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The Faculty of Architecture of the Witwatersrand, Johannesburg and its role in the community

Bryer, Monte

1977

Faculty of Architecture of the University of the Witwatersrand, Johannesburg

http://hdl.handle.net/10539/8265

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THE ESTABLISHMENT OF THE SCHOOL OF ARCHITECTURE AND QUANTITY SURVEYING

The establishment and development of the Wits School of Architecture and Quantity Surveying and subsequently of the Wits Faculty of Architecture are closely intertwined with the development of the Witwatersrand region and of the great city whose name is part of the University's official title, the University of the Witwatersrand, Johannesburg.

The economic reconstruction following the end of the South African War in 1902 engendered much building and re-building, particularly in Johannesburg which, based as it was on its gold mines, was the focus of economic activity. It was here in an air of optimism and confidence in the future of this mining town that architectural education and training in South Africa were first instituted on a formal basis. In 1905 classes in Architecture and Building were held at the Transvaal Technical Institute. This was the successor to the South African School of Mines and Technology which had been founded in Kimberley in 1896 and was transferred some eight years later to a group of temporary wood and iron buildings, formerly the municipal offices, in Eloff Street, Johannesburg, to which, on a site now part of the present Attwell Gardens for the Blind, was added a corrugated iron structure affectionately nicknamed the "Tin Temple". Classes were conducted in the Tin Temple as part of a new programme of architectural training which, because the students all worked as assistants in architects' offices, was part-time. But so effective were the courses of study that according to Geoffrey Eastcott Pearse, who as a student pursued them in those early days and who was later to become the first Professor of Architecture in South Africa, they were "the foundations of architectural training in Johannesburg".

The new training programme, however, barely survived the inimical conditions of the post-South African War years in this financially rich and avaricious but culturally poor boom town and, due to inadequate facilities and demoralization of the teachers, many students left to complete their education and training overseas.

With the passing of the Transvaal Architects Act in 1909 the Association of Transvaal Architects was brought into being as a statutory body, as much, it would seem, for altruistic as for self-interested reasons, as, indeed, its subsequent history has shown. One of its first concerns was for the education of its future members. So it turned for assistance to the South African School of Mines and Technology, which in 1910 succeeded the Transvaal University College, this being the new name that was given in 1906 to the Transvaal Technical

Institute previously referred to. The outcome was that in 1911 a four-year academic course and the holding of annual examinations were instituted and a four-year period of practical and professional experience after the academic period was required as a prerequisite for registration. Several local architects and quantity surveyors, notably, W Lucas, S C Dowsett, P J Hill, W G Gibson, R Howden and A J Marshall, assisted the School as teachers and examiners and the courses progressed until the outbreak of the First World War in 1914. This brought architectural development and education to a halt in Johannesburg as in the rest of the country, for there was little if any development until the end of the War in 1918 and practically all of the students had left on active service.

But despite the national anxieties and preoccupations due to the First World War, it was during the war years that decisive steps were taken towards the achievement of university education in Johannesburg and on the Witwatersrand. Contrary to Government policy at the time in establishing new universities, the people of Johannesburg and the Reef felt that facilities for higher education in the form of a University and not merely of a School of Mines and Technology were essential to a region which not only had the largest concentration of white population but was the main source of the country's wealth. As the result of overwhelming popular demand plans were set afoot in 1916 for the expansion of the South African School of Mines and Technology with the view to preparing it for university status and to converting it as soon as possible into the University of the Witwatersrand, for which a site some 33 hectares in extent at Milner Park had already been granted by the Town Council of Johannesburg. To this end a widely representative Witwatersrand University Committee of 72 members was formed and at the beginning of 1917 it appealed to the people of Johannesburg and the Reef for financial support. The response was such that in 1918 an architectural competition was held for the layout of Milner Park as a university campus and two years later, by an Act of Parliament, the South African School of Mines and Technology, which in 1916 had been incorporated in the University of South Africa, became the University College, Johannesburg. Finally, in 1921, the University of the Witwatersrand was established by an Act of Parliament which came into operation on 1st March 1922.

