Centenary Book
1920 – 2020

Faculty of
Veterinary Science
Fakulteit Veeartsenykunde
Lefapha la Disaense tša Bongakadiruiwa

100 YEARS
OF VETERINARY EDUCATION

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Faculty of Veterinary Science Centenary Book 1920 – 2020

Sir Arnold Theiler

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

100 YEARS OF VETERINARY EDUCATION

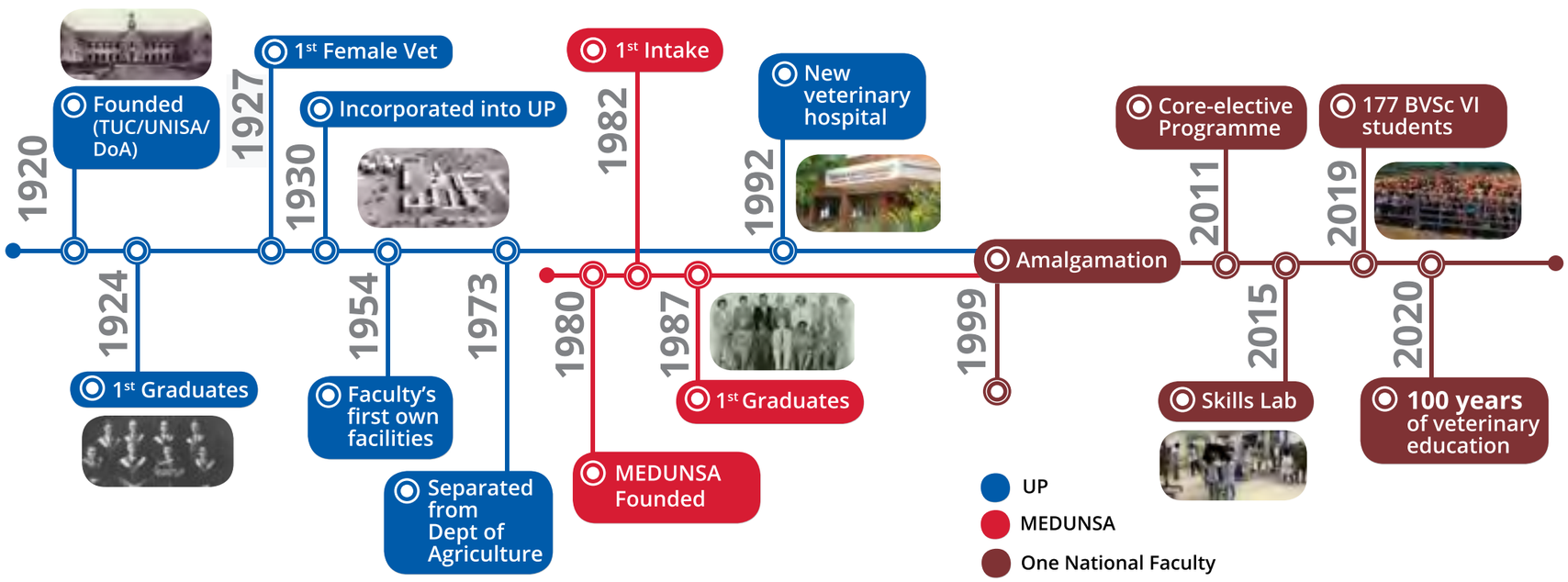
100 Years of Veterinary Education
Part 1: Training of the first veterinarians in South Africa

MESSAGE FROM THE DEAN

2020 marks an immense achievement for veterinary science in South Africa, as it marks the 100th year since Prof Sir Arnold Theiler admitted the first 8 veterinary students into the Bacteriology Laboratory and the Transvaal University College.

Since then, our fledgling faculty has grown from strength to strength with currently over 1500 students in two undergraduate and various post-graduate programmes. The Faculty has also progressed from using the Facilities of the Onderstepoort Bacteriology Laboratory to its own integrated campus and a satellite campus near the Kruger National Park. Training has also progressed from undergraduates to also including post-graduate specialist programmes. The Faculty has also become a world-class research facility that exemplifies our beginnings at the world-renowned Onderstepoort Bacteriology Laboratory, as evident by our top 50 placing in both the current veterinary rankings. As the country moves into the next century of veterinary education, the Faculty is undoubtedly ready for the challenges ahead.

100 YEARS OF VETERINARY EDUCATION IN SOUTH AFRICA



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

MEDICAL UNIVERSITY OF SOUTHERN AFRICA
MEDUNSA

Transvaal University College

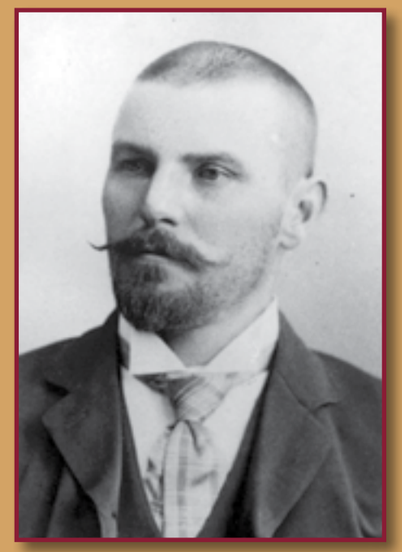
100 YEARS
OF VETERINARY EDUCATION

THE FIRST DEAN

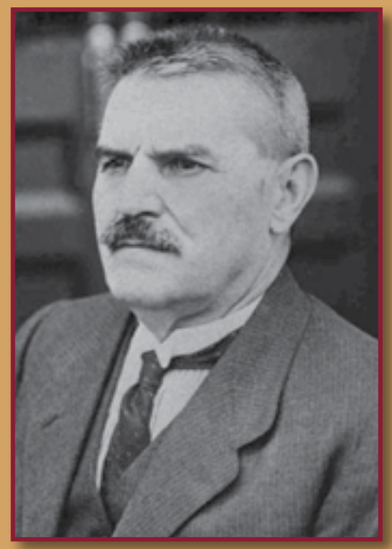
"Arnold Theiler was born in 1867 in Frick in Switzerland and completed his veterinary training in Zürich. Theiler's inspiration for Africa came from his favourite book "Travels into the interior parts of Africa by way of the Cape of Good Hope in years 1780-1785" by Francois Levaillant.

When the Swiss diplomatic representative to the Zuid Afrikaansche Republiek made it known that there was a need for a veterinarian in the Transvaal, Theiler made the move to South Africa. His first venture into disease management was during the smallpox epidemic of 1893, where he was successful in producing calf lymph for human vaccination. Following his success, he was requested by President Kruger to investigate the Rinderpest outbreak of 1896/7. Theiler's work was so well received that he was subsequently entrusted with his own laboratory at Daspoort and later Onderstepoort, both in Pretoria. During his years at Onderstepoort, he was a passionate researcher focusing on babesiosis, theileriosis, African horse sickness and botulism. In 1901 he submitted his research on biliary fever of horses as his doctoral thesis to the University of Berne. He also received an honorary doctorate from UNISA. From his early struggles in becoming acquainted with conditions unique to South Africa, he was very aware of the inadequacy of overseas training, thereby necessitating a South African veterinary school for which he was an advocate. In 1918 he was entrusted with the establishment of veterinary training at Onderstepoort, where he also taught. His students thought of him fondly and he was known for his infectious laughter and being pawky with one student describing him as: "He never drove, he led; he did not lecture, he taught." He retired as Dean in 1927.

