12) that the Board should consist of.

After full discussion the following resolution was carried unanimously:—

"That the First Board of the Chapter under Regulation 7, shall consist of twelve (12) members."

The Secretary was instructed to notify Mr. Howden accordingly.

The President thanked Mr. Babbs and the members for attending and closed the Meeting.

Minutes of Fourth Board Meeting, 1928, Session, held at 32/4, Connaught Buildings, Pretoria, on Thursday, 9th May, 1928, at 3 p.m.

Present:—Messrs. H. Rowe Rowe (President), E. B. Farrow, D. J. Laing, T. Moore, W. E. Puntis, A. W. Springthorpe and A. M. Loots (Secretary).

Apologies for absence were tendered on behalf of Messrs H. Bell-John and F. D. Hickman.

Minutes of Second and Third (Special) Board Meetings.—These having been duly circulated to members prior to the meeting, it was proposed by Mr. Springthorpe, and seconded by Mr. Farrow, that they be taken as read and confirmed. Agreed.

Architectural Record.—The president stated he had been informed that the Transvaal Institute Council had decided that it would welcome Quantity Surveyors on the Journal Comittee, and a recommendation had been sent forward to the Journal Committee accordingly.

Honorary Membership.—A letter was read from Dr. Hjalmar Reitz, addressed to the President, in which the former stated his pleasure in accepting Honorary Membership of the Chapter.

This letter, the President had had framed, and now presented it to the Chapter.

Col. Puntis expressed the Board's appreciation of the gift and proposed a vote of thanks to the President. This was duly seconded and carried with acclamation.

Financial.—The Secretary presented a summary of the Chapter's finances, and after discussion, it was decided that as the Subscriptions were now due, the Secretary send out notices to all members accordingly.

General Meeting and Nomination of Members of Board.—In acordance with Regulation 11, Chapter C., it was decided that the Annual General Meeting of the Chapter be held on the 28th June, 1928; the President and Secretary to make arrangements accordingly.

Under Regulation 17 it was unanimously decided that the following members be the Board's nominations:—E. B. Farrow, F. D. Hickman, R. Howden, H. G. Labdon, D. J. Laing, T. Moore, W. E. Puntis, W. F. Ritchie-Fallon, H. Rowe Rowe, A. W. Springthorpe, W. G. Thompson, S. Waters.

Certificates of Membership.—The Secretary was instructed to have the Certificates already signed by Dr. Reitz, completed by Mr. Carpenter, Mr. Rowe Rowe and himself.

Education.—This being a matter for the Central Council, Mr. Moore stated that full particulars would be forthcoming from the Council in due course.

Correspondence.—A letter was received from the Vice-President, Mr. G. E. Howgrave-Graham, asking for leave until September 5th. It was proposed by the President, seconded by Mr. Moore, that this be granted Agreed.

There being no further business, the Meeting was declared closed.

JOHANNESBURG STUDENTS' SUCCESSES.

HIGH PLACE IN ARCHITECTURAL COMPETITIONS.

The two principal competitions for students of architecture from all over the country, in addition to that for the Prix de Rome, are the competitions for the Tite and Victory or Soane (alternate years) Scholarships. Both scholarships are for travel abroad, the Tite especially for travel in Italy.

For the Tite this year there were 134 entries from the twenty-three recognised schools of architecture and from students external to the Schools who were certified to have reached the necessary standard. Of these 134, twenty-two were selected for the final round, and of these twenty-two ten are present members in the third and fourth years of the Liverpool school.

The names of the ten Liverpool finalists are: J. N. Cowin, W. Crabtree, H. G. Ellis, P. G. Freeman, S. W. Kelly, B. St. C. Lightfoot, L. Wright, E. C. Gilham, P. S. P. Morter, and G. Stephenson.

It is interesting to note that four of these finalists are students who have come to the Liverpool school from South Africa.

The other schools represented in the final are:—The Architectural Association School, London, 4; Birmingham, 4; Manchester, 1; Glasgow, 1; Cardiff, 1; Northern Polytechnic, 1.

In the Victory Scholarship, with students from the seven senior schools of architecture and outside students competing, out of thirty-five entries fifteen were admitted to the final round, and of these five are Liverpool students in the fifth year of their course.

The names of the five Liverpool finalists are:—G. C. Hough, H. Bramhill, J. L. Hughes, A. Owen, and D. B Solomon.