As one of the statutory bodies with a representative of its own on the Witwatersrand University Committee, the Association of Transvaal Architects was actively involved in this achievement. And although architectural classes had once again been re-started at the South African School of Mines and Technology in 1910 and there were 21 architectural

students there by 1920, it was clear to the profession as a corporate body that its educational needs could only be satisfied by means of a permanent organization such as a university. With this aim in view and with the generous support of its members - they contributed £ 1000 - it prevailed on the University College, Johannesburg, to establish a Chair of Architecture. And so, early in 1921 and within a period of less than six years, the first Chair of Architecture and, indeed, also the first university School of Architecture and Quantity Surveying in South Africa were brought into being at Wits. At the same time, G E Pearse, who in 1920 had returned to Johannesburg to practise, after serving with distinction in Mesopotamia, Egypt and India during the First World War, was appointed as the first Professor of Architecture in South Africa. Within the first year of its existence the University of the Witwatersrand embraced six Faculties, namely, Arts, Science, Medicine, Engineering, Law and Commerce and, as Professor Pearse believed that civil engineering and architecture were closely allied as professions, he chose the Faculty of Engineering as the one in which his School should become a constituent but autonomous Department, namely, the Department of Architecture, quantity surveying then being constituted as a branch of this Department, until the School gained the status of a Faculty in its own right in 1940, when quantity surveying became a division or sub-department of the Faculty of Architecture.

THE DEVELOPMENT OF THE SCHOOL OF ARCHITECTURE & QUANTITY SURVEYING FROM 1921 UNTIL THE SECOND WORLD WAR

Classes were conducted in an austere room in the Tin Temple where, according to Professor Pearse, "we lived in a dusty atmosphere with cats having kittens regularly under our studio... and constant visitors in the form of hoboes" and where, according to Rex Distin Martienssen who enrolled as a first year student in March 1923 and who was to become a celebrated teacher in the School, "rain often spoilt our drawings, the windows rattled and dust covered everything, but the atmosphere of something new to be discovered and the enthusiasm for the intricacies of an exciting art overcame such minor physical disabilities". The total number of students in the School in its first year, that is, in 1921, was four, of which one was a full-time degree student and the rest part-time students. Professor Pearse was the only full-time member of the staff and he was assisted by three part-time teachers, R J Heir (building construction), H W Spicer and F Williamson (architectural design), to whom a fourth, G E Gordon Leith (architectural design), was added in 1922. These teachers were local members of the architectural profession who were determined to ensure

that education at the new-born School would be properly and adequately maintained. Their support was augmented by contributions from Lady Phillips, to whose remarkable role as a patroness of the arts the Johannesburg Art Gallery, inter alia, bears witness, from D M Burton, one of the fathers of the Institute of South African Architects when it was established as a national statutory body in 1927 by an Act of Parliament which unified the professions of architecture and quantity surveying, and from the Witwatersrand Council of Education. These contributions enabled the architectural library of the late J M Solomon, an eminent Cape architect, to be acquired for the School and to become the nucleus of its library which was soon effectively increased by one of the University's great benefactors, Howard Pim.

From these modest beginnings at Wits an advance in architectural and quantity surveying education in this country was made which culminated in 1928 in the establishment of such education, and also of qualifying examinations, solely as a university function. With this achievement South Africa won the distinction of being the first country in the world to establish professional education and examinations in architecture and quantity surveying as a system founded solely on a university basis. Indeed, it is only in recent times that the far older system of pupilage, whereby architects and quantity surveyors in other countries, notably, for example, Great Britain, acquired their training in the offices of private practitioners, has been superseded by university education. And even today professional education and examinations in architecture and quantity surveying in a technologically advanced country such as Great Britain have not as yet been made entirely and solely a university function.

