

FEBRUARY 1952

SOUTH AFRICAN ARCHITECTURAL RECORD

RESIDENCE IN PORT SHEPSTONE — RESIDENCE IN
JURB. IN NORTH — ZINNGATE, WATERKLOOF RIDGE
PRETORIA — AMERICAN ARCHITECTURE IN A LIFETIME
DEMOLITION OF THE DENTAL HOSPITAL, JOHANNESBURG

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E D I T O R VOLUME 37

W. DUNCAN HOWIE

ASSISTANT EDITORS

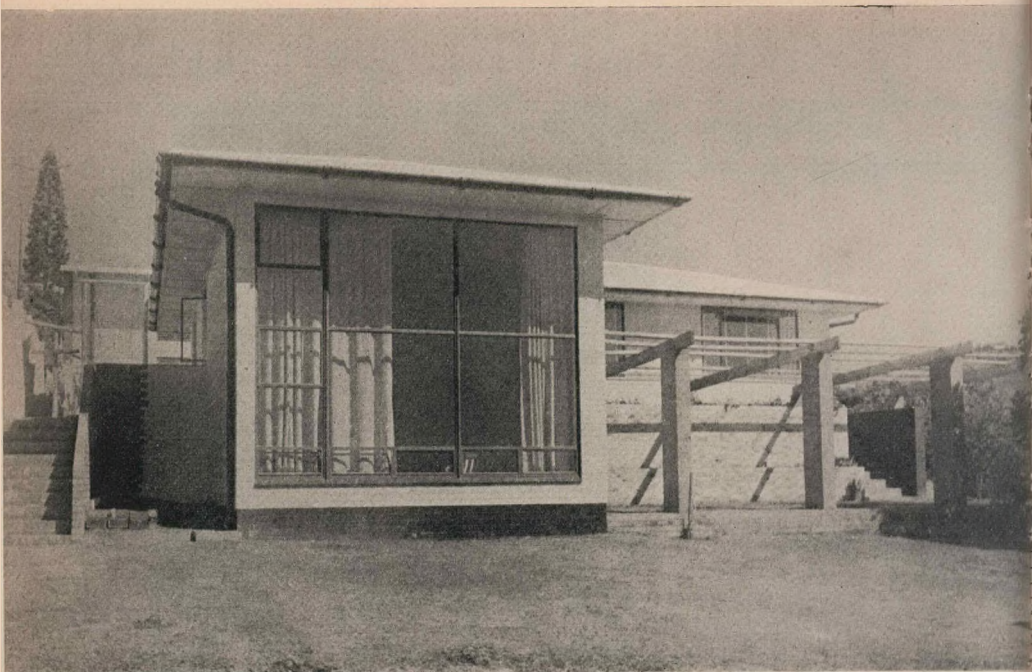
UGO TOMASELLI

GILBERT HERBERT

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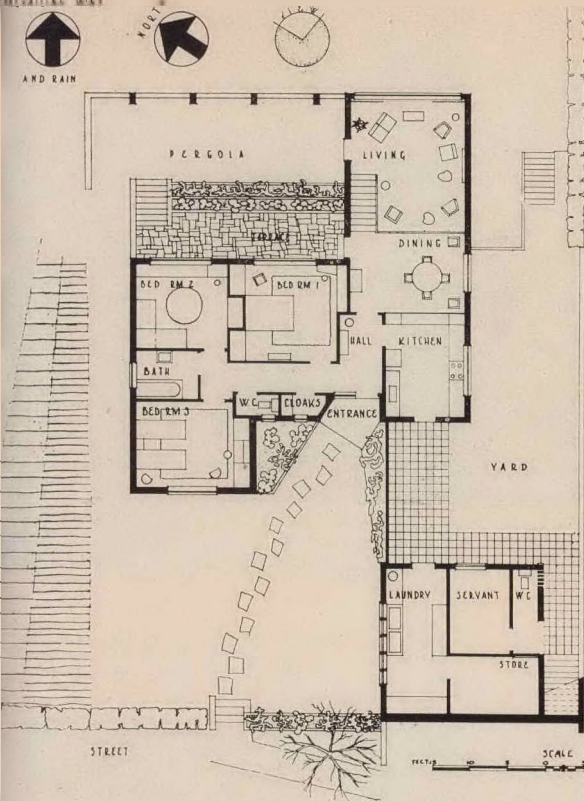
RESIDENCE IN PORT SHEPSTONE

The architect has used a restricted and partly terraced site skilfully to provide a two level house which captures a distant view.

The surface of the ground falls sharply from the street, like so many building plots in coastal areas, and in this instance it had been partly terraced by a previous owner. Situated on high ground the site commands a generous view to the North-East, including a wooded ravine, a glimpse of the Umzinkulu River with the golf course beyond, and the sea in the background. It so happens that this aspect is a desirable one in this area.

The essential requirements on which the architect was asked to provide included three bedrooms, a living room with dining space, as much built-in furniture as possible; and the price was to be kept as low as possible.

R. N. WEAVER, M.I.A., ARCHITECT



The house has been fitted to the restricted site so that advantage has been taken of the existing terrace levels, the bedrooms, kitchen and dining space on the upper and the living room on the lower level. In order to relate the living areas visually with the garden, and to take full advantage of the exceptional view, the north-east wall of the living area has been made one large window, thereby bringing the view right in to the dining space.

The wall of the living room was built in 2 inch bronze facing bricks in order to relieve large surface of walling. Woodwork, with a pleasant grain, has been lightly stained and varnished. The fittings under the dining space include a radio, pick-up and record storage, writing desk, liquor cupboards, crockery store and display, and a book case. The general lighting is by cathode strip over the curtain pelmet and above the fittings.

The large curtains were designed and made by the owner to complement the colour scheme of pale green and grey. A fully equipped "servery" fitting separates the dining space from the kitchen, and the bedrooms are provided with fitted wardrobes, dressing tables and drawers.

Colour schemes were planned for every room. Lighting was also carefully considered and ranges from a low level of general illumination to bright areas for work and recreation.

