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● Cover. Photo/Study by Duncan Howie
Superposed House McLea

Frontispiece Oribi Gorge Natal • Duncan Howie

Opposite Frontispiece • From the Zulu Girl
(Adamastor by Roy Campbell, published by Faber & Faber, London)

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Hon. Editors Professor G. E. Pearse
Rex Martienssen

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THE SOUTH AFRICAN ARCHITECTURAL RECORD

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When in the sun the hot red acres smoulder,
Down where the sweating gang its labour plies,
A girl flings down her hoe, and from her shoulder,
Unslings her child tormented by the flies.

She takes him to a ring of shadow pooled
By thorn-trees, purpled by the blood of ticks,
While her sharp nails, in slow caresses ruled,
Prowl through his hair with sharp electric clicks.

His sleepy mouth, plugged by the heavy nipple,
Tugs like a puppy, grunting as he feeds;
Through his frail nerves her own deep languors ripple,
Like a broad river sighing through its reeds.

. . . . . .

R o y C a m p b e l l

THE GENESIS OF A HOUSE. By KURT JONAS.

A vous, M. le Corbusier, qui nous avez enseigné la vraie leçon d'architecture: la grâce d'abord; qui nous avez demandé de regarder les créations architecturelles comme nous regardons la perfection sereine des plantes, animaux, arbres, sites, mers, plaines ou montagnes.

If a work of architecture is more than merely the economical solution of a technical and biological problem—using this latter term in its purely physical significance—if, that is to say, a work of architecture aspires to being a work of art, then it incurs both the privilege and the danger of being judged by corresponding standards.

But by standards it must be judged! Nothing is more unsatisfactory for the architect and more irrelevant to the interested public than the " this-I-like and that-I-do-not-care-for " criticism. Architecture, like all art, is not only a matter of taste but also one of standards. These standards will be of a twofold nature, those which are valid for the art of architecture as a whole, and those which the architect himself establishes as his personal equation.

In a series of articles I have tried to show what appears to me to be the elementary standards by which architecture can be understood and judged. In this study on " House Stern " I propose to apply these standards, thus adding to the general a specific analysis. I am encouraged in this undertaking by the belief that the architects agree to the validity of these standards at least to that extent, that they will not fear to find their work too grossly misinterpreted by their application.

As to the personal equation, we can only judge from the work of the architect. A sketch-scheme, not influenced by the client's objections nor by all those other restricting moments which tend to falsify the architect's original impulse, will give a particularly pure and reliable idea of the standards which an architect establishes as binding for his own work. In this case I choose as an example the project for a house for Mrs. McLea.

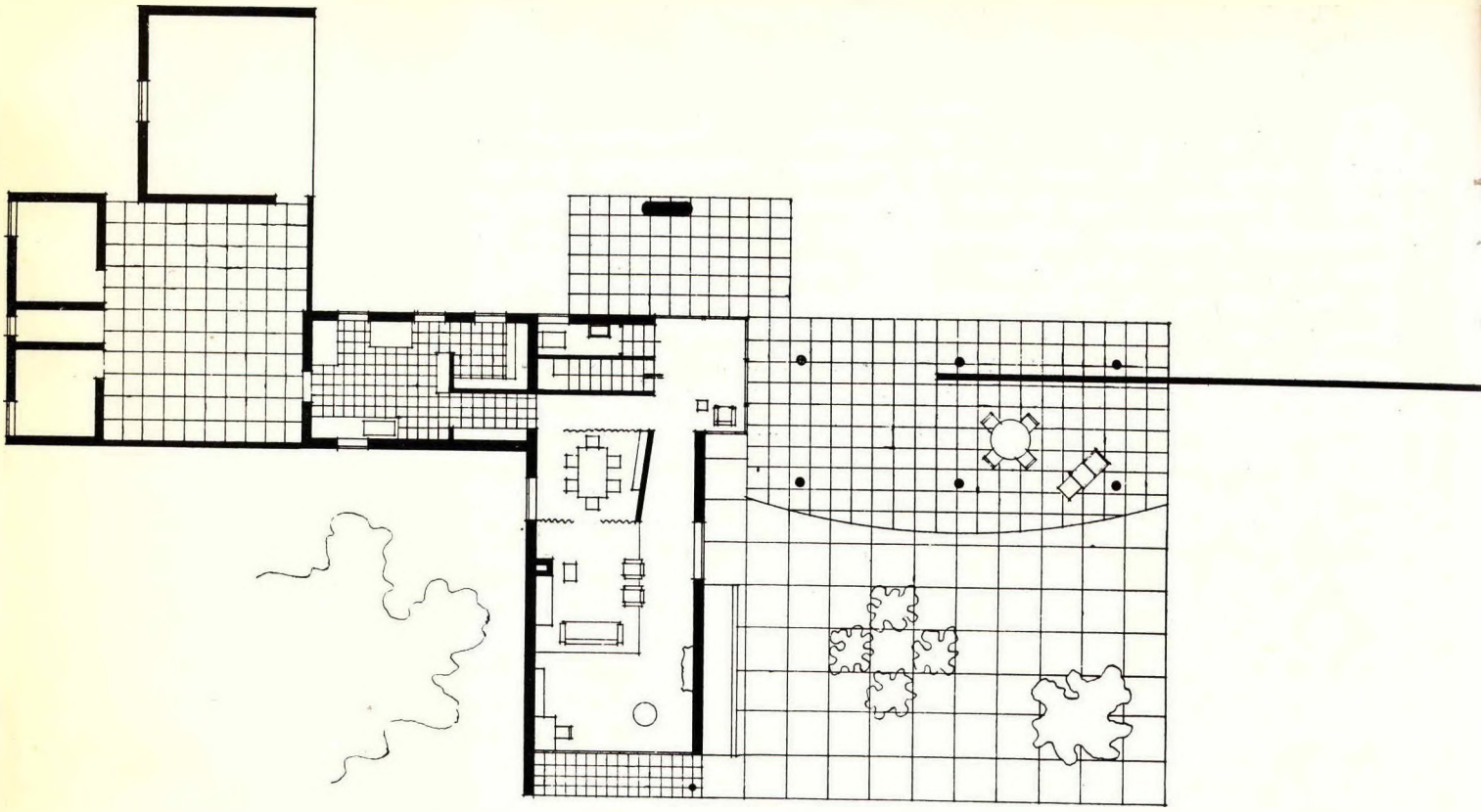
This house shows very clearly the personal style of the architect. Its most significant feature is the strongly marked division of functions. This division of functions is here not only a practical, but also an aesthetic principle. The four main divisions, namely, living, service, sleeping and toilet accommodation are each given complete expression in separate blocks. The connection, and to a certain extent the separation, is achieved by the introduction on a lavish scale of loggias and terraces.

It might be best to give a short description of the house. It is situated on a very narrow and long site, facing north in its narrow aspect; the approach is from the south. The house stretches almost the entire width of the site, giving the north aspect and its magnificent view to every room. The porte cochère, which allows at the same time for a straight drive to the garage, gives convenient access to the entrance hall, which is treated as a complete glass box with a fine and direct continuation to the combined living-dining room. This room echoes the shape of the site, opening up to the north with a complete glass wall. The dining room is separated from the living portion and from the servery by curtains. The kitchen, with pantry and servery, is accommodated in a separate block to the east of the living portion. The treatment of outbuildings and garage is on correspondingly simple and straightforward lines.

The bedrooms are a complete entity in themselves, treated as one unit, which is raised on poles and connected with the entrance hall by a staircase, which lands in a secondary upper hall. This gives access to the bedrooms, a terrace which is formed by the flat roof of the whole living block (and connected with this by a straight stair leading down into the garden), and to the bathroom and lavatory. These again are treated as a separate block supported on one big column and forming the porte cochère.

The freedom and ease of this composition can be understood from the plans and be appreciated through the medium of a perspective which brings it out to its best advantage. There is, indeed, on careful examination, only a single point in the whole design which is open to criticism. I refer to the curve which is given to the north facade of the bedroom block. Delightful as this curve is in the general composition, it is not satisfactory in the single bedroom, where only part of the curve can be seen and no appreciation of the shape as a whole is possible. Yet the question whether such a concession to the aesthetics of the external appearance is permissible or not is by no means decided, and in this particular instance certainly no reason for severe criticism.