Theiler as a student



Theiler as young veterinarian



Director of Veterinary Education

Arnold Theiler

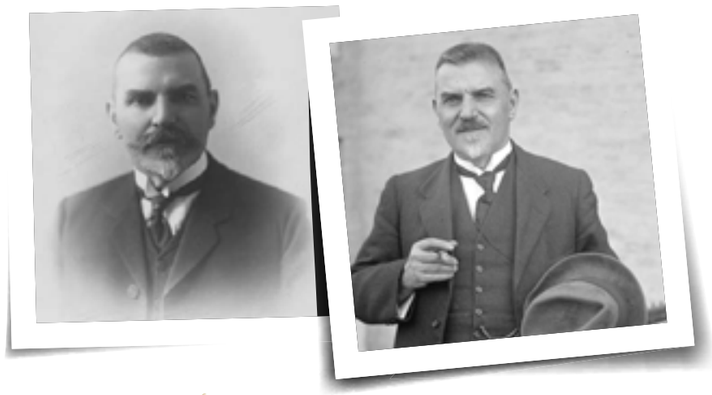
THEILER AT WORK

Theiler working in his laboratory

Theiler producing smallpox lymph

Sir Arnold Theiler's last inspection at Onderstepoort before his departure

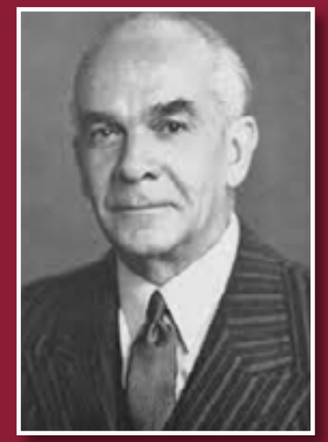
Theiler at the equine stables



Sir Arnold Theiler

THE DEANS: UP

Petrus Johann Du Toit, was born in 1888 in Somerset Strand. He completed his undergraduate training in Zoology at the University of Stellenbosch, his D.Phil. in Zoology at the University of Zürich and his Dr.Med. Vet. at the University of Berlin. He served as Dean from 1927 to 1948. As his time as Dean and Director at Onderstepoort, he was involved as co-worker in the development of polyvalent African horse sickness and bluetongue vaccines, the discovery of *Culicoides* spp. as vectors of these diseases, the development of vaccines against anthrax and botulism, the eradication of the tsetse fly to control nagana and the development of a method for the immunization against heartwater.



Gilles van de Wall de Kock was born in 1889. He completed his veterinary training at the Royal Veterinary College, his Dr.Med.Vet. from Berne and his DSc at the University of Witwatersrand. He served as Dean from 1948 to 1949. He was recognised for his research in conservation, and was known for his work in haematology.

John Isaac Quin was born in 1900 in Klerksdorp, South Africa. He was a member of in the first class of at Onderstepoort, qualifying with honours in 1924. He worked as Professor of Physiology from 1934 to 1950 and at Onderstepoort. He served as Dean and Director of the OVI from 1949 to1950, dying in office before the end of his term. He worked on immunity against anthrax, but his most notable achievement, in conjunction with co-workers, was demonstrating that hepatogenous photosensitizations (such as geeldikkop and *Lantana* poisoning) was were caused by phylloerythrin, a degradation product of chlorophyll.

THE DEANS: UP *continued*

Phillipus Jacobus Johannes Fourie was born in 1894 in Luckhoff, in South Africa. He completed his veterinary training in Dublin, and his Dr.Med.Vet. at Utrecht. He joined the Faculty as a lecturer in Pharmacology in 1925. He served as Dean from 1950 to 1955. His main research focused on Pink Tooth in cattle which is also known as bovine porphyrinuria.

Herman Graf was born in Johannesburg in 1898 and completed his BSc, BVSc and DVSc at TUKS. He joined the Faculty in 1927 and was an expert on dips and dipping. He became Dean in 1956 until his untimely death while still holding office in 1960.

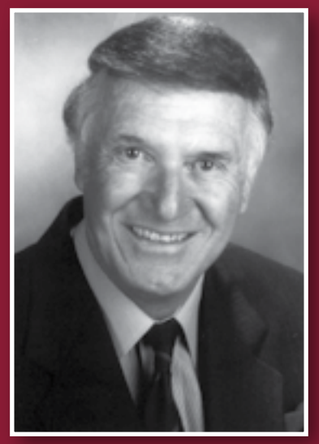
René Michel Du Toit was born in 1904 in Cape Town, South Africa. He obtained his BVSc from UP in 1927 and his DVSc in 1953. He joined the Faculty as a part-time Professor in 1958 and served Dean from 1960 to 1963. His major achievement was demonstrating that *Culicoides spp* serve as vectors of African horse sickness and bluetongue and that cattle may serve as reservoirs of bluetongue virus. He was also part of the campaign with co-workers that led to eradication of tsetse fly *Glossina pallidipes* from Zululand over an area of more than 18000 km2 and investigated value of synthetic organic insecticides for control of various external parasites.

Berend Cornelis (Beb) Jansen was born in 1921 in Middelburg (Cape), South Africa. He obtained his BVSc. (cum laude) from UP in1944. He completed his DVSc at UP in 1960 a DSc at Potchefstroom University in 1966 and his a PhD at the University of Stellenbosch in 1971. He joined the Faculty as Professor of Infectious Diseases and Dean from 1963-1969. He was a dedicated researcher specializing in the field of animal diseases caused by micro-organisms of the *Clostridium* group such as botulism, enterotoxaemia, blackquarter and tetanus. His research on the antigenic reactions of the toxins produced by these organisms and the taxonomic as well as immunological implications contributed to the development of effective vaccines to control these diseases was his most important contribution to veterinary science.

Christiaan Frederik Beyers (Hoffie) Hofmeyr was born in 1916 in Pietersburg (now Polokwane), South Africa. He completed his BVSc, MMedVet and PhD at UP. He joined the Faculty in 1958 as a professor of Surgery and was Dean from 1969 to 1981. He was responsible for discovering the presence of bovine besnoitiosis in South Africa, was the main supporter for the incorporation of the Faculty wholly into the University of Pretoria in 1973, introducing postgraduate specialist MMedVet degrees in 18 different disciplines, and initiating a diploma course in Veterinary Nursing. He published extensively during his time at the Faculty.

Jan Matthys Willem le Roux was born in Riviersonderend in South Africa. He completed his BVSc at UP in 1948 and his DrMedVet in 1950 at Hannover. He joined the Faculty as a senior lecturer in 1956 and was Dean from 1982-1986. While at the Faculty he was responsible for redesigning the anatomy curriculum and how dissections were undertaken. He also produced a South Africa dissection guide that was used by the Faculty for many years thereafter.

THE DEANS: UP *continued*



Rhoderick Ian (Brough) Coubrough was born in 1938 in Johannesburg. He completed his BVSc at UP and completed in MVSc in veterinary reproduction at Guelph in Canada. He started his career at the Faculty in 1964, and was appointed as Dean in 1987, a position he held until 1999. During his term as Dean, the physical facilities at the Faculty were greatly expanded and revamped at a cost of some R125 million. He also led a change in the teaching philosophy to the current model of student-centred veterinary training through the use of problem-solving learning.

Nicolaas (Nick) Petrus Jacobus Kriek was born in 1943 in Pretoria, and completed his BVSc and MMedVet at UP. His academic career started in 1972 while at Onderstepoort when the Faculty was still part of the OVI. He joined MEDUNSA in 1982 where he served as HOD and later as a deputy Dean. In 1999, he became the first Dean of the new National Veterinary Faculty, a role he held till retirement in 2005. During his time at the Faculty he developed a research interest in the pathology of anthrax and tuberculosis in wildlife. During his tenure, the Faculty saw the introduction of the 3+4 programme, and the reorganisation of the Faculty to five academic departments, the creation of a new animal research centre and inclusion of the Hans Hoheisen Research platform into the Faculty's external facilities.

Gerald (Gerry) Edwin (Gerry) Swan was born in East London. He completed his BVSc and MMedVet at UP and his PhD at Potchefstroom University of Christian Higher Education. He joined the Faculty in 1985 as a Senior Lecturer and served as Dean from 2005 to 2014. Under During his tenure, the Faculty passed its first joint accreditation inspection by the RCVS/AVBC and SAVC, the reintroduction of the new 6 year degree with an intake of 190 students, an expansion of the residences and the establishment of a new skills and multidisciplinary laboratory. He has was very active in research in pharmacology and toxicology, his involvement in the Asian vulture crisis being a notable achievement. Prof Swan also played a major role in the establishment of drug regulatory processes at the national Department of Health.