The external walls are of wire cut bricks with ruled joints painted in light biscuit colour, while the entrance is accentuated by fine rough cast plaster painted green. The roof is corrugated aluminium. The floors are experimental and consist of $\frac{3}{4}$ inch tempered masonry in large panels laid direct on a cement screed.

The contractors were Mann and Garstang (Pty.) Ltd.

The dining space overlooks the living room and is related to it by a light timber stain. By making the main window fill the end wall, not only is there an intimate visual relationship between the living spaces and the garden in the immediate foreground but the extensive views of wooded ravine, golf course and sea beyond are also brought into the living room and the dining space. The colour scheme is pale green and grey with bronze bricks on the right. The owner has designed and made the curtains to harmonise.





Photography: John S. Wilson.

ABOVE: The fittings are finished with light stain and varnish. The space below the dining space floor is utilised to provide a combined unit which includes radio, pick-up and record storage, writing desk, liquor cupboard, crockery store and display and a book case. Lighting strips are installed over the fitting. RIGHT: The garage entrance is arranged at street level, with the servants quarters and laundry below. The steep slope of the ground is apparent in this illustration, which shows the entrance of the lower level of the intermediate terrace.





RESIDENCE IN DURBAN NORTH

The site of this house, while more generous than that of the Port Shepstone house, measuring 103 feet by 245 feet, imposes the same problem, that of relating the levels of the house to a steep slope. The gradient in this instance is approximately 1 in 6. Furthermore, the fact that the ground level on the road frontage averages 6 feet above the road level imposed a problem as to where the entrance to the site should be cut.

The severe slope across the site largely determined the structure which is a reinforced concrete slab supported on beams and columns which vary in length from zero to 14 feet 6 inches, while the view of the sea to the East and a view of Durban to the South influenced the orientation of the plan elements.

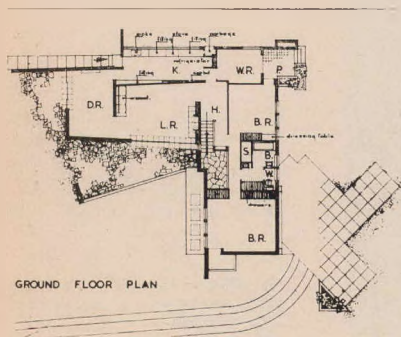
These factors combined, resulted in the use of the basement space for the garage and laundry, with the advantage of an internal access from the garage to the remainder of the house, and while

A suburban home for L. Burstein Esq., situated on a steeply sloping site in Durban North, with views to the East over the sea and to the South over Durban.

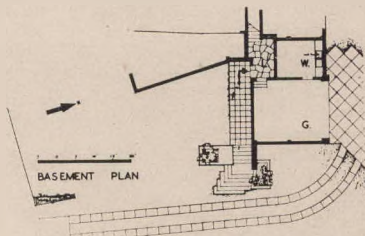
E. LEIGHTON BLACK, A.R.I.B.A., M.I.A., ARCHITECT



The Dining Room seen from the Living Room. The blue brick panel harmonises with the brick screen wall beyond the sliding door, and acts as a foil to the precast terrazzo glass cabinet. The furniture is in English Ash carried out to the design of the architect.



- LEGEND
- | | |
|-------------------|----------------|
| D.R. Dining Room | B. Bathroom |
| K. Kitchen | P. Porch |
| L.R. Living Room | W.R. Wash Room |
| H. Hall | G. Garage |
| L. Entrance Lobby | W. Laundry |
| B.R. Bedroom | |



the drive crosses the "front" of the house it is sufficiently far from and below the living room windows to avoid its interference with the immediate view from the living area.

The Italian 17th century expedient of falsifying perspective has been adopted in the designing of the living room, whereby splaying the walls slightly, a greater effect of length has been produced.

Materials used externally are brick walls, bagged and colour washed, with the contrast of a stone chimney stack and shingle roof, and purpose made steel windows.

Internally the finishes include close carpeted or wood block floors, varnished clear oregon skirtings and door linings, painted doors and plaster board ceilings with timber cornice picked out in colour.

A blue brick panel has been introduced into the dining room to harmonise with the screen wall outside and to act as a foil to the precast terrazzo glass cabinet built into this wall.

The dining room and bedroom furniture was designed by the architect in English Ash, and upholstered to suit the colour scheme of the respective room.

Another interesting feature is the fact that all light panels are flush ceiling fittings.



Above and below are two views from opposite ends of the Living Room. The splay on the external wall, which was introduced to produce a greater effect of length in this room can scarcely be detected. The unencumbered nature of the interior results from the remarkably clean ceiling line, the surface being unmarked by light fittings, and relieved by small repetitive patterns round the edge, together with well organised wall surfaces. Sliding doors lead from the Living Room to the terrace and embrace a wide view over the sea. At lower left is the well appointed kitchen which exhibits the same simple ceiling surface, with good lighting to the working surfaces.



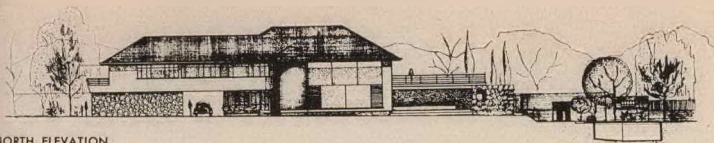


Photography by Alan Yates.

"ZINNGATE," WATERKLOOF RIDGE, PRETORIA

A large family residence designed for generous living and entertainment, and built on a magnificent view site overlooking Pretoria and the open countryside beyond.