As a whole House McLea is an example of what good modern architecture can be. I do not hesitate to class it with the best domestic work of the leading overseas architects. But it is not a copy of the work of any of them. The admiration for the masterly handling of forms as we see it in the work of Le Corbusier, the delight in the airy spatial arrangements of Mies van der Rohe, the appreciation of the austere simplicity of Gropius, have not led the South African architects to a slavish copy. On the contrary, they have added a further and most personal expression which in many ways combines the best qualities of the different trends of European work. In its consequential application of the principle of separate expression to



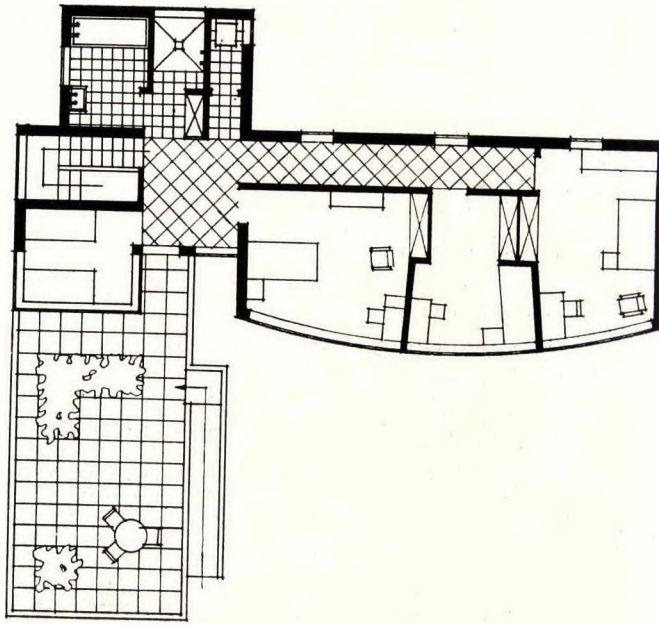
HOUSE MCLEA JOHANNESBURG

Above. Ground Floor Plan

Below. First Floor Plan

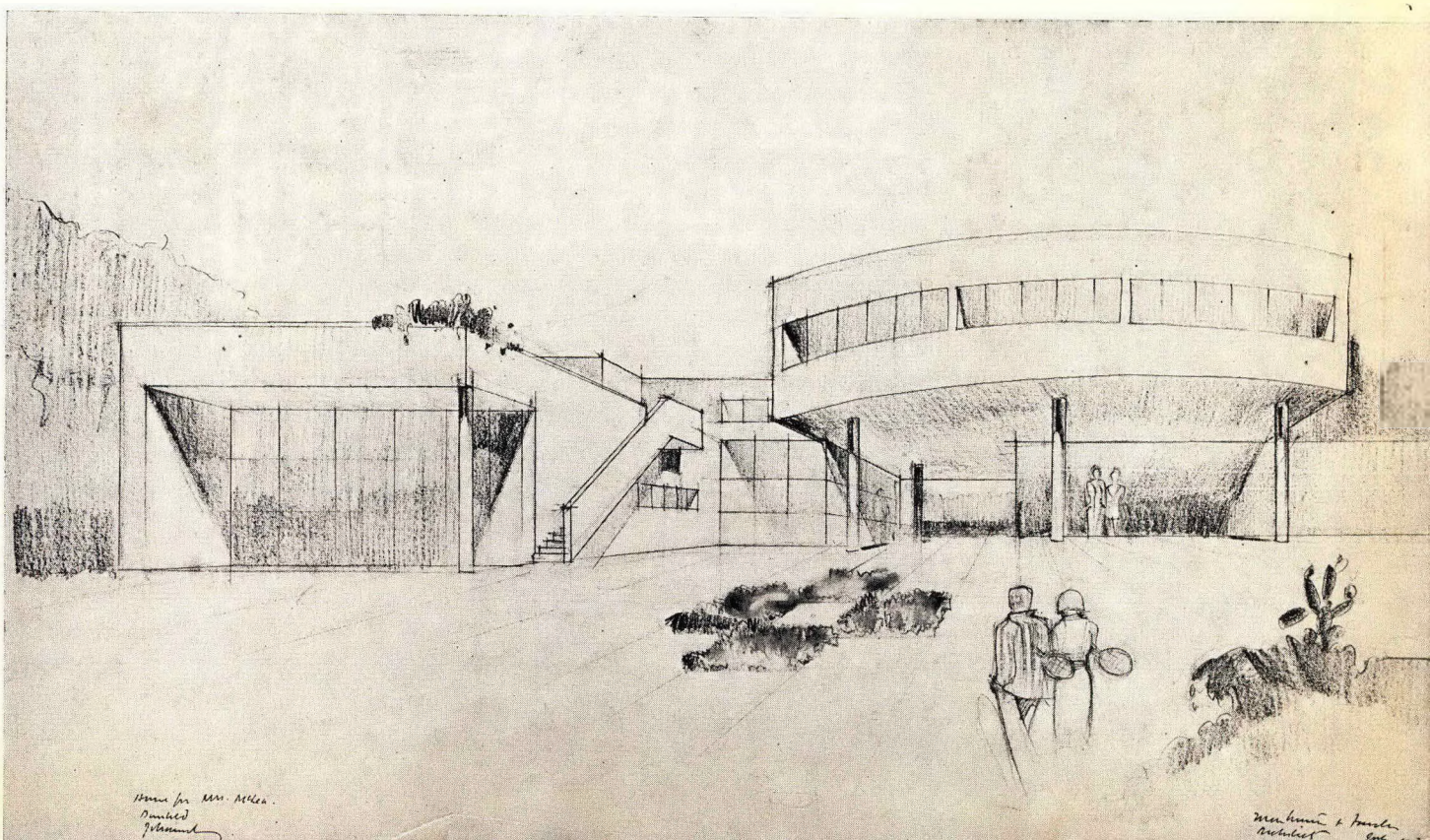
Architects.

Martienssen, Fassler, Cooke



separate functions it surpasses all of them, in the balance and vitality of its composition it holds its own with the best examples.

It might be interesting to analyse how far the particular conditions of South Africa have influenced the style of the architects. The climate is certainly responsible for the strong emphasis of the loggia and terrace elements, as well as for their arrangement, protecting the north glass wall of the living room against the sun. Native service, on the other hand, is an element which must invariably leave its traces on domestic architecture. The greater privacy required for bedrooms, as compared with European conditions, has certainly a good deal to do with the tendency for strong separation of the bedrooms from the living quarters, a feature found in every good example of South African architecture, but conspicuously absent in such well known overseas examples as Corbusier's villas at Garches and Poissy. In House McLea this tendency has found a markedly successful application—both from the practical and from the aesthetic point of view—in the complete separation which allows no overlapping in either the horizontal or the vertical plane.



At the same time this is the most significant feature of what could be called the architect's personal equation. European architecture has taught us the principle of separating the different functions of a building on the horizontal plane with strongly articulated connecting links. Corbusier has added to this the inter-relation of spaces which are connected vertically. The architects of House McLea go further. They put their two main elements, living and sleeping apartments, on two different vertical planes, yet not the one on top of the other, but next to each other, with two staircases, serving different functions, as connections. Thereby a clarity of architectural expression, combined with the enormous practical advantage of complete sound insulation and privacy, is achieved such as is unrivalled in modern architecture.

This, indeed, is a bold statement, and to make it implies the application of an unusually high standard to all further work done by the architects. Yet in this case a claim to such a standard is, in my opinion, definitely established, and it is according to this standard that I feel I must analyse House Stern, which is the actual object of this discussion.

A first glance at House Stern shows that the same principles are underlying the composition. Again complete separation of functions is aimed at, again the double division in the horizontal and the vertical plane is obviously attempted. But before we can judge how far the application of these principles has been successful in this actually built example it might again be advisable to give a short description of the house.