Darrell Abernethy was born in 1962 in Kitwe, Zambia. He obtained his BVSc degree at Onderstepoort, MSc in Social Sciences from Queens University in London, a Postgraduate Diploma in Epidemiology from the London School for Hygiene and Tropical Medicine in 2002, and a PhD from London University. He served as Dean from 2014 to 2018.

Vinny Naidoo was born in 1977 in Tongaat in KwaZulu-Natal. He completed his BVMCh at MEDUNSA and his MSc, PhD and specialist training in Pharmacology at Onderstepoort. He was acting Dean for much of 2018 until his formal appointment later that year. His main research focus has been drug research and development for the pharmaceutical industry as well looking at measures to mitigate antimicrobial resistance.

DEANS: MEDUNSA

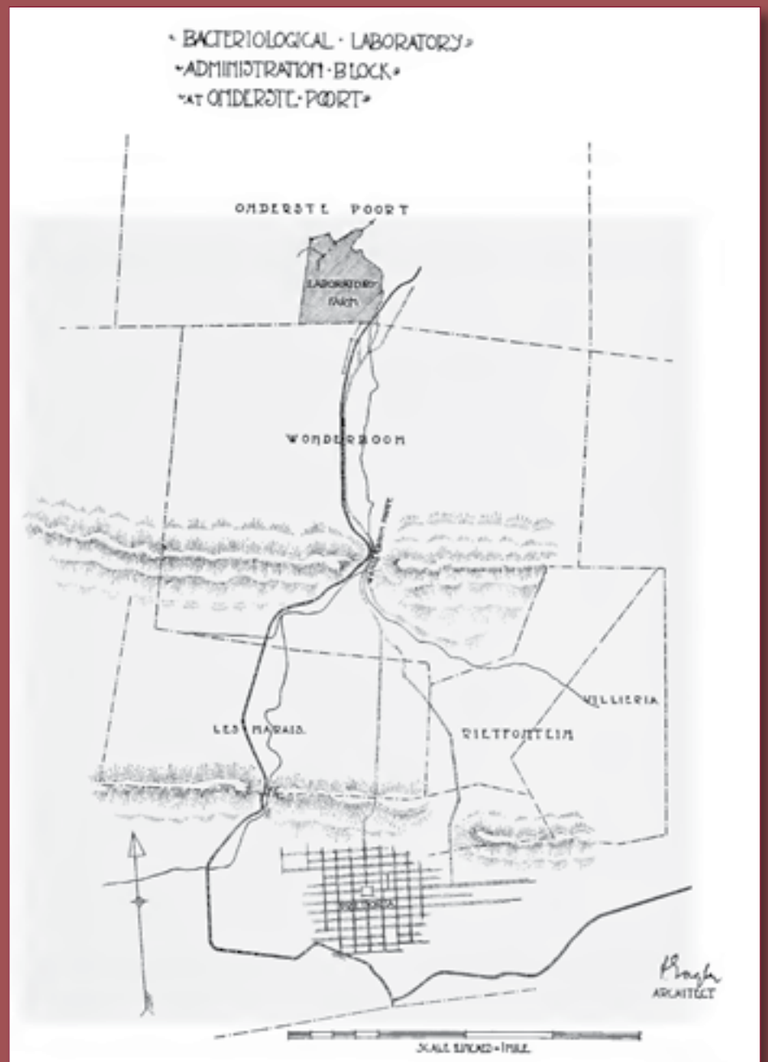
Nevill Owen was born in 1937 in Pretoria. He completed his BVSc, MMedVet (Phys) and DVSc at Pretoria. He became the founding Dean of MEDUNSA in 1980, and was responsible for establishing the academic structure of the new Faculty and all the related training facilities. He served as Dean until 1992, after which he took on the responsibility of Vice-Principal of MEDUNSA.

Morkel Terblanche was born in Pretorian in 1946. He obtained his BVSc and MMedVet (Phys) from Pretoria. He served as Dean of MEDUNSA from 1993 to the amalgamation in 1999. He subsequently served as Deputy Dean of the amalgamated Faculty until his retirement in 2013.

THE ONDERSTEPOORT BACTERIOLOGY LABORATORY AND TUKS STARTS TRAINING VETS

WHY ONDERSTEPOORT?

In 1906 the Transvaal government bought the land at Onderstepoort, north of Pretoria, for £1,500. Theiler chose this location because of its proximity to the capital, its large acreage and its good rail connections. The environment played a role too: Onderstepoort lay in the heart of the Transvaal bushveld where African horse sickness was rife and poisonous plants plentiful.



The original map of the Onderstepoort area

THE PALACE OF LUXURY

Despite the expense, Theiler convinced the then government to invest substantially in veterinary science. As a result of the expense, many felt the cost to be extravagant, and considered the facility a “White elephant”. Despite this, Theiler created a uniquely African veterinary institute that was as well recognised as other laboratories of the time. Even in 1908 when there was no intention to train students, a large portion of the building was designed and set aside for training.

The Theiler Building and floor layout, completed in 1908

TRAINING FACILITIES: 1920

Laboratory for the training of students at a cost of £6500 per annum. In 1920, 8 students were admitted into programme.

One of the lecture halls

Anatomy

Lecture hall

Physical-chemistry laboratory at Daspoort

Laboratory used for student training

PM hall

Horse in theater

The training facilities were planned many years before the first student was enrolled. The facilities were designed to accommodate between 10 and 20 students.

PHILOSOPHY OF THE FIRST SYLLABUS

In establishing the first veterinary syllabus every effort was made to ensure that the students were incorporated into the research activities of the Bacteriology Laboratory as Theiler saw the importance of research in the training of veterinarians. As seen in an excerpt from the 1922 yearbook of student training at TUKS.

Faculty of Veterinary Science. The new block for Biochemistry, Physiology, Pharmacology, and Ecology, was ready for occupation on the opening day of the academic year, and this, together with the divisional post-mortem halls, provided adequate accommodation for the students of the third year. A new pathological block is now in course of erection, and the old main building of the Division is in process of such minor alteration as will meet the requirements of the fourth year students commencing next February.

The old bachelor staff hostel of the Division was placed under the management of the College, and the seven third year students were satisfactorily housed. A larger students' hostel will be erected next year.

The extensive divisional stores have rendered possible a very perfect equipment for student requirements, while the abundant clinical and post-mortem material has offered unprecedented opportunities in methods of diagnosis, pathology, embryology, and bacteriology. The students have also been brought into touch with the official activities of the various research and routine sections of the Division. The wisdom of associating the new Veterinary Faculty with the pre-existing Division of Veterinary Research has now been amply demonstrated, and owing to this association, the training offered is second to none in the world.

The Department of Agriculture has awarded six "loan bursaries" of £50 each, during the current year, to students contracting to accept an offer of Government Service at the conclusion of the curriculum. The bursaries are repayable by reduction from salary in the event of the holders being successful in obtaining Government appointments, but non-repayable if no appointment is offered.

GRADUATION ACHIEVEMENTS

The first 8 veterinarians completed the course in 1924. Under the personal supervision of Theiler, the first female veterinarian completed in 1927.