Within less than three years of the establishment of the School of Architecture and Quantity Surveying as a department in the Faculty of Engineering at Wits there were no less than ten teachers who lectured to the first-year students in architecture. These teachers and the subjects they dealt with were as follows :-

Professor G E Pearse	Design
	Construction
	The History of Architecture
	The History of the Fine Arts
Professor J P Dalton	Mathematics
Professor H le May	Applied Mathematics

Professor J A Wilkinson	Chemistry
Professor H H Paine	Physics
Professor L F Maingard	French
Mr J Drysdale	Geometrical Drawing
Mr A Gyngell	Freehand Drawing
Mr J E Kerrich	Mathematics (tutorial)
Mr G T R Evans	Physics (tutorial)

Mr Gyngell was the well known South African artist and in later years Messrs Kerrich and Evans were to become professors at Wits.

By 1924 the duration of the degree course in architecture at Wits had been extended from four to five years and the requirements for a Master's degree had been established, not only in order to gain parity in status with the British University Schools of Architecture but also with the view to achieving recognition by the Royal Institute of British Architects which was regarded throughout the world as being the most august of all architectural institutions.

Moreover, in 1924 a five year diploma course in architecture for part-time students had been arranged to commence in 1925 to assist those students working in offices who could not afford a full-time course and also to replace the Architects' Registration course. There were now a total of 31 students in the School of whom 7 were enrolled for the degree and 24 for the diploma in architecture.

In the process of evolving a curriculum for these courses the School was instrumental in 1922 in instituting a course in the History of the Fine Arts as part of the Arts course at Wits and thereby introduced a relationship between architecture and the plastic arts which duly emphasised that architecture was not merely a profession but an art and which was also to have a profound effect both on the teaching of architecture at Wits and, later, on architecture and art intrinsically in Southern Africa.

The influence of the School soon spread beyond Johannesburg and the Witwatersrand. For when a School of Architecture was established at the Natal Technical College in Durban in 1924, this was accomplished under the aegis of the Wits School of Architecture and Quantity Surveying. And when the School in Durban was later taken over by the Natal University College which eventually, in 1960, became the University of Natal, their students were by arrangement enabled to write the third and fifth year examinations

at the Wits School for the Certificate in Architecture and also for the Certificate in Quantity Surveying. These Certificate courses were instituted in 1932 to cater for external students in South Africa and Rhodesia and were available to part-time students in areas outside the Witwatersrand and Pretoria, the position in regard to the School of the Natal University College being that whereas part-time or extra-mural students of the Universities of the Witwatersrand and Pretoria could take the courses leading to the Diploma in Architecture and the Diploma in Quantity Surveying, part-time or extra-mural students in areas outside the Witwatersrand and Pretoria could only take the Certificate in Architecture and the Certificate in Quantity Surveying courses at the Universities of the Witwatersrand and Pretoria, whilst part-time or extra-mural students both resident and non-resident in the Cape Peninsula could take the Certificate in Architecture course at the University of Cape Town. The University of the Witwatersrand was first, however, in withdrawing the Certificate courses in architecture and quantity surveying, which it did in 1951, its aim already at this stage being to eliminate part-time education and training in architecture and quantity surveying.

By the fourth year of its existence the work and educational demands of the School had increased to such an extent that despite the courageous efforts of the part-time teachers to cope with them, it became necessary to augment the full-time staff which until then had consisted only of Professor Pearse. A full-time senior lecturer in the person of A S Furner was accordingly appointed in 1925. This important step, which had a most stimulating academic effect on the School due to the calibre of A S Furner both as a teacher and as a man of wide culture, coincided with the School's move from the Tin Temple to the Wits campus at Milner Park, where part of the new Central Block had that year been completed and opened by the Prince of Wales and where, to begin with, the School was accommodated in the Science Block, a building with a Tuscan colonnade across its north facade and situated immediately to the north-east of the Central Block.