OSCAR HURWITZ, M. I. A., ARCHITECT

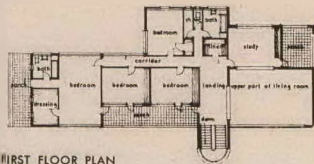


NORTH ELEVATION

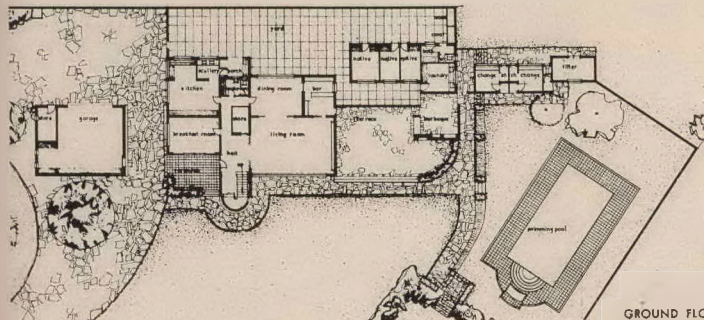
The house was designed on an irregular shaped site situated high upon the southern outskirts of Waterkloof Ridge, with a magnificent view overlooking Pretoria to the North and parklands to the East, West and South.

The owners, who had just returned from the United States, were full of enthusiasm for creating a house free of all tradition and pre-conceived ideas; all they desired was a house in which to live and entertain in every sense of the word, with all living rooms north-facing, and complete freedom of movement.

The family consisted of the husband and wife, four children — two boys and two girls.



FIRST FLOOR PLAN



GROUND FLOOR PLAN

The entrance hall with free-standing stair flights. The door at left leads to the lounge, through which the cine-projector beams to the screen at the far end.



The lounge is planned as a generous living space, the room is 30 feet by 20 feet, and is the nucleus of the living area of the house. Off it to the south the dining room is arranged on the ground floor with the study above, which like the bar may be cut off by drawing the "Modernfold" doors. Each of these subsidiary rooms share the wide views to the north by reason of the glass wall on the north front. The large picture frame seen in the upper view actually conceals the cine screen, while the fitting below includes display cabinet, heater, radiogramophone, radio, wire recorder, cine projector and loudspeaker, all surrounded by the large pink reflecting mirror which suggests a considerable feeling of further space in an already large room. The lower view shows the dining room as well as the opening to the upper landing, which openness coupled with the effect of the mirror dissipates the sense of dominance and enclosure which such a high room might otherwise impose.





The study, with a window on the south and overlooking the lounge on the north side is a comfortably arranged room with panelled walls close carpeting and concealed lighting. It gives access to the private porch from which the sunbathing terrace is reached. Below is seen the bar with its padded counter, panelled walls and extensive fittings. This room opens onto the large terrace floored in random marble and provided with the barbeque seen at bottom of the page.

One enters by the circular paved drive from the east. The entrance gate slides into a recess provided in the rackery boundary wall and visitors park under the covered driveway which leads to the front verandah.

The entrance hall comprising a free standing staircase and projection room is the link to all rooms on the ground floor and first floor.

The Dining-room and Cocktail bar both lead off from the double volume lounge. The west wall of the lounge is fitted with a built-in unit comprising heater, wire recorder, radiogram, wireless, cine projector, loudspeaker and display cabinet with large reflecting pink mirror. The movable bioscope screen is concealed in the frame on the picture above the fitting. The height of the fitting was determined by the position of the projector in the projection room. The complete North wall of the lounge is plate glass with "Ventview" windows for ventilation at each extreme end.

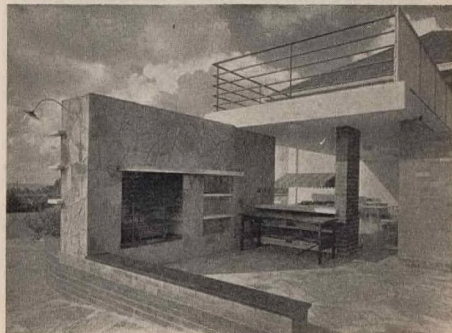
All openings between lounge, dining-room and cocktail bar are fitted with "Modernfold" doors. The cocktail bar opens on to the random marble dance floor, which is closed in on its Western boundary by the Slasto faced Barbeque.

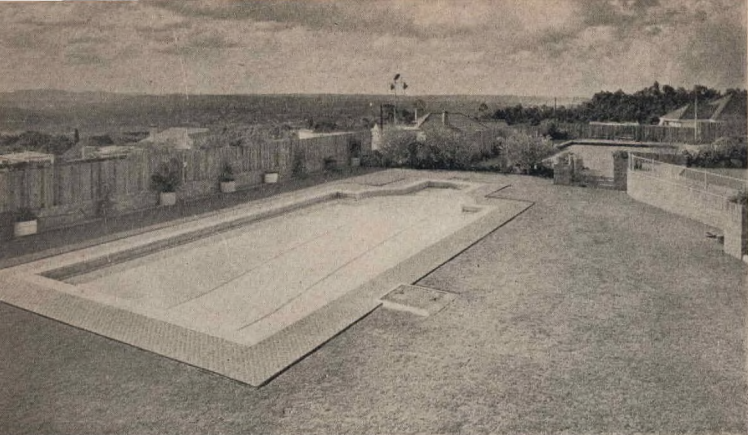
From here one can wander along a paved walk to the swimming bath, change-room block and bowling green, completely sunk amidst a charming rackery garden.

The smaller morning-room off the hall is provided with glass sliding doors which open to make the verandah and room one unit.

The kitchen, which is east and south facing, is completely equipped with built-in fittings, and includes a breakfast recess, with separate scullery and back porch.

The outbuildings are arranged within a courtyard which forms also the laundry drying yard.





The swimming bath occupies the upper of the generous terraces to the north of the site, with the bowling green on the lower. As may be seen from the upper illustration, the house and garden commands a magnificent and expansive view over Pretoria and its environs. At right is an example of the built-in furniture in the bedrooms. An impressive standard of quality and finish characterises these fittings as it does with all the materials and finishes in this house.

Below is seen a corner of the kitchen with a glimpse of the breakfast recess beyond, which is again impressive with its standard of appointment and finish.



The Study overlooks the lounge with a view to the north and south and through it access to the sunbathing terrace over the dance floor is obtained.

The bedrooms are all fitted with built-in cupboards specially made by a firm of shopfitters. All bedrooms lead out on to the large sleeping porch.

The main bedroom has its own dressing room, bathroom and morning terrace.

The children's bathroom suite is placed near to the other three bedrooms and linen room.