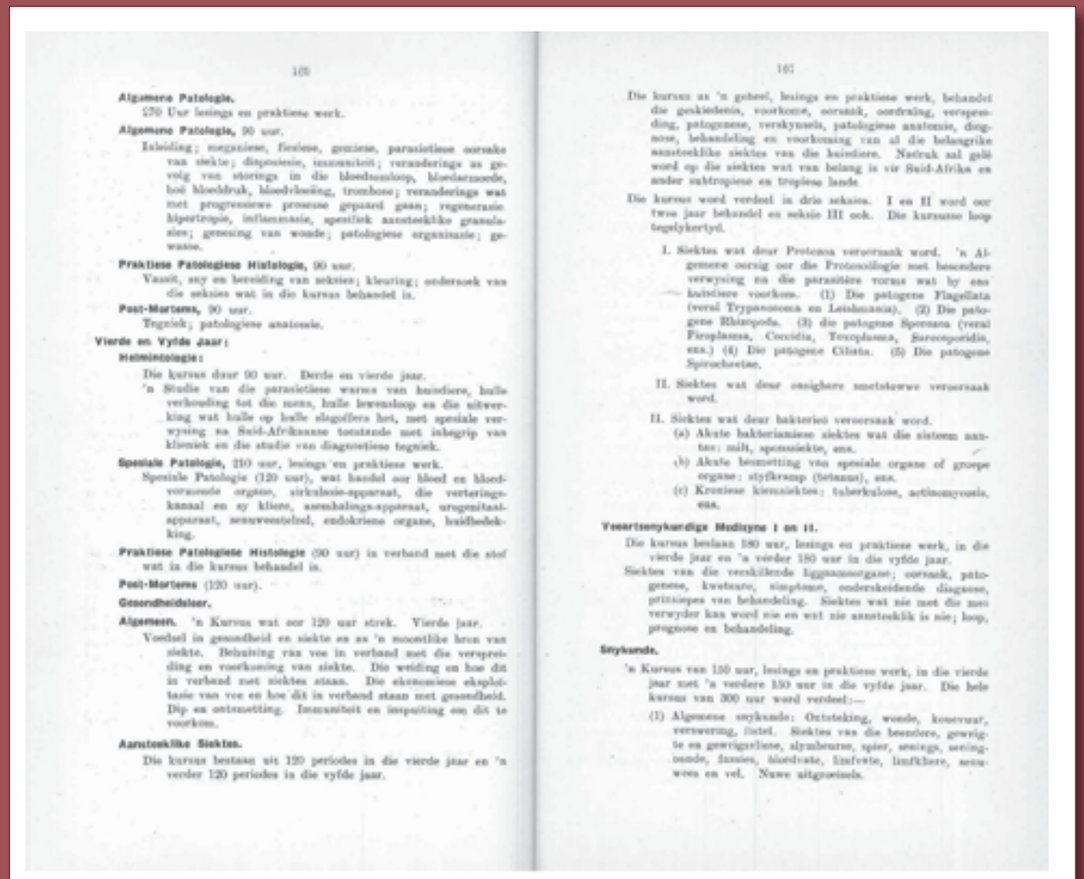
THE RESIDENCES

When the first students were enrolled into the BVSc programme, they stayed in the old bachelor's residence at the Bacteriology Laboratory. The "Old Residence" was opened in 1924, at the top end of the Faculty grounds. The old block catered for 30 students. Accommodation has since been expanded to cater to 650 students, as one of the largest UP residences.

THE OFFICIAL SYLLABUS: 1920'S

The first approved syllabus of the Faculty of Veterinary Science still followed what would can be considered a traditional veterinary syllabus with specific focus on local diseases. The programme was five years long, although only the last three years needed to be completed at Onderstepoort.

The veterinary degree offered in South Africa became only the second medical related degree offered in South Africa, with the first being the MBChB degree introduced by the University of Cape Town only two years prior, in 1918.



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Algemene Patologie.
170 Uur lesings en praktiese werk.

Algemene Patologie, 90 uur.
Inleiding; saganiese, fisiese, geniese, parasitiese oorsake van siekte; disposisie, immuniteit; veranderings as gevolg van storings in die bloedsomloop, bloedarmoede, hoë bloeddruk, bloedvloeiing, trombose; veranderings wat met progressiewe prosesse gepaard gaan; regenerasie, hipertrofie, inflammasie, spesifiek aansteeklike granulasies; genesing van wonde; patologiese organisasie; gewasse.

Praktiese Patologiese Histologie, 90 uur.
Vassit, sny en bereiding van sektes; kleuring; ondersoek van die sektes wat in die kursus behandel is.

Post-Mortems, 90 uur.
Tegniek; patologiese anatomie.

Vierde en Vyfde Jaar:

Helmintologie:
Die kursus duur 90 uur. Derde en vierde jaar.
'n Studie van die parasitiese wurms van huisdiere, hulle verhouding tot die mens, hulle lewensloop en die uitwerking wat hulle op hulle slagoffers het, met spesiale verwysing na Suid-Afrikaanse toestande met inbegrip van kliniek en die studie van diagnostiese tegniek.

Spesiale Patologie, 210 uur, lesings en praktiese werk.
Spesiale Patologie (120 uur), wat handel oor bloed en bloedvormende organe, sirkulasie-apparaat, die verteringskanaal en sy kliere, asemhalings-apparaat, urogenitaalapparaat, senuweestelsel, endokriene organe, huidbedekking.

Praktiese Patologiese Histologie (90 uur) in verband met die stof wat in die kursus behandel is.

Post-Mortems (120 uur).

Gesondheidsleer.

Algemeen. 'n Kursus wat oor 120 uur strek. Vierde jaar.
Voedsel in gesondheid en siekte en as 'n moontlike bron van siekte. Behuising van vee in verband met die verspreiding en voorkoming van siekte. Die weiding en hoe dit in verband met siektes staan. Die ekonomiese eksploitasie van vee en hoe dit in verband staan met gesondheid. Dip en ontsmetting. Immuniteit en inspuiting om dit te voorkom.

Aansteeklike Siektes.
Die kursus bestaan uit 120 periodes in die vierde jaar en 'n verder 120 periodes in die vyfde jaar.

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Die kursus as 'n geheel, lesings en praktiese werk, behandel die geskiedenis, voorkoms, oorsaak, oordraging, verspreiding, patogenese, verskynsels, patologiese anatomie, diagnose, behandeling en voorkoming van al die belangrike aansteeklike siektes van die huisdiere. Nadruk sal gelê word op die siektes wat van belang is vir Suid-Afrika en ander subtropiese en tropiese lande.

Die kursus word verdeel in drie seksies. I en II word oor twee jaar behandel en seksie III ook. Die kursusse loop tegelykertyd.

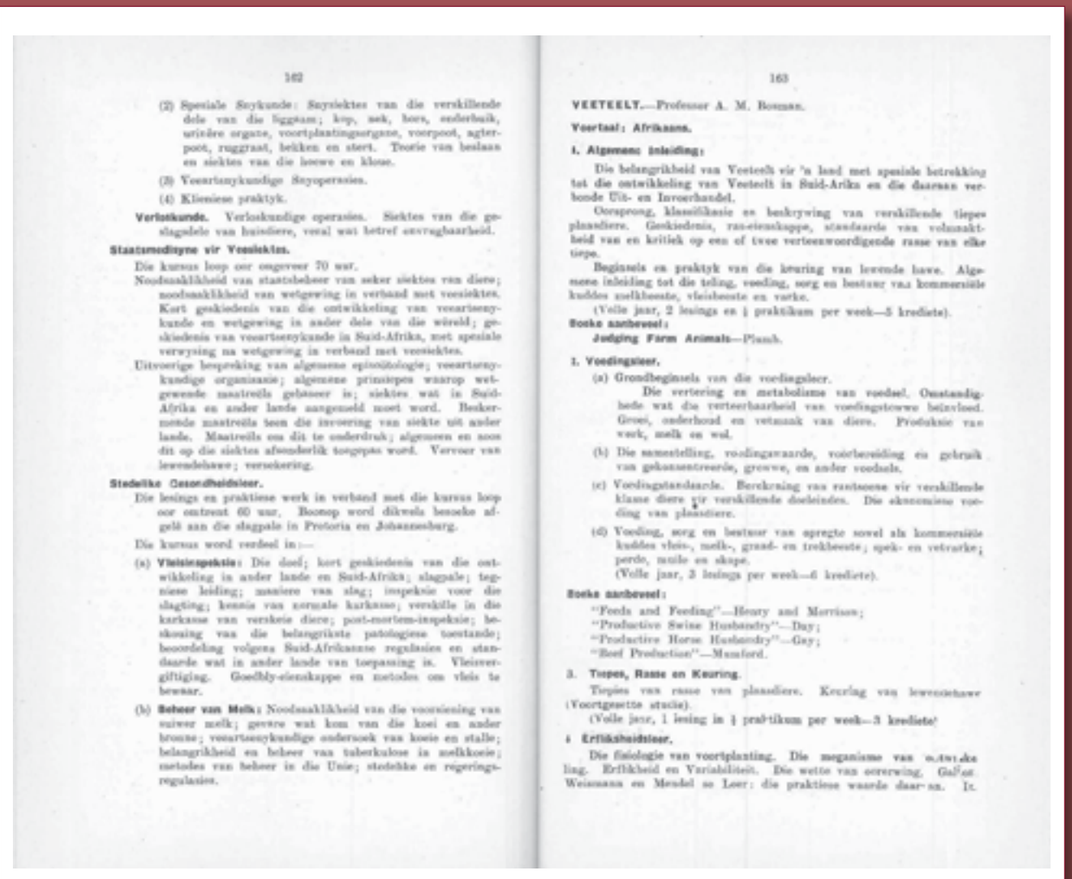
I. Siektes wat deur Protozoa veroorsaak word. 'n Algemene oorsig oor die Protozoëlogie met besondere verwysing na die parasitêre vorms wat by ons huisdiere voorkom. (1) Die patogene Flagellata (veral Trypanosoma en Leishmania). (2) Die patogene Rhizopoda. (3) die patogene Sporozoa (veral Piroplasma, Coccidia, Toxoplasma, Sarcosporidia, ens.) (4) Die patogene Ciliata. (5) Die patogene Spirochaetae.