Architectural and quantity surveying education in the Transvaal at this time was centred in Pretoria as well as in Johannesburg, courses in architecture and quantity surveying being available at the Pretoria Technical College, where students in architecture received their instruction under the aegis of the Wits School and took the Diploma course in architecture of the University of the Witwatersrand. This situation was unsatisfactory to the architectural and quantity surveying professions as corporate bodies, and in 1929, as a result of representations made to the Transvaal University College in Pretoria by the Central Council

of the Institute of South African Architects which had been established by an Act of Parliament two years previously and which incorporated the Chapter of South African Quantity Surveyors, a Department of Architecture and Quantity Surveying was established there in 1932 in the Faculty of Science under Professor H Bell-John, an architect and quantity surveyor who was the Chief Engineer in the Public Works Department. Meanwhile, in 1930, the Transvaal University College had become the University of Pretoria and in 1931 at a meeting with the University of the Witwatersrand it was jointly decided by the two universities to centralise architectural education at Wits and quantity surveying education at the University of Pretoria and that degrees and diplomas in architecture should be awarded by Wits and degrees and diplomas in quantity surveying by the University of Pretoria. The lectures in quantity surveying at Wits were given by Professor Bell-John who served as a part-time lecturer there from 1930 until the end of 1942. He was in charge of the branch of quantity surveying in the Department of Architecture whilst the latter was a constituent Department of the Faculty of Engineering and he was also in charge of the division or sub-department of Quantity Surveying as a discipline in the Faculty of Architecture which was established in 1940. The lectures in architecture at the University of Pretoria were given by members of the teaching staff of the Wits School of Architecture and it was not until 1943, when a Chair of Architecture was first established at the University of Pretoria, that full responsibility for architectural education was transferred from Wits to the University of Pretoria and that each university assumed full reponsibility for education in both architecture and quantity surveying. These developments were sponsored by the architectural and quantity surveying professions as a corporate body, namely, the Institute of South African Architects, the policy of its Central Council being to concentrate education at the university as the ideal centre for this purpose. Professor Pearse's influence on the Central Council's educational policy was effective especially in that the Central Council invariably supported the university as the ideal centre for architectural education, despite the pressures exerted by the Technical Colleges and the Government at all levels, notably through the respective departments of works and also by that part of the architectural profession itself which sought to produce assistants rather than competitors. As the result of this support and the Wits School's close connections with the Natal and Pretoria Schools of Architecture, the University of the Witwatersrand was placed in the position of playing a predominant role in the development of architectural education in South Africa. And, what is more, its strategic position in the city and the region of greatest building activity in this country enabled it to exert a dominant influence on the development of architecture in Southern Africa.

Meanwhile the students themselves had acted with a view to furthering the development of their School by forming a Students' Architectural Society in 1925. This was an occasion of far-reaching consequence because from then on the Society played a very important part in the progress of the School and, indeed, also in the development of architectural thought in South Africa.

From then on, too, the School's library was made available to the architectural and quantity surveying professions for reference purposes and in 1928 it was augmented by the architectural library of the Transvaal Provincial Institute of Architects as a token of that Institute's appreciation and also by a gift from the Carnegie Corporation consisting of 350 books on architecture and the fine arts, 850 mounted photographs of architecture, paintings and sculpture, a case of etchings and engravings and some 2000 reproductions in colour of works of art in the Metropolitan Museum of New York, to the value of about £ 1,000.

By this time there was a total of some 50 students in the School of whom 22 were degree students. And in 1927 the first degree in architecture in South Africa was awarded to H C Tulley and, in 1928, the second to W G McIntosh, both of whom had fathers who were architects.

Professor Pearse was then Dean of the Faculty of Engineering and, with the invaluable assistance of A S Furner, had succeeded in raising the quality and status of the School of Architecture to the extent that in 1927 the degree course was recognised and the diploma course was partially recognised by the Royal Institute of British Architects, which meant that all holders of the Wits Degree in architecture qualified for election as Associates of that institution and that all holders of the Wits diploma in architecture could do so on submission and approval of a thesis. Only three of the eight Schools of Architecture in Britain at that time were so recognised and the University of the Witwatersrand shared the honour of recognition with only two universities outside Britain, namely, the University of Sydney, Australia, and McGill University, Canada. In the following year the Wits School of Architecture won the further honour of a visit by the famous British architect Sir Herbert Baker, who before all others was responsible for the revival of the tradition of South African architecture which had been established by the Dutch settlers in the 17th and 18th centuries. As a newly qualified young architect in 1912, Professor Pearse had worked for him for a short time in Johannesburg. Baker had every reason to remember this erstwhile assistant of his, for Pearse was not only one of the most constant admirers of his

work but also one of his chief disciples in furthering the cause of architecture and the ancillary arts in South Africa. On this occasion as on another occasion some six years later, that is, in 1934, Baker showed his appreciation of Pearse's work in pioneering architectural education in South Africa by delivering a stimulating address to the latter's students at the Wits School of Architecture.