In this case the approach to the more or less square site is from the north, the view being to the north and north-west, and to a certain extent to the south. Again a porte cochère, this time of much more ambitious proportions, with a straight drive through to the double garage. The curved wall of the study leads towards the entrance door and to the entrance hall, which is a much more complicated element than that of House McLea. It has to give access not only to the living room, but also to study, cloakroom, nursery, kitchen and stairs leading to the first floor. The subtlety in handling this complicated division of functions is amazing. A feeling of unity is achieved, and the double door leading to the living room is so much in the focus that it has all the weight and importance due to it. The fine colour-treatment in plum, grey and cream adds considerably to the effect. To the right, from the entrance door is the study, which may on plan look only loosely connected, but which by the weight of the bedroom wing overhanging it is in reality a very solidly built-in portion of the design. A complete glass wall to the north is a feature in this room, as also in living and dining room.

The living room is, both for size and treatment, the central portion of the design. Almost uninterrupted panes of plate-glass

constitute the main portion of the one long wall. The other is marked by a particularly fine fireplace treatment. The flue is a semi-circular concrete construction ducoed in rich terra-cotta and in itself a striking example for the identity of a functional and aesthetic conception. The connection with a small cocktail and glass cabinet embodies all the principles of modern architecture on a miniature scale: interpenetration of spaces by combination of glass, tiles and chromium, a link which at the same time separates and connects, a solidity in the wooden portion of the cabinet which gives weight to the whole fitting and throws into relief the airiness of the glass portion.

The connection to the dining room is given by a floor to ceiling glass screen no more than indicating a division, but keeping the spatial unity intact. This dining room itself may seem somewhat small in relation to the general proportions of the house. But since such things as room sizes are generally dictated by the client, we may leave that outside an architectural discussion.

Both living and dining room open on to a big covered loggia and open terraces.

The dining room is connected with the kitchen by a servery, which amounts to hardly more than a short piece of corridor with a continuous window on the one, and a continuous terrazzo table on the other side, but most efficient by reason of its simplicity. In the kitchen itself one can criticise the absence of a separate scullery, no doubt a necessity in a house of this size. A curved wall, expertly handled and justified by practical considerations, divides the kitchen from the nursery, which faces east, and is approached from the entrance hall.

From here a stair, treated as a staircase-tower, leads to the first floor. The first floor landing has been made into something like a secondary lounge, but none the less its size seems to be somewhat excessive. The two main bedrooms constitute a wing which partially overhangs the study below, and for the rest forms the porte cochère, being supported on steel poles. The main bedroom faces north and east, and the bathroom is efficiently included in the design. The green colour-treatment, together with fine woodwork, gives distinction to this room. Next to it, facing north and west, is a children's bedroom, treated with blue duco and fitted with built-in wardrobes just as lavishly as the main bedroom. A sewing room, second bathroom, third bedroom and lavatory are all approached directly from the upper hall, the west of which opens in a complete glass wall with glass doors on to the upper terrace. The third bedroom, too, faces north over this terrace.



It is with this terrace that House Stern most markedly transgresses the bounds of accommodation usually given. This terrace is formed by the roof of living room, dining room, servery, and in addition to that the long projecting portion which forms the covered loggia below and from which the stair leads down into the garden. The terrace is partly covered, protected against the south by a screen wall, into which an oblong opening is cut to give the fine view to the south, while the view to the north is framed in by a long beam supported on slender steel columns which rest on the parapet wall. This framing-in makes the landscape part of the architectural composition by establishing a definite architectural surrounding. The effect given may be judged from the photograph.

Going down the stair into the garden, one is struck by another example of such connection between architectural treatment and landscape. This is a forty feet long screen wall running east-west and defining the view, giving direction to the eye and setting off the main bulk of the building. This function of the screen wall, which has found here a singularly successful use, is perhaps most striking when seen from the fine square window in the west wall of the dining room.

Such a general description can, of course, give no idea of the architectural qualities of the work in question. It is to these that we now turn our attention. There can be no doubt that House Stern has great architectural merits and that on the whole it is as perfect a realisation of what we have defined as the essentials of architecture as can be hoped for. Here we find, indeed, a four-dimensional composition of space enclosed by solids. Especially the north and north-west aspect of the house shows a dynamic balance of forms such as it would be hard to surpass. At the same time, it is not lacking in that interpenetration of spaces which brings out the hollow character, full of fluctuating life, which is expressive of architecture as compared with sculpture. The staircase-tower may serve as an example: the bulk of it is solid, relying for its effect on the refinement of its curved outline, which is in no way interfered with by the long windows which run the full height of the staircase where it meets the main block. Through these windows one gets just sufficient indication of the staircase behind to be able to reconstruct mentally the whole vertical circulation.

It is the same principle of combined solidity and spatial interpenetration which gives its charm to the porte cochère. But what is most remarkable about the front facade is the classic repose which has been achieved in spite of the multitude of forms employed. This is due, no doubt, to the fact that this facade (and, for that matter, the principle of the whole arrangement of the house) was inspired by one big conception which seems to have arisen in the mind of the architect in the very moment of the first confrontation with the problem. House Stern is not a unified patchwork of different ideas, but all elements have from the beginning found their natural place in a homogeneous composition. A comparative study of the earliest sketches and the final working drawings reveals the fact that no alteration whatsoever has occurred in the placing of any of the major elements.

The genesis of a house: Here we study it by observing its very growth. And it grows like a plant or a human being, the growing in this case being not a matter of increasing size but of increasing refinement. The fundamental conception remains the same, the architect is disciplined enough not to allow any " new ideas " to be " applied " at a later stage. He concentrates all



efforts on bringing to greater perfection what was his original conception for the solution of the problem. Thereby he achieves a unity of appearance and an easy flow of functions which bring out the importance of the thesis that the ultimate effect of every architectural composition depends on the mental discipline with which the architect conceives his aesthetics in the material of practical functions, and vice versa, thereby creating an initial unity from which he must not allow himself to depart.

If I now turn to what appears to me to be the shortcomings of House Stern, I believe that in most cases these are due to a violation of this very law. Though the question whether or not the architect can be held responsible for these violations can only be decided from case to case. Very often last minute wishes of the client, which do not allow for corresponding adjustment of the plans, seriously injure the original unity of a composition. We will find an instance of that in House Stern, as well as some examples of the other possibility, namely, that the architect did not originally conceive single elements in a simultaneous consideration of their practical and aesthetic aspects, and therefore has to adjust the one or the other at a later stage without, then, considering the complementary aspect.

A detailed analysis of the shortcomings in a work of art is always the most interesting part of the study, because it gives a keener and more conclusive insight into the working of the artist's mind, into the influence of interference from without, and also into the very best qualities of the work. I may therefore be forgiven for dwelling on this aspect at greater length than is actually justified by the weight these shortcomings carry in the composition as a whole.

In comparison with House McLea, the division of functions is not so clear nor taken to such an extreme of external expression. This may be accounted for by the greater complexity of House Stern, which has no less than four separate rooms on the ground floor, where House McLea has only one combined living and dining room. The architect would certainly have preferred to arrive at an equally accentuated solution. But this was made impossible by the complexity of the problem. Hence he falls short, though not through any fault of his own, of an ideal which he himself has established. He does not, however, violate any of the essential principles valid for the art as a whole. Therefore, from the point of view of the expression of functions, House Stern is by no means less good or pure architecture; it is only, perhaps, less purely individual. For which reason the architects alone are in a position to criticise it from this angle.