II. Siektes wat deur enigbare metazoërwe veroorsaak word.

II. Siektes wat deur bakterieë veroorsaak word.
(a) Akute bakteriemiese siektes wat die sisteem aantas: milt, sponsiekte, ens.
(b) Akute besmetting van spesiale organe of groepe organe: stylkramp (tetanus), ens.
(c) Kroniese kiemsiektes: tuberkulose, actinomycosis, ens.

Veeartsenykundige Medisyne I en II.
Die kursus beslaan 180 uur, lesings en praktiese werk, in die vierde jaar en 'n verder 180 uur in die vyfde jaar.
Siektes van die verskillende ligaamsorgane; oorsaak, patogenese, kwetsare, simptome, onderskeidende diagnose, prinsipes van behandeling. Siektes wat nie met die mes verwyder kan word nie en wat nie aansteeklik is nie; loop, prognose en behandeling.

Snykunde.
'n Kursus van 150 uur, lesings en praktiese werk, in die vierde jaar met 'n verdere 150 uur in die vyfde jaar. Die hele kursus van 300 uur word verdeel:—
(1) Algemene snykunde: Ontsteking, wonde, kouevuur, verswering, littel. Siektes van die beendere, gewrigte en gewrigsrieme, slymbeurse, spier, senings, seningsonde, fasies, bloedvate, limfvate, limfkliere, senuwees en vel. Nuwe uitgroeisels.



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(2) Spesiale Snykunde: Snyoperasies van die verskillende dele van die ligaam; kop, nek, bors, onderbuik, urinêre organe, voortplantingsorgane, voorpoot, agterpoot, ruggraat, bekken en stert. Teorie van beslaan en siektes van die hoewe en kloue.
(3) Veeartsenykundige Snyoperasies.
(4) Kliniese praktyk.

Verloskunde. Verloskundige operasies. Siektes van die geslagsdele van huisdiere, veral wat betref onvruchbaarheid.

Staatsmedisyne vir Veesiektes.
Die kursus loop oor ongeveer 70 uur.
Noodsaaklikheid van staatsbeheer van seker siektes van diere; noodsaaklikheid van wetgewing in verband met veesiektes. Kort geskiedenis van die ontwikkeling van veeartsenykunde en wetgewing in ander dele van die wêreld; geskiedenis van veeartsenykunde in Suid-Afrika, met spesiale verwysing na wetgewing in verband met veesiektes.
Uitvoerige bespreking van algemene epizoötologie; veeartsenykundige organisasie; algemene prinsipes waarop wetgewende maatreëls gebaseer is; siektes wat in Suid-Afrika en ander lande aangemeld moet word. Beskermende maatreëls teen die invoering van siekte uit ander lande. Maatreëls om dit te onderdruk; algemeen en soos dit op die siektes afsonderlik toegepas word. Vervoer van lewendehawe; versekering.

Stedelike Gesondheidsleer.
Die lesings en praktiese werk in verband met die kursus loop oor ongeveer 60 uur. Boonop word dikwels besoeke afgelê aan die slagpale in Pretoria en Johannesburg.
Die kursus word verdeel in:—
(a) **Vleisinspeksie:** Die doel; kort geskiedenis van die ontwikkeling in ander lande en Suid-Afrika; slagpale; tegniese leiding; maniere van slag; inspeksie voor die slagting; kennis van normale karkasse; verskille in die karkasse van verskeie diere; post-mortem-inspeksie; beskouing van die belangrikste patologiese toestande; beoordeling volgens Suid-Afrikaanse regulasies en standaarde wat in ander lande van toepassing is. Vleisvergiftiging. Goedkoop-eienskappe en metodes om vleis te bewaar.
(b) **Beheer van Melk:** Noodsaaklikheid van die voorsiening van suiwer melk; gevare wat kom van die koei en ander bronne; veeartsenykundige ondersoek van koeie en stalle; belangrikheid en beheer van tuberkulose in melkkoeie; metodes van beheer in die Unie; stedelike en regeringsregulasies.

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VEETEELT.—Professor A. M. Bosman.

Voertaal: Afrikaans.

I. Algemene Inleiding:
Die belangrikheid van Veeteelt vir 'n land met spesiale betrekking tot die ontwikkeling van Veeteelt in Suid-Afrika en die daaraan verbonde Uit- en Invoerhandel.
Oorsprong, klassifikasie en beskrywing van verskillende tipes plaasdiere. Geskiedenis, ras-eienskappe, standaarde van volmaaktheid van en kritiek op een of twee verteenwoordigende ras van elke tipe.
Beginsels en praktyk van die teuring van lewende have. Algemene inleiding tot die teling, voeding, sorg en bestuur van kommersiële kuddes melkbeeste, vleisbeeste en varke.
(Volle jaar, 2 lesings en 1 praktikum per week—5 krediete).

Boeke aanbevole:
Judging Farm Animals—Plumb.

1. Voedingsleer.
(a) Grondbeginsels van die voedingsleer.
Die vertering en metabolisme van voedsel. Onstandighede wat die verteerbaarheid van voedingstowwe beïnvloed. Groei, onderhoud en vetmaak van diere. Produksie van werk, melk en wol.
(b) Die samestelling, voedingswaarde, voorbereiding en gebruik van gekunsmeerde, growwe, en ander voedsels.
(c) Voedingstandaarde. Berekening van rantsoene vir verskillende klasse diere vir verskillende doeleindes. Die ekonomiese voeding van plaasdiere.
(d) Voeding, sorg en bestuur van spregte sowel als kommersiële kuddes vleis-, melk-, graad- en trekbeeste; spek- en vetvarke; perde, muile en skape.
(Volle jaar, 3 lesings per week—6 krediete).

Boeke aanbevole:
"Feeds and Feeding"—Henry and Morrison;
"Productive Swine Husbandry"—Day;
"Productive Horse Husbandry"—Gay;
"Beef Production"—Mumford.

3. Tipes, Rasse en Keuring.
Tipes van rasse van plaasdiere. Keuring van lewensbehoewe (Voortgesette studie).
(Volle jaar, 1 lesing in 1 praktikum per week—3 krediete)

4. Erflikheidsleer.
Die fisiologie van voortplanting. Die meganisme van oorerving. Galton se Wetmaas en Mendel se Leer; die praktiese waarde daarvan. In-

THE FIRST VETERINARY HOSPITAL

A stand alone veterinary hospital at Onderstepoort was built in 1925. By 1926 the Hospital had treated 3865 animals, of which 1376 were surgical cases and 282 were medical conditions. Patients seen were 1054 horses, 299 bovines, 189 ovines, 109 dogs, 3 monkeys, 4 wild cats, 12 fowls and 1 kangaroo. The ambulatory clinic sterilised 66 animals, and over 1000 post mortems from natural deaths or research studies passed through the post-mortem halls.