Concealed lighting was extensively used in the house and all rooms were treated in different colours, an experiment that led to interesting furniture arrangements.

Owing to the dull appearance of local stone, the Architect used a certain amount of "Slasto" stone facing to the garage walls and barbeque. Floors were made of strip flooring, woodblock, rubber, asphaltic tile and tiling.

The general planning of the house was very simple with minimum corridor space despite the length of the house.

AMERICAN ARCHITECTURE IN A LIFETIME

BY RICHARD NEUTRA

*When W. Boesiger and publisher Girsberger, Zurich, began preparation of their comprehensive illustrated book (on Richard Neutra) and invited a contribution from him, he drafted the following article but withheld it later from inclusion, as Dr. Siegfried Giedion, the noted cultural historian, had meanwhile agreed with the publisher to write the introduction of the book.**

When a mother watches her child grow up, it is not an unmitigated pleasure. Her heart lingers on with the baby, and in her relationship to the child she is always a little "behind the times." She mistakenly tends to see it and treat it as it used to be, as it was a year or two earlier, sweet and innocent. We do need a fresh view for every stage of development.

The Americas, North and South, have grown tremendously in my lifetime. Their growth has been both impressive and shocking to mother countries, who often shudder at the sight of such increase in material strength and pride, which may have their bitter ending, as parents see such things. But vulgar materialism, not at all limited to the United States, is so much more easily noted and conspicuous than spiritual growth. American architecture, the spirit of design and planning, has paralleled other developments and has gone through an interesting evolution within these last three decades which I can remember—and remember not merely as an innocent bystander and onlooker.

A person who desires to recollect the architectural scene, which surrounded my young practice in the early twenties, can see what it looked like on library shelves, in the back-numbers of those yellowed magazines, which proudly displayed the newest buildings of that day. The then current monuments had not yet superseded the Woolworth Building of Lower Manhattan and other boom architecture of the time before America had entered the First World War.

I myself did not know big promoters and politicians and calmly lived with common people. Adolph Loos, my hero of plain "savoir vivre," had lived earlier with the same kind of American human beings of the time of the Columbian World's Fair. He had brought them close to my heart in many of his anecdotes, so wonderfully told, when I was a young student, devoted to him. There was something inspiring in these common people who had come from so many places, and laboured hard and in a vigorous whirl to form and fit a new tradition. Adolph Loos, who as a thinker among architects, gave perhaps a pragmatic turn to what I had admired from childhood in the new designs of Otto Wagner and had made me an American of choice and aspiration ten years before I saw the country in the flesh. But here was a continent with a few individuals lost in its vast expanse, isolated and aware of a great cultural default in the huge mass of ubiquitous building activity. Sullivan and Wright themselves had to feel bitterly dismayed about the lack of followership. It was an isolation hardly imaginable now—like the loneliness of a small band of explorers finding themselves frightfully alone in the wastes of the Antarctic.

Nevertheless, it was then that, whistling in the dark, I began to write a most hopeful book¹ on how Americans build over an entire continent, in contrast to a Europe, divided by so many tedious national boundaries and antagonisms. America built, as I saw it, with a tremendous supply industry to back it up, with a well studied, unsurpassed system of neatly documenting projects in advance—but with an urgent need to restaff its "Design Department."

Here were native geniuses of design, who had been neglected and obliterated by the big architectural office that reigned supreme. With little, if any, practical proof on hand I predicted that merely to conclude from the strength, ingenuity and the continent wide market for the American building industry, this country would also take a lead in modern design, which depends so much on exactly these circumstances. Twenty-five years later, this controversial prediction, so feebly founded in 1925, has come true, and designers of modern stripes are perhaps more numerous in the United States than anywhere—and there are more clients who accept their designs, however well or poorly done.

* "Richard Neutra, Projects and Buildings" by W. Boesiger, with introduction by Siegfried Giedion, Girsberger Publishers, Zurich, 1951.

¹ HOW AMERICA BUILDS. WIE BAUT AMERIKA. J. Hofmann, Stuttgart. The book quickly sold out and was read around the globe from Tokyo to Buenos Aires and Paris, wherever people took interest in new methods of building and American progress.



DESIGN OF SANTA BARBARA COTTAGE
WINS GOLD MEDAL FOR ARCHITECT

Franklin L. Johnson of New York is chairman, in all an important part of the study last night to a with program of the day. It is directed by "American" and is a study in the history of the house.

The American scene of 1925 or 1929—The end of the Nineteen Twenties, before the world depression—was the scene in which Richard Neutra had to act and take his part as rebel and "Raisonneur." The French have this word for one who in a play alone represents the critical mind and talks reason, inside and out, the architectural treasures of the past, from Roman temples to Buckingham Palace and Alhambra, were then being rehashed all over the country. Gold medals were being awarded to California bungalows which innocently failed to recognize the inspiring possibilities of climate and setting.



But in those early days whatever could be considered as contemporary design, spread very slowly and almost like a nefarious and underground conspiracy. The West Coast was reached earlier than the East. In my first and second books on America's building I illustrated with care the work of Irving Gill, admiring youngest disciple of Sullivan, both of whom I had the privilege to learn to know in person before their lonely deaths. I sought out Gill's buildings, redrew for a record their plans which had been destroyed by fire. I photographed and first published them, as well as those of R. M. Schindler, the originally gifted pupil of Frank Lloyd Wright, who himself had to find his first recognition abroad.

I started to teach, but no college would have me. In an old Victorian residence "The Academy of Modern Art" was set up, and I found four or five students. Harwell Hamilton Harris, then a very young sculptor, and Gregory Ain, who had dropped his regular studies in dismay, were among them, and they soon joined my small office in loyal effort.