Under a more general aspect, there seem to me to be three points open to criticism. The first point is the planning of the minor elements and the third bedroom on the first floor. There is little unity in the arrangement, which finds a disturbing







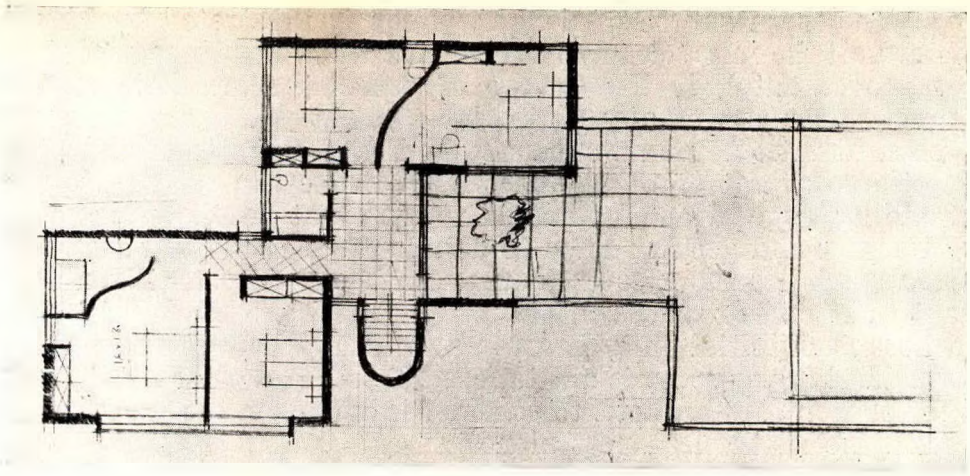
Above. The Terraces and the Garden Stair

Opposite. The Entrance Hall

expression in the somewhat broken-up window treatment on the east. The third bedroom has a not altogether happy relation to hall and terrace. The wall which divides these two elements meets the room in a very unfixed manner. Indeed, the arrangement of this portion is by far the most unsatisfactory part of the whole house and not in keeping with that general feeling of unity which for the rest is so markedly in evidence. It is, therefore, not surprising to find that outside interference is responsible. The house was originally designed for four bedrooms (as shown on the sketch plan), and the composition at this stage was good and simple. When, however, the client asked later on for an elimination of the fourth bedroom, the design as a whole was fixed to such an extent that a complete readjustment of the first floor was out of the question, and the architects had to try to make the best of an impossible situation.

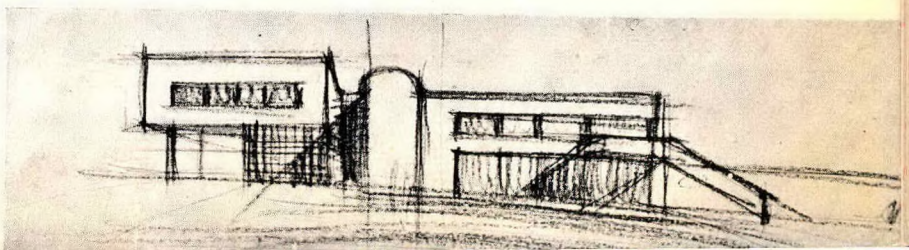
The other two points are concerned with the facade treatment, and both of them are clear illustrations of that other possibility referred to. The box window to the north, which is common to the first and second bedrooms, gives the impression of belonging to one room only. Moreover, it does not give sufficient light to the second bedroom. A further window had, therefore, to be introduced on the west, where it is protected by the staircase. Now the original sketch scheme shows this box window in a definitely asymmetrical position, giving equal amount of light to both bedrooms and having the dividing metal-plate in the centre. This might have been a much clearer indication of the fact that this window belongs to two rooms, whilst at the same time satisfying the practical requirements. But unfortunately the architect had not considered simultaneously the aesthetics of a box window on an isolated wall and when he came to that point he found that the window had to be situated centrally. He therefore changed it accordingly, losing sight at that moment of both the practical requirements for the second bedroom and of the danger of creating the impression that there was only one room behind the box window.

It is quite possible to combine windows of different rooms by means of plates in order to give greater simplicity to the elevation. If this principle had been adopted thoughout House Stern one could have understood its application in this particular case as well (though such a reasoning would take no account of the particular character of the box window as compared with normal windows); but that is not the case, and therefore this remains a point open to criticism as a violation of the principle. The short explanation of how this critical point in the design came about in the genesis of the house may be of interest to the student as marking a danger point on the road which the work of architecture has to travel from sketch-scheme to final working drawings.



Another example of the same danger proving fatal is the link between study and bedroom block on the west. One feels clearly that the change of floor level in this particular case should have been marked by a break, especially since the upper floor overhangs the study on the north and east. The long and narrow clerestory windows are obviously an attempt to indicate this break. Yet this indication is not sufficient because it is only a planear division, not a three-dimensional demarkation. This time the explanation is given by an early sketch perspective. This shows the floor to ceiling glass treatment of the north facade returning along the whole length of the west. This, indeed, would have given the break and would have been an aesthetically perfect expression. But here again the architect failed to conceive the formation of this particular element (study) in terms of practicable architectural material, because such a glass wall, to the west and unprotected, is impossible under South African conditions. It had to be cut out. But when this change, dictated by a practical necessity, was effected, the original aesthetic conception was lost and no satisfactory adjustment arrived at.

A critical analysis even of the best examples of contemporary domestic architecture would reveal at least as many and as serious shortcomings, because such an analysis implies the judgment of practical and hence relative work, by theoretical and hence absolute standards. It does, therefore, in no way diminish the importance and the value of such a work of architecture as House Stern if it shows some shortcomings when judged by this absolute standard. On the other hand only a work of such quality will be sufficiently near to the ideal established by these standards that at such points where it does fall short of the ideal, general sources of danger can be detected. And under this point of view such an analysis can be of much greater importance than that involved in criticising a few odd points in a design.



The main source of danger, which is illustrated by House Stern all the more clearly because only in two or three cases has it proved fatal, is the change of either the aesthetic or the practical aspect of any particular element without a complete reconsideration, simultaneously, of the practical and the aesthetic aspect of the element itself and of its relation to the building as a whole. That is to say that in the process of adjusting and getting down to details of practical and aesthetic treatment lies the greatest danger for the architect. Here he is apt to lose sight of the initial unity of his conception (and only where such initial unity is given a work of architecture is worth considering), here he is apt to lose himself in details which have no relation to the whole, to consider things from the practical or from the aesthetic aspect alone.

This does, of course, not imply that the architect should try to stick to every detail of his original conception. It only means that in changing he must ever and always be conscious of the conception as a whole and of the identity of practical function and aesthetic effect, which in every case must be established anew in the creative mind of the architect.

Of this type of change House Stern shows considerably more examples than of the other type which was criticised before. The staircase-tower, for instance, is shown on the original sketch much shorter and with straight sides. It cannot compare in effect with the wonderfully refined shape of the staircase as it presents itself to us to-day.

The cloakroom was obviously not considered at all in the original design, but it has been introduced with such skill and the combination and handling of skew and curved walls shows such a finesse that it becomes a delightful feature in the design.

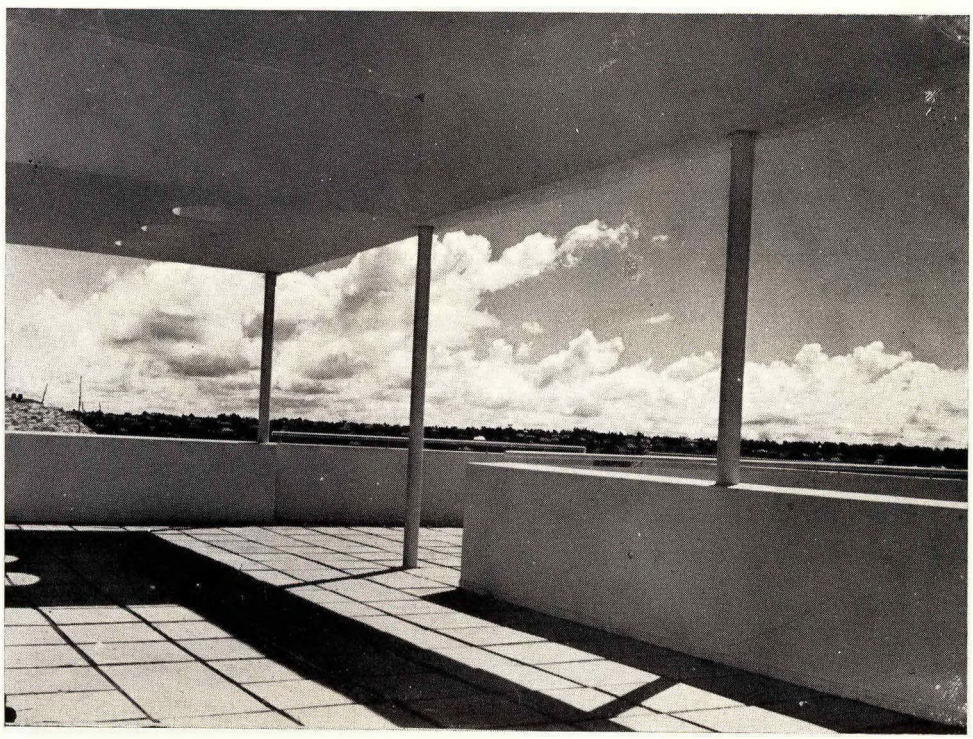
The bathroom on the first floor had little organic connection with the main bedroom on the original plan. The final plan, by making use of the shape of the bath itself for the wall treatment, saves in space and makes the bathroom a definite part of the main bedroom, to which it gives added refinement in outline.