The veterinary hospital opened at the Onderstepoort Bacteriology Laboratory

Theiler teaching students at the equine stables

END OF AN ERA

On a visit to see his son Max Theiler in 1936, Sir Arnold Theiler died from a cardiac condition that plagued him during his latter years. That year marked the end of a life of an amazing man, who found solutions to many problems plaguing Southern Africa. Theiler will undoubtedly go down in history as a true pioneer in veterinary science.

Arnold Theiler died on the 24th July, 1936.

With his death closes a chapter in the history of veterinary science.

When Theiler came to South Africa in 1891 very little was known about the veterinary problems peculiar to the sub-continent. Tropical veterinary science was a subject as yet unborn. During the years which followed, Theiler, more than any other, helped to establish this branch of science and to create order where formerly there had been chaos. And before he died the majority of the problems which he encountered or formulated had, in the main, been solved; on others much light had been shed; to the solution or elucidation of almost all of them Theiler had contributed.

His publications cover wellnigh every field of veterinary science. In the early years he investigated rinderpest, lungsickness, horse-sickness, nagana, equine piroplasmosis, and several other epizootic diseases of South African stock.

Then, after the Anglo-Boer war, he settled down in his laboratory at Daspoort; and the series of *Annual Reports of the Government Veterinary Bacteriologist* (1903-1910) published during those years bear testimony to his incredible capacity for work, his versatility and thoroughness, and his complete mastery of all the major veterinary problems of South Africa.

Thereafter, with his headquarters in the more spacious and well-equipped laboratories at Onderstepoort, the majority of his publications appeared in the fourteen voluminous *Annual Reports of the Director of Veterinary Research* (1911-1928). Here, again, the wealth of information contained in his scientific articles fills us with wonder and humility.

Even after his retiral from office in 1927, and indeed until his death, he continued his studies with unabated enthusiasm and brilliance, adding monumental contributions to the solution of the problem presented by the hitherto obscure group of osteodystrophic diseases.

Theiler's publications will for ever stand as a monument to the memory of a great man of science. His passing has cast a gloom over the Institute which he founded; but his spirit lives in the hearts and minds of those who had the privilege to know him and to work with him, and it is their ambition to emulate his high example.

The Onderstepoort Journal of Veterinary Science and Animal Industry is the continuation of the two series of *Annual Reports* which have been mentioned. May it follow in the paths trodden by Theiler and strive to uphold the lofty tradition which his labours have estabiished.

P. J. DU TOIT.

THE BVSc RECOGNITION

With the establishment of the BVSc programme at the TUKS having the aim of ensuring veterinarians practising in the country having training and exposure to local disease conditions diseases, it took a period of time before South African graduates were granted international recognition. Twenty-eight years after the start of the programme, UP graduates were granted permission to automatically register for practice in the UK without completing the statutory examination.

Royal College of Veterinary Surgeons,
9 & 10 Red Lion Square, London, W.C.1.
14th October, 1948.

The Hon. Sec.-Treasurer,
S.A.V.M.A.,
P.O. Onderstepoort,
Pretoria, South Africa.

Dear Sir,

With reference to previous correspondence between your Association and this Royal College, and specifically with reference to a letter of the 10th March, 1947, written by your Association to this Royal College, I have to inform you that at a recent meeting of the Council of this Royal College it was resolved that the veterinary graduates of the University of Pretoria, after having made due application and paid the appropriate fee, be placed on the Colonial List of the Register of Veterinary Surgeons, and that this be continued until further notice and only so long as Members of the Royal College of Veterinary Surgeons be registered without examination on the Statutory Register of the Union of South Africa.

I would add by way of explanation that this means that a veterinary graduate of Pretoria may be placed on the Statutory Register of Veterinary Surgeons in Great Britain and Northern Ireland, and shall enjoy all the privileges of a registered Veterinary Surgeon including the use of the Library of this Royal College, the right to vote at an election for the Council of this Royal College, as well as the privileges granted to a registered Veterinary Surgeon under the various acts of the United Kingdom governing practice, animal welfare, etc.

Whilst a veterinary graduate who has complied with section 3 of the Veterinary Surgeons Act, 1881, will be, to all intents and purposes, a Member of the Royal College of Veterinary Surgeons, he will not be entitled to use the letters M.R.C.V.S. which indicate that the holder has obtained the academic diploma of this Royal College.

The equivalent position in South Africa is where a M.R.C.V.S. diploma holder is placed on the Statutory Register of the Union, but that does not entitle him to describe himself as a graduate of the University of Pretoria.

I have to point out that the use of the words "Colonial Register" is solely because this is the term used in the Act of 1881, and it is, of course, inapplicable now to the self-governing Dominions.

I would further state for your information that a Resolution of this Royal College was passed, similar to that regarding the University of Pretoria, in favour of the University of Sydney and the University of Melbourne so far as concerns the veterinary degrees of those Universities.

As a result of the above Resolution of this Royal College I am happy to state that the first graduate of the University of Pretoria to be placed on the Colonial List of the Register of Veterinary Surgeons, has been enabled to commence a course at the Royal (Dick) Veterinary College, Edinburgh, for the Diploma in Veterinary State Medicine which hitherto has not been possible.

If there is any information arising out of the above which I can give you I shall be very happy to do so, and I would take this opportunity on behalf of this Royal College and of the veterinary profession in this country to extend the most cordial greetings to all the veterinary profession in the Union.