But gradually, college students began to give me extra-curricular and cordial attention like Raphael Soriano from Rhodus, and others, in ever increasing number. I remain most grateful for the company they kept me. Restless students were becoming dismayed as well as teaching staffs in one university after the other. At the end of the twenties, the Museum of Modern Art was founded, and Philip Johnson, having become friendly with the architectural historian Hitchcock, prepared in 1929 an exhibition right in the cultural import centre of New York. The exhibition then set out to tour an even more amazed back country. In the East and Middle West, Loebner, Holm and Lescaze had already started teaching and lecturing, and soon mature but progressive George Howe supported the new movement in practice and with the pen. While Hitler set the stage for the Second World War, teachers of great personality and ability to organize architectural schools left Europe and arrived in significant positions in the East and

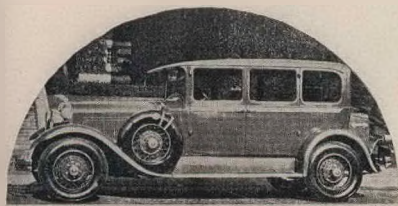
* AMERICA, BUILDING IN THE WORLD. Anton Schroll. 1928.



The handsome Studebaker of 1928 and designs by Neutra of the very same year. Neutra's advanced attempts in the American Twentieth Century to serve human life by current means and ideas were frightfully isolated in the confusion surrounding them. But his designs have now outlasted in usefulness, the famous glamour models of automobiles, the now forgotten triumphs of many fashion experts, the dire predictions of timid bank appraisers, cocksure real estate developers and other "practical" men who shrugged their shoulders a quarter of a century ago. Those early designs, those steady efforts which Neutra devoted to wholesome living comfort of American home owners, have had an ever broader following over the hemisphere and have been recognized abroad as an American contribution to a new way of life.

HEALTH HOUSE INTERIORS, 1927-1929

Photography by Julius Shulman, Los Angeles



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Middle West of America. But the weight of practical realizations remained for a while yet at the West Coast, enlisting talent and spreading North to the Bay region of San Francisco, to Portland, to Seattle, even to British Columbia, and again East across the Rockies to Chicago, Dallas — but always broadening its original hold in the mild climate of Southern California.

Here a remarkable magazine, "Arts and Architecture," had begun to give it a continuous showing. After two thousand years of nordic interludes, architecture again had received a vital impetus from a subtropical region. And this impetus could broaden because a private, interior climate within transparent enclosure was now much more man-made and under control than in antiquity.

The leadership of the big offices had in those years become increasingly challenged, at least in design, by the small scale pioneer who won awards in national competitions, and the interest of readers, editors of magazines and even of the advertisers of new building materials and supply. His struggle against rejection and ridicule was sometimes gruesome, but more and more people thought it noble and worth the sacrifice.

By the middle of the thirties, I was permitted to build over an area which would have seemed immense to a European. One job rose on an island in the North Atlantic ocean, another at the mouth of the Rio Grande at the Southern tip of Texas. When a galaxy of contemporary designers began to spring up in these vast areas, their clients were more easily convinced because they had now at least seen pictures of such projects and their realizations. Wherever I flew or drove, I could enter without much gate-crashing any house that seemed somewhat modern; the owners were eager to open their doors saying they had followed my efforts, and proudly showed me what they themselves had achieved against the odds of local bank appraising and official building ordinances. Often one of my former assistants or apprentices was the designer, or someone who had seen our buildings in illustrations and cherished his book of clippings.

In 1932, I built a house with the unexpected and generous help of C. van der Leeuw, patron of modern architecture, who also imparted me for lectures to the cities of Holland. This research house showed no sign of depreciation or obsolescence through two decades, while other commercially well-known architects went through many changes of taste during the same period, only finally to arrive at similar conclusions. At last, hard boiled "practical" men became convinced; the investment in contemporary design was proven safe to many minds. It offered even good investment, liquidable investment; sales prices after ten, fifteen, twenty years were a multiple of original costs. Buildings of this design were found a more stable value in a quick changing world than the most celebrated automobile models of 1930, or any other year. Banks, building and loan associations, insurance companies began to make loans on this sort of project and even to build their own offices in a contemporary manner. The earlier prophecy of "How America Builds," that an industrially advanced country could not but turn contemporary, had come true.

And now the typical old established, well organized architectural office of North American metropolises, which also had so hopefully been described in my book, finally swung into line, *staffed itself from the new schools and began to modernise the country on its big scale.*

The pioneering of the small offices may be at an end; it was an interlude of this last quarter century. The systematic organization of the big American office, operating over wide stretches of the planet, has resumed its power; its scope is large in everything. It serves big business, big politics and a far-flung firmament.

The individual plays a humble role in this world of large affairs. My own career, although it led me to large scale planning in state, city, and neighbourhood, cannot pose as a directly usable prototype for a young man starting out to-day into this profession of broad social service. But at least mine has been a career which is most transparent, not complicated or clouded by the favours of influential "contacts," or by business or political acumen, so often characteristic but difficult to gauge for outsiders and even assistants. Any one of the many young men who have joined me could see how this career ticked its way, and what made it tick, from that moment long ago when I knew, or was known to, no one in the vast strange land, until to-day when that early loneliness is only a dark memory like a puzzling dream.

Grave world events have continuously interfered with the course of my life as with the natural evolution of contemporary building. Probably this has been so in most periods of the past, however placid and successful they may look from a distance.

The fate of great planning work and of individual man himself, human fate has been sandwiched between wars and great worldly disasters. A Periclean age bogged down in twenty years of war. Ruins (and



HEALTH-HOUSE INTERIOR, 1927-1929.

Rooms in the Health House of 1927 have, with all their original furniture, remained safe against obsolescence—are still like new, convincing over a span of quick moving decades. They are akin to designs ten or twenty years later. The architect has proven consistent and steady, a trustworthy investment advisor in a country of changing values.

Note spring-support chair, a Neutra patent, used in his interiors over a lifetime.

TREMAINE LIVING ROOM, 1947-1949.



RICHARD J. NEUTRA, Architect.

sagas) must help to compose even the memory of great cultural settings which once had been convincingly fused by design.

It must in modesty be recognized that independent individuality rarely has its chance in building design. Great geniuses in architecture, often nameless, have been men who saw and acknowledged the interwoven potentials of their time. They certainly have been fired by other great minds, not necessarily architects, but which from various vantage points had illuminated the contemporary scene. And the contemporary scene itself, with all its shortcomings, is always the great over-all stimulus.