There would be many more points worth mentioning. Yet in any case it is impossible to give the idea of a building by description. An analysis, and especially the analysis of the genesis of a house, can do no more than note the merits, show the dangers, and point to the shortcomings. But since man is not only a cool observer but also an emotional being, I must beg leave to give a few words of that " this-I-like and that-I-do-not care-for " type which I so virtuously condemned in the beginning.

Firstly: I do not like the steel supports under the protecting part of the terrace. I feel that if one supports the heavy mass of the bedroom wings on slender steel poles, giving a fine feeling of dynamic tension, then one should balance it by supporting the lighter mass of the terrace (on the other end of the front facade) on more than adequately heavy concrete supports. By way of contrast. (I realise that this criticism is " unsatisfactory for the architect and irrelevant to the public.")

Secondly: I like House Stern (I realise that this may be less unsatisfactory to the architect but equally irrelevant to the public). In the architectural "argot" one often talks about "exciting" buildings. Excitement is a strong feeling. Something strong is needed to evoke it. When I saw House Stern completed for the first time I felt excited. When I see it to-day I still feel the same excitement. To give such permanence to a feeling of excitement, something that is more than strong is required, something that is balanced and reposeful and yet overflowing with ever new revelations of that moment of surprise and newness which is the touchstone of every dynamic work of art.

All that I find in House Stern. That is why I like it.



photo/studies by George Abbott



THE AFRICAN SCENE — Duncan Howie

ARCHITECTURAL SOCIETY

It is the aim of the Society to bring into close contact the members of the profession with the architectural students of the Witwatersrand University. Members are urged to support the functions arranged by the Society. The complete programme for the first term is given below.

PROGRAMME.

Tuesday, April 13th, 8.15 p.m.; Professor G. E. Pearse, "The Architect in History."

ABSTRACT ART

A thesis on plastic art, consisting of an Exhibition of Paintings, Photos and Architecture, and a series of lectures.

Thursday, April 29th, 4 p.m.: Opening of **THE EXHIBITION.**

"PAINTING AND SCULPTURE."
Speakers:

J. Fassler, Lecturer in Architecture, Witwatersrand University.

Dr. S. Biesheuvel, Lecturer in Psychology, Witwatersrand University.

Friday, April 30th, 8.15 p.m.:

"PHOTOGRAPHY."
Speakers:

W. D. Howie, Lecturer in Architecture, Witwatersrand University.

G. F. C. Stegmann, Late Art Director, British and Dominion Films.

Saturday, May 1st, 8.15 p.m.:

"ARCHITECTURE."
Speakers:

R. D. Martienssen, Lecturer in Architecture, Witwatersrand University.

B. H. South, Student of Architecture, University of Pretoria.

The Exhibition will be prolonged, provided attendance justifies it.

Thursday, May 13th, 8.15 p.m.: Gordon McIntosh, B.Arch, A.R.I.B.A.: "Structure."

Last week of May: Annual Dance. Details later.

Thursday, June 10th, 8.15:

Professor R. F. A. Hoernlé, Head of the Department of Philosophy, Witwatersrand University:

"The Architect and the Town Native."

QUANTITY SURVEYING EDUCATION IN SOUTH AFRICA

The President-in-Chief: Ladies and Gentlemen, I propose this morning to take the item, "Quantity Surveying Education in South Africa." One realises the importance of this subject. We have gone to considerable trouble to educate our architectural students; we must realise that of equal importance to the profession is the education of quantity surveying students. Moreover, the question of professional education is specifically entrenched in the Act.

The University of Pretoria, I understand, has done some very fine work in respect of quantity surveying education. I am sorry to say that up to the present the same cannot be said of Capetown. As President-in-Chief, I have interviewed the University authorities at Capetown in connection with this matter. The latest information I have been able to obtain is that this matter will be referred to the new Professor of Architecture who is about to be appointed at the University of Capetown.

I commend to you this subject as one of very great importance, especially when one realises the important work that quantity surveyors are called upon to do, the vital financial burdens they have to carry, so that both client and architect are properly advised. I am sure, therefore, that we can look forward to Professor Bell-John's paper with considerable interest, and I trust that in the ensuing discussion some constructive suggestions will be put forward. I now have pleasure in calling upon Professor Bell-John.

PROFESSOR BELL-JOHN'S ADDRESS.

Professor H. Bell-John (University of Pretoria): Mr. President-in-Chief, Ladies and Gentlemen: Under the Act the education of the quantity surveyor is provided for. The Central Council is given powers to co-operate with educational bodies to educate the quantity surveyor, and at the very beginning the problem had to be solved as to who would be the examining bodies under the Act.

First of all there was a body of opinion in favour of the quantity surveyors being educated by the Technical Colleges. That, had it come about, would have definitely placed the quantity surveyor educationally on a lower level than the architect. That, of course, was a position that the quantity surveyors were not prepared to accept. However, wiser counsels prevailed, and the two professions were put upon the same level as far as education is concerned.

The authorities appointed to conduct examinations, both in architecture and quantity surveying, are the three Universities —Witwatersrand, Capetown and Pretoria. Each of these Univer-

sities, individually, has the right to conduct classes in architecture and quantity surveying, and to examine in those subjects. Capetown has, of course, for some time conducted a School of Architecture, duly recognised. A few years ago it instituted a degree course in quantity surveying. That degree course was not acceptable to the Board of the Chapter, but nothing very much has been done up to date to alter the course. Although that course has, I believe, been available for two or three years, so far there have been no students; so that the course has become immobilised and ineffective in that sense. I understand an effort is to be made to bring the course more into line with the ideas of the Board of the Chapter, and apparently we shall have to wait until the new Professor of Architecture is appointed at the Cape in order to bring that matter to a head. I understand there is a sympathetic feeling at Capetown towards making the necessary alterations, and no doubt a satisfactory position will be reached.

The University of the Witwatersrand established its Department of Quantity Surveying some years ago, and proceeded to conduct examinations therein. It conferred diplomas and degrees. Then the question had to be considered in relation to Pretoria. Immediately after the passing of the Act the Universities of Capetown and the Witwatersrand were appointed examining authorities; the University of Pretoria was subsequently appointed as an examining authority in architecture and quantity surveying. It was felt, however, that some mutual arrangement would be advantageous by which the excellent School of Architecture in Johannesburg should let its influence be felt in Pretoria, and that the Pretoria University should be the seat of education for quantity surveyors for the northern portion of the Union.

An arrangement was made first of all for five years, by which Johannesburg University relinquished its rights, as a temporary measure, to examine in quantity surveying, and Pretoria University responded by relinquishing its rights to examine in architecture, each one concentrating on the particular profession for which it had the best means of educating. That agreement was for five years. It is a so-called " gentlemen's agreement," that is to say, it is not an agreement that is registered under the Act in any way. No rights are relinquished by either University, but a " gentlemen's agreement " has been entered into for five years to conduct examinations in this way.

The first five years expire at the end of this year, but a further agreement has been entered into for a further five years to carry on as we are now doing. It does not mean that architects are not trained in Pretoria; it does not mean that quantity surveyors are not trained in Johannesburg; but that the examining bodies are respectively for architects, Johannesburg, and for quantity surveyors, Pretoria. We are fortunate, perhaps, in some ways in being linked up in our lectures. I

conduct certain classes in Pretoria, and I come to Johannesburg and conduct similar classes in Johannesburg at the University here; and some of the lecturers in architecture from Johannesburg come to Pretoria and lecture there. So that in that way the two Universities are acting practically as one, the examining functions being separate.

I am not going to give you figures of the number of students that have passed through the courses and so on, because I think you have already had them; but I think it is desirable at a meeting like this to discuss the detailed aspects of the degrees and diplomas for which the students are being trained.