Yours faithfully,
W. G. R. OATES,
Registrar

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

100 YEARS OF VETERINARY EDUCATION

100 Years of Veterinary Education
Part 2: Veterinary Science at the University of Pretoria and MEDUNSA

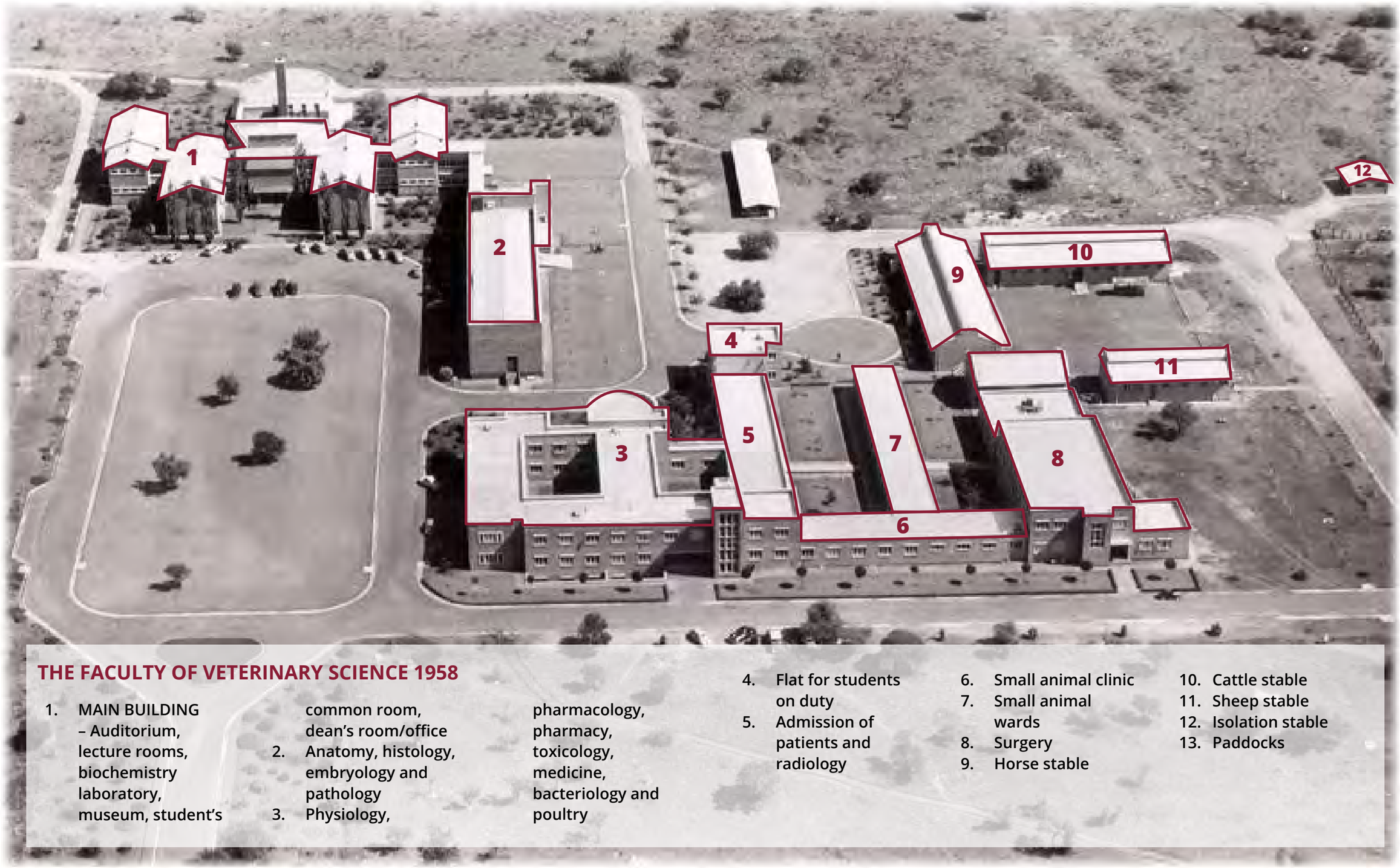
THE PREVIOUS FACULTY OF VETERINARY SCIENCE OF THE UNIVERSITY OF PRETORIA

THE FIRST FACULTY BUILDINGS

The first Faculty buildings were completed in 1954, for the training of 30 students and to house faculty staff, with the opening of the Administration building and hospital. These buildings were built by Government at a cost of £500000 on a property officially separated from the Bacteriology Laboratory. The aim of the Facility was to give faculty-specific staff a place to work. Until then, the training capacity at the Bacteriology Laboratory limited class sizes to a maximum of 20.

General view of Onderstepoort and environs.

The Faculty Buildings in 1958, with their main use.

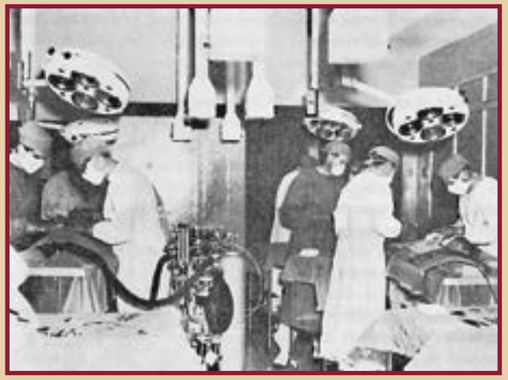


THE FACULTY OF VETERINARY SCIENCE 1958

1. MAIN BUILDING – Auditorium, lecture rooms, biochemistry laboratory, museum, student's common room, dean's room/office
2. Anatomy, histology, embryology and pathology
3. Physiology, pharmacology, pharmacy, toxicology, medicine, bacteriology and poultry
4. Flat for students on duty
5. Admission of patients and radiology
6. Small animal clinic
7. Small animal wards
8. Surgery
9. Horse stable
10. Cattle stable
11. Sheep stable
12. Isolation stable
13. Paddocks

The Old Administration Building of the Faculty housed a large lecture hall, the dissection hall, library, Deanery and laboratory space. The building has since been significantly renovated and in addition to a new anatomy wing, houses laboratories, and offices.

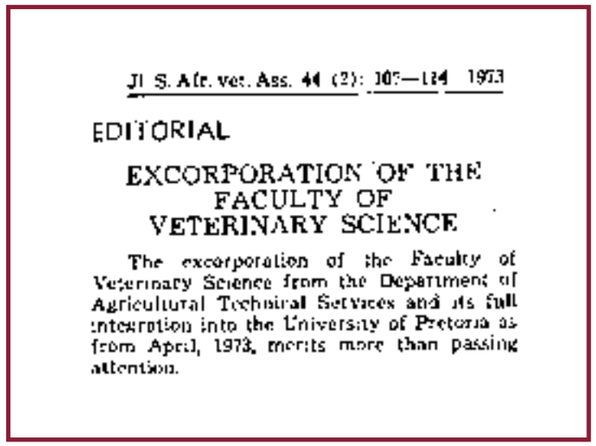
Following completion of both the Faculty buildings in 1954, the buildings housed the main laboratories, an auditorium and student-training hospital. At this point, the Faculty had 9 permanent staff, with other teaching staff being provided by the veterinary institute.



The old hospital went through a number of renovations and additions to eventually become the Paraclinical building in 1992, which now houses the Department of Veterinary Tropical Diseases, the section of pharmacology and toxicology of the Department of Paraclinical Sciences, and the Onderstepoort Veterinary Animal Research Unit. Not surprisingly, this building is home to almost half of the Faculty's post-graduate students.

THE DIVORCE AGREEMENT

The Faculty and the Veterinary Institute offered training to veterinary students as a unit, until the formal separation of the Faculty in 1973. While the offering of training jointly between the organisations was of benefit due to the scarcity of trained personnel and the costs of running laboratories, the growing Faculty required staff dedicated to student training. Further, the research institute was unable to concentrate on basic veterinary subjects, due to its disease-mitigation priority. A degree of unhappiness was also expressed by teaching staff since State salaries were not aligned to University salaries. There were also increasing concerns with funding for the Faculty via the Department of Agriculture, since their budgeting process did not allow for proper funding of the Faculty as a small teaching unit.



J. S. Afr. vet. Ass. 44 (2): 103—134 1973

EDITORIAL

EXCORPORATION OF THE FACULTY OF VETERINARY SCIENCE

The excorporation of the Faculty of Veterinary Science from the Department of Agricultural Technical Services and its full integration into the University of Pretoria as from April, 1973, merits more than passing attention.

After the divorce, student intake was increased to 90 students per year. This first larger intake was into the 2nd year in 1976. Temporary class rooms were constructed to accommodate the bigger classes and were in use until the Theiler Building was completed. Some of the temporary buildings were transferred to MEDUNSA, also to be used for veterinary training.

Sir Arnold Theiler Statue at the ARC

Sir Arnold Theiler retired in 1927 and died in London from a heart attack on 24 July 1936 while attending a conference at which his youngest son, Max, was due to speak on the yellow fever vaccine that he had developed in the USA and for which he later received a Nobel prize. A statue of Sir Arnold Theiler, by the distinguished sculptor Coert Steynberg, was erected in front of the Old Main Building at Onderstepoort in 1939. The ashes of Sir Arnold Theiler and his wife Lady Emma are said to be stored in the base of the statue.

SIR ARNOLD THEILER BUILDING

The main administration building on the Onderstepoort campus, which, was opened in 1986, was erected at a cost of R21.6 million. The building was designed by Brian Sandrock who also designed the Hatfield Ship, Engineering I, Humanities, Musaion and the LC de Villiers indoor sports centre. With the highly visible concrete finish, the building style was best described as brutalism.

CONSTRUCTION OF THE THEILER BUILDING

12 February 1985

15 October 1985

13 March 1986

10 July 1986

12 August 1986

12 January 1987

From its opening the Sir Arnold Theiler building has been the hub of student training with the lectures halls, computer room, library, cafeteria and the Deanery. The Foyer of the building has also served as the venue of many a Faculty event, including a once a year make-over for the BVSc V's class end of lectures celebration.