In periods of accelerated transition like the Renaissance or the past century and decades with their avalanche of industrial progress, architects' careers can show a universality which later on may have to flicker down. Young men, who study architecture to-day, might have to be different from us older men, by choosing specialized paths. A generation ago an architectural pioneer had to be also a sociologist and city planner, a designer of prefabrication, of lighting fixtures, furniture, gardens and colour schemes. To-day, specialists have developed from his seeds—even from his sowing of wild oats. These trained specialists have now sound grounds to advise him. I for one am happy to think that we have helped raise not followers of a universal career—which under the new circumstances perhaps can hardly be followed—but a crop of new expert professions, be it now in the design of hospitals, housing and school building, or of heating, lighting and integrated fabrication—every new field so different and emancipated from long traditional concepts. We can be deeply happy to see our pupils overtake us; there is nothing more gratifying at the ending of a life than having been granted the power to move spirits and in turn see them move the world.

Yet, all the new energies and dynamics may not yield a concerted movement, that much advertised movement of progress. Only conflict and wasteful dissipation may ensue, unless the intricate and basic, the biological human needs of soul-and-body are thoughtfully honoured by over-all planners, so as to make survival safe under our ever new and changing circumstances of life.

If permitted to see my life telescoped and humbly sum up results and aspirations to which I have devoted time, substance and sacrifice, I would say I tried to throw bridges—bridges of understanding and for unified action. As an architect, I was intensely interested in bridging the gap between Europe and the Americas where I lived and worked. When in Asia, I thought it was time that the occident and the orient should meet, rather than clash. I had ideas of reconciliation between the nordic and the sub-tropical, which in Greece, or Crete, or Egypt, had happily dominated design ideas, but now was unduly under the domination of a mere Northern brand of civilization. Time seemed ripe to grant new influence to the regions of radiant sunshine.

Again I wanted to pass the bridge from our complex engineering to soul appeal and organic satisfaction. And I have thought the gap may be bridged between dense urban and forgotten rural life, between industrial strongholds like the United States, which must be made helpful to others, and peoples who, like that of Puerto Rico and so many others now, struggle to rise from a sorry colonialism of the past.

The architect and planner, not as a provincial, but as a cosmopolitan of understanding heart, may perhaps, I felt, contribute more to world peace and a balanced picture of the planetary community, than could any persuasive words. Design shall be based on "empathy." The faithful in-feeling into the human needs of environment can profoundly aid the survival of the race.



DEMOLITION OF THE DENTAL HOSPITAL

The Revised Rents Act which came into force in the middle of 1951 has brought about a spate of demolitions in the central area of Johannesburg, and the air has become hideous with the sound of pneumatic drills and falling masonry. Inevitably the scene of desolation draws comparison with the bombed cities of Europe, and the analogy is not altogether far-fetched.

On the list of condemned buildings is the Dental and Oral Hospital, soon to be replaced by the new building now nearing completion in the grounds of the University of the Witwatersrand. It is perhaps only ten years ago or so that the "Architectural Record" was announcing the completion of Dental School No. 1, for this demolition is not the result of age or obsolescence, but of the ever-expanding Johannesburg railway system. The same circumstances which determined the swallowing up of the Wanderers ground have now operated, after a year or two of grace, to condemn a structure which is not only sound in wind and limb, but which is, architecturally speaking, one of Johannesburg's better buildings.

The Dental Hospital was designed for the University of the Witwatersrand, Johannesburg by N. T. Cowin and G. E. Pearce, Architects; J. Fossler, Collaborator, and was built in 1942. It was an extraordinarily successful building both in its character and technical efficiency. Now, after a life of only ten years it is being demolished to make way for the new railway station development.

This destruction must be depressing to any who deplore waste; but lamentable as it is, it has its brighter side, for it is going to be, if one can call it that, a constructive demolition.

Following the initiative of Dr. Ockleston and Mr. Ventress, of the Department of Civil Engineering of the University of the Witwatersrand, it was decided to utilize the opportunity presented by the demolition of the building to study under actual rather than laboratory conditions the effects of excess loading on structure and materials. A series of eight tests have been devised to study one- and two-way slabs, beams, panel walls and stairs. No tests will be carried out on columns, as the columns in the building were designed originally to carry several extra storeys. The work will commence at the beginning of January, 1952, and will continue for three months in a programme closely dovetailed into the schedule of demolition. It is expected that the tests will give rise to material for several subsequent years of laboratory and analytical study.

The responsibility for the organization and conduct of the tests is in the hands of a Management Committee, and the wide range of interests represented on this committee is some indication of the importance which the scientific and technical bodies ascribe to the experiment.

The work is being carried out primarily by a full-time staff consisting of Mr. Sims, of the Building Research Station of England, and two engineers, working in conjunction with Dr. Ockleston, Mr. Ventress, and other members of the staff of the Department of Civil Engineering of the University.

As much as we deplore this regrettable destruction of a fine building, we cannot but commend the foresight and imagination which has given the demolition a positive and constructive aspect.

BODIES REPRESENTED ON THE MANAGEMENT COMMITTEE

The following bodies are represented on the Management Committee, which is responsible for the organization and conduct of the proposed tests on the University Dental Hospital Building:

- South African Railways and Harbours Administration.
- University of the Witwatersrand, Johannesburg.
- Public Works Department.
- Council for Scientific and Industrial Research.
- South African Bureau of Standards.
- City Engineer's Department, Johannesburg.
- South African Institution of Civil Engineers.
- Union of South Africa Branch, Institution of Structural Engineers.
- Transvaal Provincial Institute of South African Architects.
- Concrete Association of South Africa.
- South African Reinforced Concrete Engineers Association.
- South African District, Institution of Municipal Engineers.