At the very beginning, when the syllabus, the curriculum, the regulations in connection with the degrees and diplomas in quantity surveying were being discussed, it was recognised that a Unversity would find it extremely difficult to train a quantity surveyor from start to finish without that quantity surveyor having some connection with a practising office. We have heard a good deal of that aspect of the matter in connection with architecture, and I think quantity surveyors perhaps feel even more strongly that what they call the practical side of the training must be emphasised, and very considerably emphasised. With that end in view it was decided that even for the degree course—a five year degree course—service in a quantity surveyor's office was not only desirable but necessary. It was arranged that out of those five years, two years could be spent whole-time at the University, but the following three years should be spent as part-time at the University while the student attended an office as an ordinary assistant. The part-time classes such student would have to attend would be the same part-time classes that the diploma student would have to attend, the diploma student being what one might call " whole-time office man, part-time University man."

That was the foundation of the training—the office work and the University work. For the degree the University work came first in the sense that the first two years were spent whole-time at the University. There were certain subjects that were whole-time subjects in the sense that the times devoted to those particular subjects could only be given by men who devoted their whole time to the University course; and that has taken place for two years. During the following three years the degree student was on the same basis, as it were, as the diploma student, spending his days in the office, and his late afternoons, early mornings or other times, as the case may be, at the University.

Now, unfortunately, practitioners—I say it with all due respect: I do not wish to tread on anybody's toes, but practitioners, I think, have lost sight of a very important side of the training of a quantity surveying student. At present, with the boom, I have all sorts of excuses from students that they are so hard worked in their offices that they have no time, certainly

very insufficient time, to give to their University work. Those of us who know anything about University work know that the mere attending of classes is a very small part of the work that has to be done by University students. And although certain work is set for "year's work," as we call it, yet students, I am afraid, are labouring in some cases under a disadvantage—I am not making a sweeping charge; I am only going on what they tell me; I have not investigated deeply into any particular case; but I am told that students do find it too hard to devote themselves to the necessary home work, shall we call it, attached to the University course owing to the fact that they are so hard worked in their daily offices. And not only have they to work the ordinary office hours, but overtime. And, of course, if a student is paid overtime, it is very difficult to prevent his doing the overtime and neglecting his University work.

I mention this more to put the position of the University before the practitioners than to make any complaints. If the student does not do his work, he suffers. The University does not suffer; I do not suffer; it is the student who suffers. But what I would remind you of is that the basis of the present method of University instruction in quantity surveying is the fact that the student gets practical experience outside the University; and if that is going to be so strenuous as to interfere with his proper University work, then perhaps some other method may have to be devised.

The only alternative I see, gentlemen, is that the Universities should begin as practitioners, not only in quantity surveying but in architecture. They prepare schemes, call for tenders, take out quantities, settle accounts, and so on. I am not putting that forward as a proposal: I say it as an alternative. It might be a very good alternative—I am not expressing an opinion; but if students cannot get practical experience and attend the University satisfactorily, that is one way that I see of meeting the situation and giving the student both the practical experience and the academic training to which he is entitled. That, of course, I know is controversial, but it is a possible vision of the future. I have no doubt steps will be taken to prevent such a thing occurring.

Before leaving the question of the University course for the full-time degree, I would like to touch on the subjects that are taken for the full-time course. And when we call it a "full-time degree course" it means a five year course, of which three years are spent in an office, the University counting really as the part-time side of the matter. Criticism has been offered against what have been called the academic subjects which these students have to take. They take two years of pure mathematics; they take a year's course in geology; they take a year's course in physics; they take a year's course in chemistry. Now the criticism from the other side is that they do not take enough of those subjects.

" What is two years' mathematics for a degree? Should not it be three years? " For a degree in pure science, where mathematics is a subject, it must be taken for three years in Pretoria and in Johannesburg.

When we are dealing with University courses I think you will agree that we must look at the matter, to some extent at least, from the University point of view. The instruction given by a University—as its name implies—is built upon a broad basis. We are told by those who know, who are qualified to speak, that the University, after all, is not really there to impart knowledge, but to teach a man or a woman to think. The courses are designed in such a way as not merely to acquire knowledge—you can do that yourself, perhaps, from books or from contact with other people; but the University is there to give a man a broad outlook on life and to spread the foundations as widely as possible upon which he can build his future career.

The University authorities have been very doubtful as to whether the course that we have here is really worthy of a degree, and we must be careful not to try to whittle away any part of it. Criticism is made that some of the subjects that are taken are of very little value, and that the time given to them could be better spent in doing more " quantities " as such. Well, I ask you, gentlemen, to look at the matter in a broad way. Where there is no vision the people perish; and if we are going to try to whittle away every academic subject then you will lose the degree.

You may, of course, be satisfied to lose the degree—I don't know; but while we have a degree, let it be a degree at a University. If it suits you better to do away with the degree and to put the education of the quantity surveyor in the hands of the Technical Colleges, they will get good instruction at the Technical Colleges; they may know just as much about quantity surveying by the time they leave the course in the Technical College as they do when they leave the course at the University, but they won't be the same men.

I have touched upon what might be called the more or less academic subjects, but attacks have been made on such matters as theory and structures. At present " theory and structures " is divided up into two or three sections. In future it will be called " theory of structures." The criticisms that are levelled against " theory of structures " are, I think, based on a misconception. You will remember that good old text book " Rivington's Notes on Building Construction," Volume 1 and Volume 2 of which dealt with ordinary building construction; Volume 3 of which dealt with materials, and Volume 4, which dealt with building construction, but really with the theory of structures. Jaggard and Drury have three volumes on building construction —architectural construction. That is the text-book for the

architects and the quantity surveyors. Volume 2 deals for a matter of 150 pages with structural design—theory of structures.

Some will say, " That is all very well for architects. Architects have to know these things. But why should quantity surveyors be compelled to learn things that they will never have to bring into practice later? " Well, I am reminded in that connection of the course that dentists take. The dentist is not a doctor, but the doctor takes a course in anatomy and the dentist takes a course in anatomy. When the dentist studies anatomy he does not study merely the anatomy of the head: he studies the anatomy of the foot. That is to say, he is taught to look upon the subject of anatomy in a broad way. And if the foot interests the dentist, surely the architect's method of arriving at his constructional details must interest the quantity surveyor.

I would suggest that you look at the subject of " Theory of structures " from the point of view of building construction. If we called it " Building construction " and given the same instruction, I do not think there would have been any criticism. The quantity surveyor must be capable of looking upon a design with a reasonable understanding, and although he may never have to design, yet he is a better man for knowing how the architect reaches his structural designs. He is a better quantity surveyor for that.

A criticism has also been directed against the quantity surveyor being taught " History of Architecture." Well, as taught at present, history of architecture is the history of construction. If we had included " History of Construction " in our curriculum with building construction, I don't suppose anybody would have noticed it. At the same time, why should not a quantity surveyor know something about the history of structural design, of structures, of construction? It seems to me that he is lacking in something if he does not know how the different methods of construction have been developed, and whether they started in Egypt or started in France; whether they started in Egypt three thousand years ago, or started in France twenty or ten years ago.

I do not think that we should deprive the quantity surveyor who takes a degree of the knowledge that lies behind the history of architecture. I would like you to understand that it is the history of construction that is being taught. The quantity surveyor must know his architectural terms, and it is by this means that we teach him.

Architectural drawing he is also taught—not to make him an architect, but to give him a good idea of the construction adopted by architects, and of the names of the different parts of a building, and the features of them.

The diploma course is very much what the degree course is, apart from these matters that are called " academical subjects," such as mathematics, physics, chemistry and geology. Diploma students would be better, I think, if they were to take courses in these subjects; but of course we realise that they cannot all give the time required by these subjects, from the University point of view. Apart from those subjects and structural design, taken by the senior degree students, the courses are the same. They attend the same classs and write the same examinations.

In finishing my remarks about University education, I would ask you to look at the matter in a broad way. There is more in University education than merely learning how just to carry on your profession with the least possible work or preparation involved. There is a broad basis upon which we should build a professional education. It is a strenuous one. It calls for resources that are required probably more, at least as much, in the profession of quantity surveying as in any other profession. If you compare our profession with others you will find that we are not introducing subjects that are superfluous, but I do not want us to go below the level of other professions.