In 1929 the number of degree students increased to 29 of whom almost two-thirds were in the first two years of the course. In the three preceding years the School had already far outgrown its accommodation and educational facilities. But it was not until 1930 that the necessary accommodation and facilities became available, when the School moved into a portion of the upper floor of the Engineering Block which was completed at the end of 1925 as a twin building of the Science Block and which is situated immediately to the north-west of the Central Block.

It was here and in 1930 that the present writer became a first-year degree student in architecture, when the degree course was of five years' duration. At the time it consisted of the following :

> Architectural Design, in every year of the course, which commenced with first year students having to carry out and complete six sheets of freehand drawing, one sheet of ornament and three sheets of the Orders, namely, the Greek Doric and Ionic and the Roman Corinthian, and ended with fifth-year students having to work out a design with small-scale drawings and details accompanied by a report and specification, this being in the nature of a thesis which was required before the final examination was allowed to be taken;
> Geometrical Drawing, Freehand and Life Drawing, Physics, Mathematics and short courses in Chemistry, Geology, German or French, English or Afrikaans, in the first year, Mathematics then being an optional subject, with the History of the Fine Arts, Ancient Life and Thought, or a Modern Language as alternatives;
> Land Surveying, in the second year;
> Building Construction, in each of the first three years and in the fifth year;
> the History of Architecture, in each of the first three years;
> the Theory of Structures, in each of the second and third years;
> Sanitation and Hygiene, the Strength of Materials, Interior Decoration and Furniture, in the third year;

> Specifications, Estimates and Quantities, Town Planning and Professional Practice, in the fifth year.

The fourth year consisted of practical and professional experience in the office and under the control and guidance of an architect in South Africa, its purpose being to inculcate a proper sense of professional conduct and responsibility at the most appropriate time in the course.

This was an admirable course, comparable with that of other leading institutions for architectural education and training in the world, particularly in that its scope far exceeded the narrow limits of professional specialism and enabled would-be architects to be prepared as far as possible and within as short a time as possible to cope with the problems, both known and unknown, which they would encounter in their professional lives. This educational aim alone would account for the experimental work and individual expression which became a characteristic feature of the School and, indeed, would also very largely account for most if not all of the notable changes which have been brought about in the architecture of this country, especially by graduates of Wits practically from the time when its School of Architecture first started producing them.

Indeed, the School's education training and examinations had become so sound and effective by this time that in 1931, under the devolution scheme of the Royal Institute of British Architects, whereby in the previous year that Institute withdrew its examinations for membership thereof from South Africa and vested its authority in the Institute of South African Architects which was affiliated to it and which was its largest Overseas Allied Society, the University of the Witwatersrand together with the University of Cape Town became the examining authority in South Africa for the Associateship of the Royal Institute of British Architects.

Unfortunately for the School, A S Furner, who had done so much to raise its standards and tone and who had resigned in 1928 to go into private practice in Johannesburg, was succeeded by T J Lloyd who was not forceful enough to enable these standards to be upheld and maintained and who returned to the United Kingdom in 1931 to take up a teaching post there.

Meanwhile, Rex Martienssen had graduated from the School and qualified as an architect

in 1930 and in the following year he became a teacher in the School, although it was not until 1934 that he was officially appointed as Lecturer in Architecture. At about the same time, that is, in 1931, Professor Pearse was awarded a Carnegie Grant and given six months' leave from the University to study architectural education in the USA, Canada, and Europe and his former Senior Lecturer, A S Furner, was appointed acting Head of the Department of Architecture for the period of Pearse's absence. It was in this year too, that W G McIntosh was awarded the Wits Diploma in Quantity Surveying and so became the first university-trained architect in South Africa to qualify also as a quantity surveyor so trained. Two years later J Fassler joined the staff of the School as an assistant lecturer and in 1937 W D Howie and W de S Hendrikz became teachers in the School, the latter as Lecturer in the Fine Arts, all of these men having been outstanding students there.