RESOURCES AVAILABLE AT PRESENT TO THE MANAGEMENT COMMITTEE

Up to the present the following organizations have supported the scheme for conducting tests on the University Dental Hospital building by agreeing to provide services without charge or by making donations:

DONATIONS OF SERVICES:

- South African Railways and Harbours Administration:
Loan of instruments and provision of labour, materials and services up to £500.
- University of the Witwatersrand, Johannesburg:
Loan of instruments, workshop facilities, administrative and accounting services, office space and plan printing.
- South African Bureau of Standards:
Loan of radio-active isotopes and complementary equipment, and provision of services up to £150.
- South African Council for Scientific and Industrial Research:
Loan of equipment and provision of services.
- Building Research Station (England):
Seconding of Senior Experimental Officer and loans of instruments.

CASH DONATIONS:

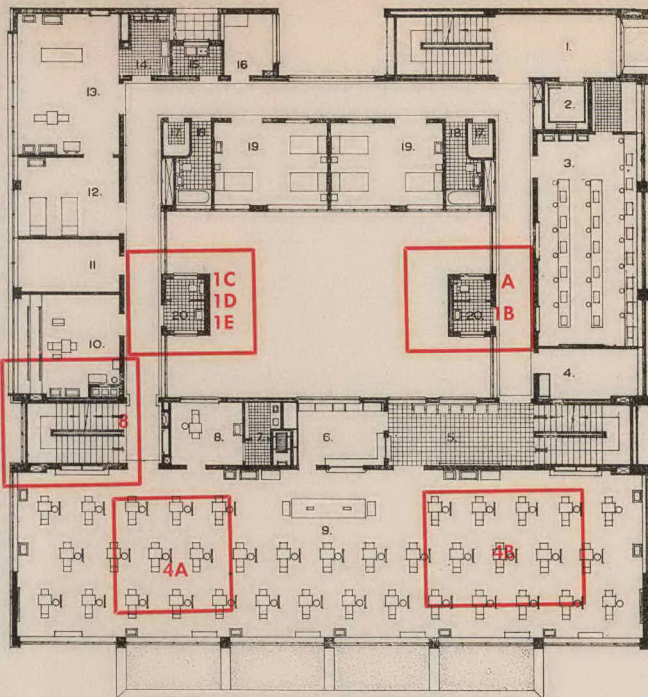
Public Works Department	£100	0	0
The Roberts Construction Co. Ltd.	100	0	0
Reinforcing Steel Company Ltd.	100	0	0
A. S. Joffe & Co. (Pty.) Ltd.	100	0	0
Steel Sales Company of Africa (Pty.) Ltd.	100	0	0
University of the Witwatersrand (Research Committee)	75	0	0
Institution of Structural Engineers (London Council)	52	10	0
Messrs. Nurcombe, Summerley and Lange	50	0	0
O. Grinaker (Pty.) Ltd.	25	0	0
A. Gibb & Son (Pty.) Ltd.	10	0	0
A. Stuart Ltd.	50	0	0
Elgin Structures (Pty.) Ltd.	21	0	0
Drikon (Pty.) Ltd.	10	0	0
Wire Industries, S.P. & E. Co. Ltd.	52	10	0
Lewis Construction Co. (S.A.) Ltd.	100	0	0
James Thompson Ltd.	52	10	0
Farrow, Leung & McKechnie	50	0	0
Stewart, Swardoff & Oliver	26	5	0
The Electricity Supply Commission	100	0	0
The Concrete Association of South Africa	100	0	0
McLaren & Eger (Pty.) Ltd.	25	0	0
Gold Producers' Committee, Transvaal Chamber of Mines	200	0	0
University of Natal	21	0	0
Transvaal Provincial Administration	100	0	0
S.A. Institution of Civil Engineers	26	5	0
Chubb Reinforced Concrete Co. S.A. Ltd.	70	0	0
City of Bloemfontein	21	0	0
Institute of S.A. Architects			
Transvaal Provincial Institute	50	0	0
Cape Provincial Institute	25	0	0
Natal Provincial Institute	10	10	0
Port Elizabeth Local Committee	25	0	0
Chapter of S.A. Quantity Surveyors	25	0	0
H. L. and H. Concrete Engineers (Pty.) Ltd.	75	0	0
Twiststeel Reinforcement and Designs (Pty.) Ltd.	52	10	0
Union Concrete Ltd.	26	5	0
John Leung and Son (S.A.) (Pty.) Ltd.	25	0	0
Christians and Nielson (S.A.) Pty. Ltd.	25	0	0
Petra Construction Ltd.	15	15	0

FIRST FLOOR

LEGEND

1. Stair Hall.
2. Lift.
3. Phantom Head Room.
4. Staff Room.
5. Waiting Space.
6. Almoner.
7. Dark Room.
8. X-ray Surgery.
9. Conservation Surgery.
10. Demonstration Surgery.
11. Waiting Room.
12. Recovery Room.
13. Operating Theatre.
14. Scrub Up Room.
15. Sink Room.
16. Duty Room.
17. Clothes and Linen Cupboards.
18. Bathrooms.
19. Wards.
20. Staff Lavatories.

Areas of tests are shown by numbered red squares.



TEST 1A — NORTH TOILET WING

Object: Lateral stiffness of wing complete with beams, slabs and walls.

Test: Apply horizontal load at top (within working range — brick panels not to be cracked). Measure horizontal deflections and changes in length of diagonals of panels.

TEST 1B — CLAD FRAME OF NORTH TOILET WING

Object: Lateral stiffness and ultimate strength of clad frame.
Prepn: Remove walls between frame and building (but not panels of frame). Cut through slabs and beams, leaving beam reinforcement only.

Test: Apply horizontal load at top. Measure horizontal deflection and changes in length of panel diagonals. Test to failure.

TEST 1C — SOUTH TOILET WING

Object: Lateral stiffness of wing complete with beams, slabs and walls, for comparison with results of Test 1A.

TEST 1D — CLAD FRAME OF SOUTH TOILET WING

Object: Lateral stiffness of clad frame, for comparison with results of Test 1B.

Test: As for Test 1B, but working loads only — frame not to be damaged.

TEST 1E — BARE FRAME OF SOUTH TOILET WING

Object: Lateral stiffness and ultimate strength of bare frame.
Prepn: Remove panels.