That summarises the position with regard to University education in quantity surveying. There are one or two other points here that require to be dealt with in connection with quantity surveying students in non-University centres. The University is prepared to examine and to grant a certificate to any student outside the University centres. The same papers will be set. Some sort of proof of study will be required, presumably, by the Board of the Chapter; but, as far as the University is concerned, they are prepared to carry out this examination under the Act and to grant a certificate. And, of course, that certificate has been recognised as qualifying for registration. No candidates have up to date come forward, so that we have not conducted such an examination yet.

In that connection I would just like to add that at the University of Pretoria we have a system by which the examination marks are not the sole guide for awarding a degree or a diploma. We should not be able to carry that system into effect with outside candidates. They will get their certificate based entirely on the examination result. At Pretoria two-fifths of the marks allotted during the year are for the " year's work," so that a student may pass in the examination and yet he may fail to obtain his diploma or his degree. That is to say, his year's work counts definitely in his favour, if he likes to make it so, or against him if he chooses that way.

With reference to the Chartered Surveyors' Institution Examinations in South Africa, our Secretary—the Registrar of the Institute—will be able to tell you more about them than I

can. They are still held in South Africa. As far as the University is concerned, we have no objection to them whatever. They fill at present a definite want. The University of Pretoria has had its degree in quantity surveying recognised by the Chartered Surveyors' Institution as equivalent to the latter's final examination; and the diploma examination of the University is recognised in place of the intermediate examination of the Chartered Surveyors' Institution. So that the diploma student still has, if he wishes to become a member of the Chartered Surveyors' Institution, to take its final examination.

Finally, I would like to ask you to look on this matter, again, in the broadest way. I am very insistent on this broad basis. Don't look upon the matter of professional education in a narrow way. Let us build up on a broad basis, and the quantity surveyors of the future will be all the better for that. (Applause.)

DISCUSSION ON PROFESSOR BELL-JOHN'S ADDRESS.

The President-in-Chief: I am sure Congress is very grateful to Professor Bell-John for his extremely interesting review of the position—a position which I feel is full of hope and promise. The matter is now open for discussion, and I trust members will put forward helpful suggestions. You have heard the mild criticism of the Professor in the matter of professional support. Personally, I feel that as a profession we must give that support; we have got to help Professor Bell-John in every possible way to go on with the good work that he has started and that he is carrying on with success. On the other hand, one does realise we are going through strenuous times. If it be at all possible to put forward from this Congress not only a feeling of understanding with Professor Bell-John's difficulties, but to put forward helpful suggestions as to how we can best surmount those difficulties, it will be all to the good.

Mr. T. Moore, in congratulating Professor Bell-John upon his admirable address, stated that the status of quantity surveying in South Africa was due more to the efforts of Professor Bell-John than to any other person. Professor Bell-John, as the first Professor of Quantity Surveying in South Africa, had to devise his own curricula, etc., there being nothing similar in any part of the world he could use as a guide. Quantity surveying students in South Africa were, therefore, under a very great debt of gratitude to him. He (Mr. Moore) also wished to pay tribute to the former Minister of Education (Dr. Malan) and to the former Minister of Education (Dr. Gie) for their assistance in giving quantity surveying University status. From that point of view he was entirely at one with Professor Bell-John, that the education of the quantity surveyor should be a professional and not merely a technical education.

Mr. R. J. C. Prentice, who also congratulated Professor Bell-John on the excellence of his address, outlined the policy of the Public Works Department—which was the biggest individual employer of the junior in the profession—in relation to professional education. With learner quantity surveyors in the Public Works Department, professional education was given superiority of place; and although there had been overtime in the Department for some time, that did not apply to the students attending the University courses. In addition, it was the policy of the Public Works Department to send juniors, wherever possible, to actual jobs, because of the importance of making their training practical.

He (Mr. Prentice) could not take seriously the reference to the Technical College training of quantity surveyors. He could speak on this matter as the result of seven years' experience as a lecturer at one of the Technical Colleges. Continuing, Mr. Prentice wished to recommend that the time of the actual lectures at the Universities be increased. There was a wastage in travelling, and before the students actually settled down to the lecture. If a period of one hour per lecture was set as a minimum, he felt that would be a definite improvement.

On the question of the certificate course for students away from the University centres, he felt that the position was not sufficiently understood either by students or practitioners. He suggested that the issue of a circular to practitioners by the Registrar would be very helpful. With regard to Professor Bell-John's statement that the Universities had no objection to the holding of the Chartered Surveyors' Institution Examinations in South Africa, he (Mr. Prentice) felt it would be very difficult for any such objection to be justified. A number of diploma students, after completing their course, went on to take the final examination of the C.S.I., which he thought an excellent thing.

Mr. Dudley S. Mann suggested that there should be closer co-operation between the University of the Witwatersrand and the University of Pretoria. As an examiner, he had noticed that there were two quite different schools of thought on certain questions: he therefore felt that an exchange of lecturers would be very helpful. He wished to suggest, with regard to degree students, that every opportunity for broadening their practical experience should be utilised: for instance, they might be attached, during holiday periods, to the Public Works Department for the actual inspection of buildings. Another suggestion he wished to put forward was that, as architectural students had the privilege of being addressed occasionally by senior practitioners who had specialised in certain subjects, the same sort of thing should apply in the case of quantity surveying students. In reply to the President-in-Chief, Mr. Mann said there was no reason why architects should not lecture to quantity surveying students, and, conversely, why quantity surveyors should not

lecture to architectural students, on certain special subjects. His final suggestion was that the examiners, after having marked the examination papers, should submit a report as to the questions which were generally well answered, and those which were not, and what the general faults were. Such a report would be of the greatest assistance to students in their following years.

Mr. N. T. Cowin said that, in view of the way in which practical experience had been stressed, he wished to refer to the case of a young man who was sitting for the final examination in quantity surveying, who did not know anything about " taking off." This young man, who was in the Public Works Department, had not sufficient experience to be able to do any " taking off." Another case was that of a gentleman who was a leading hand in a quantity surveyor's office, who held a very trustworthy position and who had had very great experience. This gentleman had applied for membership of the Chapter and had been turned down. Which was the better man—the one with the qualifications of the degree in quantity surveying, or the man with vast experience who was not admitted to the Chapter?

Mr. R. J. C. Prentice apologised for rising a second time, but Mr. Cowin's direct statement necessitated a reply. Firstly, he (Mr. Prentice) would like to have the name of the student referred to; the name could be given to him privately. Secondly, he would like to tell the Congress—and it might also be of interest to the Master Builders' Federation and to the public—that the Public Works Department did not use juniors to produce their quantities. At the same time, to be told of a student sitting for his final examination who had never had the opportunity to do any " taking off "—well, he would like to have the name so as to be able to inquire into the allegation, which was astounding. Because a student had completed either the degree or diploma course, that did not make him a quantity surveyor; it certainly gave him the grounding for making a success in his profession.

The President-in-Chief (after the tea interval) resumed the discussion on Professor Bell-John's address. He felt, because of the close inter-relationship between the architect and the quantity surveyor, that there must be a certain measure of reciprocity in their professional training. It was for that reason he had asked if it would not be an advantage to have architects lecturing occasionally to quantity surveying students, and vice-versa. He sympathised fully with Professor Bell-John's plea that the question of professional education must be looked at from the University's point of view also; he could do that because of his own experience some years ago when he was in charge of the School of Architecture at Capetown.

Mr. D. J. Laing, as President of the Chapter, suggested that Mr. Cowin should give the name of the gentleman he had referred

to, to the Registrar, so that the full circumstances of the case could be placed before Congress.

Mr. N. T. Cowin replied that he had just spoken to the Registrar, but was not convinced that the attitude taken up was the correct one; in fact, he thought it was entirely wrong.