In 1939 Rex Martienssen was awarded the Master's degree in architecture at Wits for his thesis "Constructivism", an analysis of contemporary architecture and construction in Europe, and so became the first South African architectural teacher and also the first South African architect to be awarded a Master's degree in architecture. The School now moved to part of the uppermost floor of the Central Block where the teachers were accommodated in the east wing and the students in neighbouring studios overlooking the city to the south.

During the eighteen-year period from 1922 to 1940 the School produced 39 architects with degrees and 82 architects and quantity surveyors with diplomas. These were by no means spectacular figures, especially in comparison with the total output of graduates in other professional fields during this period, for example, 640 engineers, 464 doctors, 135 lawyers and 47 dentists. But such figures were proof, if proof were needed, that Wits had indeed more than met the demand for higher education which had been one of the basic reasons for its having been brought into being in the first place.

THE ESTABLISHMENT OF THE FACULTY OF ARCHITECTURE AND ITS DEVELOPMENT TO DATE

The School of Architecture had made steady if unspectacular progress throughout the years since its inception and in 1939 Rex Martienssen urged that it be promoted to the rank of a separate Faculty. Speaking as the President of the Transvaal Provincial Institute of Architects at the School's fifteenth annual exhibition and prize-giving at which he presented the prizes, he said "The School of Architecture has progressed and consolidated its experiments.

It has proved its place in the University and should, I think, emerge from its position as ancillary to the Faculty of Engineering. Professor Pearse, with due weight and consideration, I suggest that steps be taken to convert the School into a separate Faculty. You are justified by achievement, you are justified by numbers, and I think, now that your courses are in full swing, you should obtain promotion for the School and in a Faculty of Architecture show not only the University which houses you, but the profession that watches your development, that the Department has grown up and is worthy of full status."

Professor Pearse was thus encouraged to exert his own considerable influence in the University and, in 1940, that is, at the end of the second decade of its existence, the Department of Architecture and Quantity Surveying, which up till then had been a department in the Faculty of Engineering, was raised to the status of a Faculty in its own right, this being constituted as the Faculty of Architecture, with an enrolment of 95 students in all and a teaching staff of 1 professor, 4 full-time lecturers and 1 part-time lecturer. Accordingly, the B Arch and M Arch degrees were transferred from the Faculty of Engineering to the Faculty of Architecture, the B Sc (Engineering) in the Branch of Quantity Surveying was discontinued and the degrees of D Arch and B Sc in Quantity Surveying were established in the Faculty of Architecture, Quantity Surveying as a discipline in the Faculty then being established as a division or sub-department thereof. And so the Faculty of Architecture became the eighth faculty at Wits and the first faculty of its kind in South Africa. During this year the Central Block was finally completed, including the Great Hall which enabled graduation ceremonies to be held on the Wits campus instead of, as hitherto, in the City Hall.

In 1941, the year after the requirements for the degree of Doctor of Architecture had been instituted, Rex Martienssen was awarded the degree of Doctor of Literature at Wits for his thesis "The Idea of Space in Greek Architecture" and so became the first South African architectural teacher and, indeed, also the first South African architect to be awarded a doctoral degree. In that year, too, his wife Heather Martienssen joined the staff as a Junior Lecturer in the Department of Architecture. 1941 was an important year for the Faculty of Architecture also because as many as 16 of its students were awarded B Arch degrees by the University in that year. But perhaps the most outstanding event of that year as far as the Wits Faculty of Architecture was concerned was that the Architects' Registration Council of the United Kingdom, which was established under the Architects' (Registration) Act of 1931, gave full recognition to the courses for the degree, diploma and