Test: Apply horizontal load at top. Measure horizontal deflections and changes in length of panel diagonals. Test to failure.

TEST 4A — BEAM RIBS, FIRST FLOOR, SOUTH-EAST

Object: Stiffness and ultimate strength of ribs of —
(a) beam framing into columns at each end.

(b) beam framing into column at one end and beam at other end.

Prepn: Cut through slabs on each side of beam ribs. Build cribs under beams. Fit deflectometers, strain gauges and loading jacks.

Test: Apply loads and measure deflections and strains. Test to failure.

TEST 4B — BEAM, FIRST FLOOR, NORTH-EAST

Object: Stiffness, effective flange width, and ultimate strength of: —
(a) beam framing into columns at each end.

(b) beam framing into column at one end and beam at other.

Prepn: Build cribs under beams and slab between. Fit deflectometers, strain gauges and loading jacks.

Test: Apply loads by jacks (or load slab with rail chairs). Measure deflections and strains. Test to failure if possible.

TEST 5 — SLABS, ALL FLOORS

Object: Ultimate punching shear strength of slabs.

Test: Punch through slabs all round building at spacing of at least 20 x slab thickness. Measure failing loads.

TEST 8 — STAIRS

Object: Stiffness and strength of stairs.

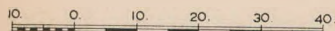
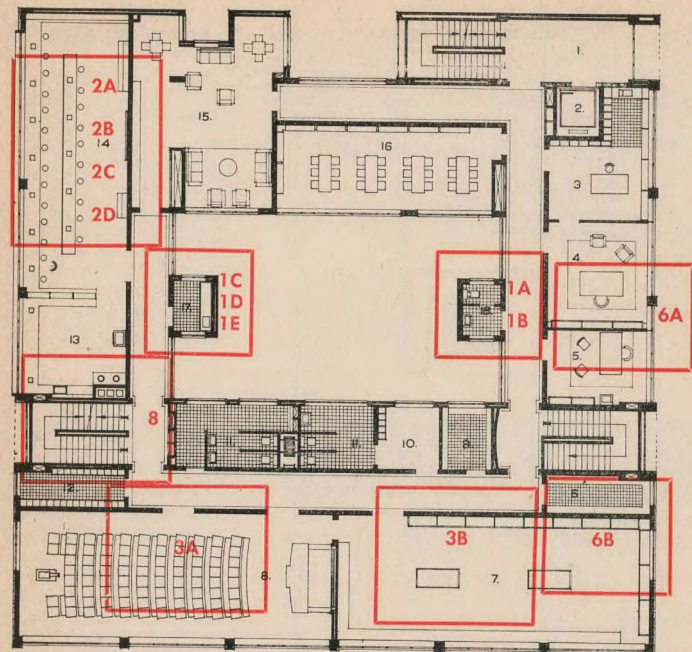
Test: To be carried out by Mr. Liebenberg, U.C.T.

SECOND FLOOR

LEGEND

1. Stair Hall,
2. Lift,
3. Secretary,
4. Director,
5. Staff Room,
6. Store,
7. Museum,
8. Lecture Theatre,
9. Store,
10. Women Students' Retiring Room,
11. Students' Lavatories,
12. Locker Room,
13. Preparation Space,
14. Histology Laboratory,
15. Students' Common Room,
16. Library,
17. Tea Kitchen,
18. Staff Lavatory.

Areas of tests are shown by numbered red squares.



TEST 2A—ONE-WAY SLAB, SECOND FLOOR, SOUTH-WEST

Object: Distribution of point loads on slab with restrained end.

Prepn: Mark loading points on slabs. Fix hooks under slab for deflectometers. Fit deflectometers and strain gauges.

Test: Apply point load (within working range) at series of points along centre line, quarter-span line and three-quarter-span line. For each loading point measure deflections and, in few cases, strains.

TEST 2B—ONE-WAY SLAB, SECOND FLOOR, SOUTH-WEST

Object: Distribution of point loads on slab with free end.

Prepn: Cut through slab along beam 69.

Test: As for Test 2A.

TEST 2C—ONE-WAY SLAB, SECOND FLOOR, SOUTH-WEST

Object: Distribution of line load; ultimate strength.

Prepn: Cut through slab between columns 13 and 14. Build crib of sleepers below slab. Fit deflectometers, strain gauges and loading gear.

Test: Apply line load in direction of span at middle of slab. Measure deflections and strains near load. Test to failure.

TEST 2D—ONE-WAY SLAB, SECOND FLOOR, SOUTH-WEST

Object: Ultimate strength for distributed load.

Prepn: Cut through slab between columns 29 and 30. Build crib below slab. Fit deflectometers and strain gauges. Mark out slab for loads. Rail chairs to be available.

Test: Apply uniform load using rail chairs. Measure deflections and strains. Test to failure.

TEST 3A—TWO-WAY SLAB, SECOND FLOOR, SOUTH-EAST

Object: Ultimate strength for distributed load on one interior panel.

Test: Apply uniform load on panel using rail chairs. Measure deflections and strains. Test to failure.

TEST 3B—TWO-WAY SLAB, SECOND FLOOR, NORTH-EAST

Object: Ultimate strength for distributed load on two adjacent panels.

Test: Apply uniform load on both panels using rail chairs. Measure deflections and strains. Test to failure.

TEST 6A—WALLS ON ONE-WAY SLAB, SECOND FLOOR, NORTH

Object: Load on slab and stiffening effect of panel walls (one complete and one with door).

Test: Apply loads as close as possible to walls; measure deflections and strains. Remove walls. Repeat test.

TEST 6B—WALLS ON BEAMS, SECOND FLOOR, NORTH-EAST

Object: Load on beams due to walls (one complete and one with door).

Prepn: Fit deflectometers and strain gauges.
Test: Measure deflections and strains. Remove walls. Measure deflections and strains. Apply loads in lieu of walls. Measure deflections and strains.

TEST 7—SLABS, SECOND FLOOR

Object: Determination of size, spacing and cover of reinforcement by radio-photography.

Test: To be carried out by S.A.B.S.

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