The Registrar expressed regret that, as no notice had been given with regard to the case raised, he could only deal with the facts of the case from memory. The Board of the Chapter had submitted the case in question to the Minister of Education for his ruling, because of the concessions applied for. The Minister's ruling, which was final, was that the applicant was not eligible for registration. In view of the hardship Mr. Cowin had referred to, perhaps the other side of the case also should be mentioned, namely, that had the applicant proceeded with his studies and completed them, as did his fellow-students at that time, he would long since have passed his final examination. Finally, it was not correct to suggest that the gentleman referred to was debarred from joining the Chapter; he had been advised, both verbally and by letter, that if he passed his final examination, he would then be eligible for registration.

Mr. N. T. Cowin said he was still not satisfied. He felt it would be a most unfortunate thing if highly qualified men—perhaps through lack of means or other considerations—had no possible chance of entering the profession. There ought to be some way of getting a special examination to enable this particular individual to join the Chapter.

Mr. J. Seaton Hodge referred to the discussion by Congress on the Monday, on a similar subject. There were certain men, unregistered, who were capable at their work, but they could not be registered. It might not seem right superficially to exclude such men from registration, but there were so many principles involved that it would be impossible to consider it. On the question of quantity surveying education, he wished to pay sincere tribute to the value of the education he received at the hands of Professor Bell-John. Although he (the speaker) had only been in practice on his own account for two years, he had no suggestions to offer for the improvement of the course of training. Although during the period of studentship certain subjects did not appear to be of assistance, he now realised that the courses had been devised by wiser heads than the ordinary student possessed. In reply to the President-in-Chief, Mr. Hodge said he fully agreed with Professor Bell-John that the additional so-called academic subjects were very necessary; in fact, after he had completed his four years diploma course, he had applied for permission to take the additional subjects required for the degree. It was his considered opinion that those students who were fortunate enough to be able to take the full-time degree course in either architecture or quantity surveying would be well advised to take those full-time courses.

With regard to the Chartered Surveyors' Institution Examinations, he wished to say that, after he had completed the four year diploma course of the University of Pretoria, he went on to study for the final examination of the C.S.I. The value of the diploma course was proved by the fact that he had very little extra study to do to fit him for the final examination of the C.S.I. For instance, if he had the choice of writing the " quantity " subjects in the four year diploma course or in the C.S.I. final, he would much rather do the C.S.I. " quantities," the latter of which he had found very much easier in comparison. In other words, the four year diploma examination was much " stiffer " than the C.S.I. final examination.

With regard to the training of pupils, he had, while serving his own articles, been given every facility for studying and he was now doing the same for his own pupils. In fact, he had brought his pupils along to the Congress to listen to and benefit by the deliberations. He felt that certain pupils were being overworked in offices, particularly at night-time; that he did not think fair. He did not think it right that complaints had been made by practising quantity surveyors that pupils took too much time off during the day to attend the University lectures.

He agreed with Mr. Prentice that it would be ridiculous to seriously consider handing over the education of quantity surveying students to the Technical Colleges. He was also a lecturer at a Technical College, and he could say that the syllabus there just touched the fringe of quantity surveying. On the question of practical training, he thought it would be an excellent thing if some arrangement could be made for quantity surveying students to obtain some training in a master builder's office, but that should not be done until after the students qualified.

Mr. D. J. Laing, reverting to the case raised by Mr. Cowin, appealed to Mr. Cowin to put the whole of the facts before the Board of the Chapter. If they were referring to the same case, he felt sure Mr. Cowin would be convinced that everything possible had been done in order that the person concerned might obtain registration. As the Registrar had pointed out, the Board had gone so far as to approach the Minister of Education to see if a loophole could not be found to assist the applicant.

As President of the Chapter, he also wished to congratulate Professor Bell-John on his excellent address, and to assure him that the Technical College aspect would never enter into the matter. Some excellent suggestions had been put forward by Mr. Prentice and by Mr. Mann, and he (Mr. Laing) hoped the University authorities would find it possible to adopt those suggestions.

The Vice-President-in-Chief said that, as an architect, he had not intended to speak on this question but for the bombshell with regard to qualified persons not being able to enter the ranks of the profession. He wished to appeal, as Professor Bell-John had

done, for a broad outlook on these matters. The possession of a degree or diploma was not the end of professional education, and on that point he wished to commend to all members, young and old, the very inspiring address of the present President of the R.I.B.A. given to students and to those who had gained their diplomas.

With regard to the case raised by Mr. Cowin, he (Mr. Powers) wished to urge the greatest sympathy. Such cases should be investigated to the full. At the opening of the Congress reference had been made to the number of cases of so-called " piracy " in the profession. If qualified men were kept out of the profession, and dubbed unqualified, for some technical reason, the piracy on the profession would be increased. A case, similar to the one quoted by Mr. Cowin, had been brought to him in Durban recently, where a young man could not obtain registration as an architect, although he was qualified practically, if not theoretically. He therefore wished the responsible committee to deal sympathetically with these cases and not to think that the degree or diploma was the be-all and end-all in a professional man's career.

Mr. J. W. Cowling said he had listened with very great interest and sympathy to Professor Bell-John's address, with most of which he was in agreement. Professor Bell-John had not mentioned the difference in the length of training for the degree and the diploma: the diploma student put in four years' training, and the degree student five years. During the whole of the four years the diploma student was in a practitioner's office, supplemented by part-time work at the University.

He agreed that practitioners to-day were not doing as much for the training of pupils as was done formerly; possibly practitioners had taken too much advantage of the advent of the University training, to the detriment of the pupil. With regard to the time given for attendance at lectures, the case in Pretoria was really good, where lectures were given in the evening and during the day. Pretoria practitioners were liberal in allowing time off for their students to attend lectures during the day. He believed the position in Johannesburg was rather different, inasmuch as the lectures were mainly, if not entirely, given during the day, which entailed a longer absence by students from their offices. If it was possible to effect an improvement in that respect, he felt it would be a great improvement.

He entirely sympathised with the remark that it was doubtful if the present course was worthy of a University degree. He suggested that the degree course be stiffened; that three years of mathematics be enforced instead of two years; and that the examination in certain subjects for the diploma might be lessened, but increased in the case of the degree.

A matter with which he was very much concerned was the provision of educational facilities in non-University centres. In

such centres the only suggestion that could be made was for students to take the " certificate " examination. That was a matter that required careful consideration, and he was glad to be able to say that the Board of the Chapter had recently undertaken to deal with it.

On the subject of closer co-operation between the two Universities, he understood that an interchange of lecturers was actually taking place. In that respect he entirely agreed with the President-in-Chief that it would be an advantage for an architect to lecture to quantity surveying students and vice-versa. When he (Mr. Cowling) was in the Public Works Department he had endeavoured, in a small way, to bring architectural students into his office to enable them to become acquainted to some extent with quantity surveying work. That was a matter that might well be extended.

Mr. T. Moore, replying to Mr. Cowin and to Mr. Powers, emphasised that there was no closed door with regard to the quantity surveying profession in South Africa. If a student was domiciled away from Johannesburg or Pretoria there was nothing to prevent him taking the examinations of the Chartered Surveyors' Institution by means of a well-established correspondence course (that of the College of Estate Management, in London); and if he passed those examinations he was then qualified for membership of the Chapter. He entirely endorsed what Mr. Laing had said in regard to the case cited by Mr. Cowin. Speaking from memory, the person referred to wanted to become a member of the Chapter by means of one particular examination. The case was referred to the Minister, with the Board's recommendation, but the Minister ruled that not even he, as Minister, could go behind the Act to register anyone. The Board of the Chapter naturally adopted the Minister's ruling. If they were going to try to dodge the Act, what was the use of it. He felt that the person making the complaint had no foundation for making it.

Mr. C. L. F. Borckenhagen said he had listened with very great interest to Professor Bell-John's address and to the discussion. Very much more could be said on the subject, but unfortunately there was not time. He therefore wished to move:

" That Congress thanks Professor Bell-John and the other speakers for their very interesting addresses, and commends their remarks to the educational authorities in quantity surveying for their very earnest consideration."

Mr. J. Seaton Hodge seconded the proposition.

Professor G. E. Pearse, who recorded his strong support of the proposition, paid tribute to the work performed by Professor Bell-John at the Universities of Pretoria and the Witwatersrand. Professor Bell-John's address had been quite an inspiring one, and it was only by approaching the matter in the right spirit that satisfactory progress could be made.

The proposition was carried unanimously.

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