THE NEWLY RENOVATED THEILER BUILDING

JOTELLA F SOGA LIBRARY

From the time of the Faculty's establishment, the Faculty used the library of the Onderstepoort Veterinary Institute (OVI) for the first 5 decades of its existence. The Faculty's library was established in 1974 when the Faculty of Veterinary Science became part of the University of Pretoria. In April 1987 the faculty library moved to new and current quarters in the Sir Arnold Theiler Building at the Onderstepoort campus.

Occupying a large part of the Theiler building is the SOGA veterinary library. The library is undoubtedly the heart of student and research activities of the Faculty. The library is also the official custodian of the country's veterinary history repository.

The Faculty of Veterinary Science of the University of Pretoria named its library in honour of the first South African who qualified as a veterinary surgeon. Dr Jotello Festiri Soga studied for the veterinary degree at the University of Edinburgh and qualified in 1886. A bronze bust of Dr Soga was also unveiled during the event that took place on 5 May 2008.

An historic occasion at the Faculty: taking of the veterinary oath

Academic history will be made in December this year at the Faculty of Veterinary Science, University of Pretoria, when the graduating Class of 2001 takes the Veterinary Oath for the first time. The ceremony will be a formal occasion, attended by the Dean, academic and support personnel from the Faculty, the President of the South African Veterinary Council, the President of the South African Veterinary Association and other dignitaries. The oath that the new graduates will take is set out in the colomn to the right:

Arnold Theiller Building

Declaration:

I herewith solemnly declare that I will:

- ***practise my profession with honesty and integrity;***
- ***maintain and uphold high professional and scientific standards;***
- ***treat my patients to the best of my knowledge and ability and never intentionally cause them harm;***
- ***use my professional knowledge, skills and resources to protect and promote the health and welfare of animals and humans;***
- ***continue to improve my professional knowledge, and***
- ***strive to further the status and image of the veterinary profession.***

The Theiler Building also used for the main Faculty events such as Open Day, when prospective students visit the faculty.

BRIEF HISTORY OF FACULTY DAY

Faculty Day of the amalgamated Faculty of Veterinary Science reflects a proud tradition, which had been nurtured by the original faculties of Veterinary Science of both the Medical University of South Africa (MEDUNSA) and the University of Pretoria, showcasing the research activities of staff and students on a special, dedicated occasion.

Since the inception of the Faculty of Veterinary Science at MEDUNSA in the early 1980s, the staff, and later students, were involved in the activities of the "Academic Day", which was aimed at highlighting the research activities of the University, as well as exposing young researchers to a conference environment.

The Faculty of Veterinary Science of the University of Pretoria at Onderstepoort followed this trend shortly thereafter and the first "Faculty Day", which focused on the research activities of the Faculty, was held on 5 September 1984, sponsored by the then Dean, Prof JMW le Roux. The combined research skills of the two original institutions are today reflected in the proceedings of the Faculty Day held each year at the Onderstepoort Campus. A hallmark of the day is the Theiler Memorial Lecture and announcement of Faculty research awards. Prior to Faculty Day, the memorial lecture was presented as part of the SAVA congress, with the first lecture presented by Prof C Rimington in 1963.

THEILER MEMORIAL LECTURE

THEILER – HIS PERSONAL SIGNIFICANCE TODAY

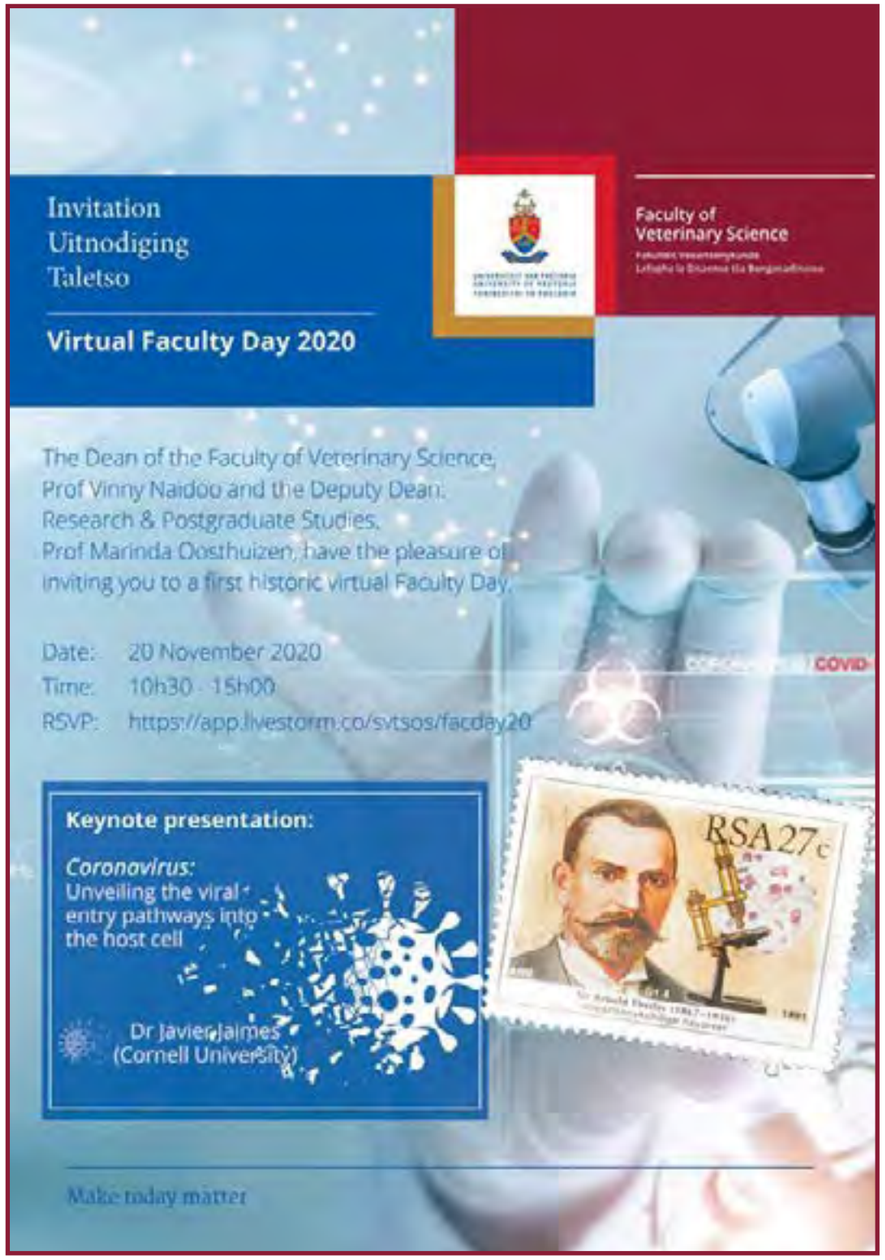
THELMA GUTSCHE*

Delivered by Thelma Gutsche on the occasion of the first Faculty Day of the Faculty of Veterinary Science, University of Pretoria on 5 September 1984.

* *Thelma Gutsche, the late authoress of "There was a man: the life and times of Sir Arnold Theiler K.C. M.G. of Onderstepoort" 1979 Howard Timmens, Cape Town.*

This annual event celebrates post-graduate students' research outputs. Industry sponsors also have the opportunity to speak to students on the day.

FACULTY DAY *continued*



While 2020 marked the Centenary of the Faculty, it was also the year of the Coronavirus pandemic. While Faculty Day had to move online for the protection of staff and students, the keynote presentation on the day focused on the deadly disease, in a rather fitting tribute to the legacy of Prof Theiler who specialized in infectious diseases.

Sir Arnold Theiler plaque

Copper relief plate 300mm diameter by the artist Georges Henri Prud'homme (1873-1947) done in 1931.

PATHOLOGY

Pathology has always featured as a major component of the BVSc syllabus. Not surprisingly, considering Theiler's special interest in the subject as well the high burden of disease and associated pathology seen in animals. Until 1988, the Faculty did necropsy training at the Institute. The current pathology facility was opened in 1988 and allowed for extensive training in undergraduate and specialist in 1988 training in pathology.

CONSTRUCTION OF THE PATHOLOGY COMPLEX

12 January 1987

14 August 1987

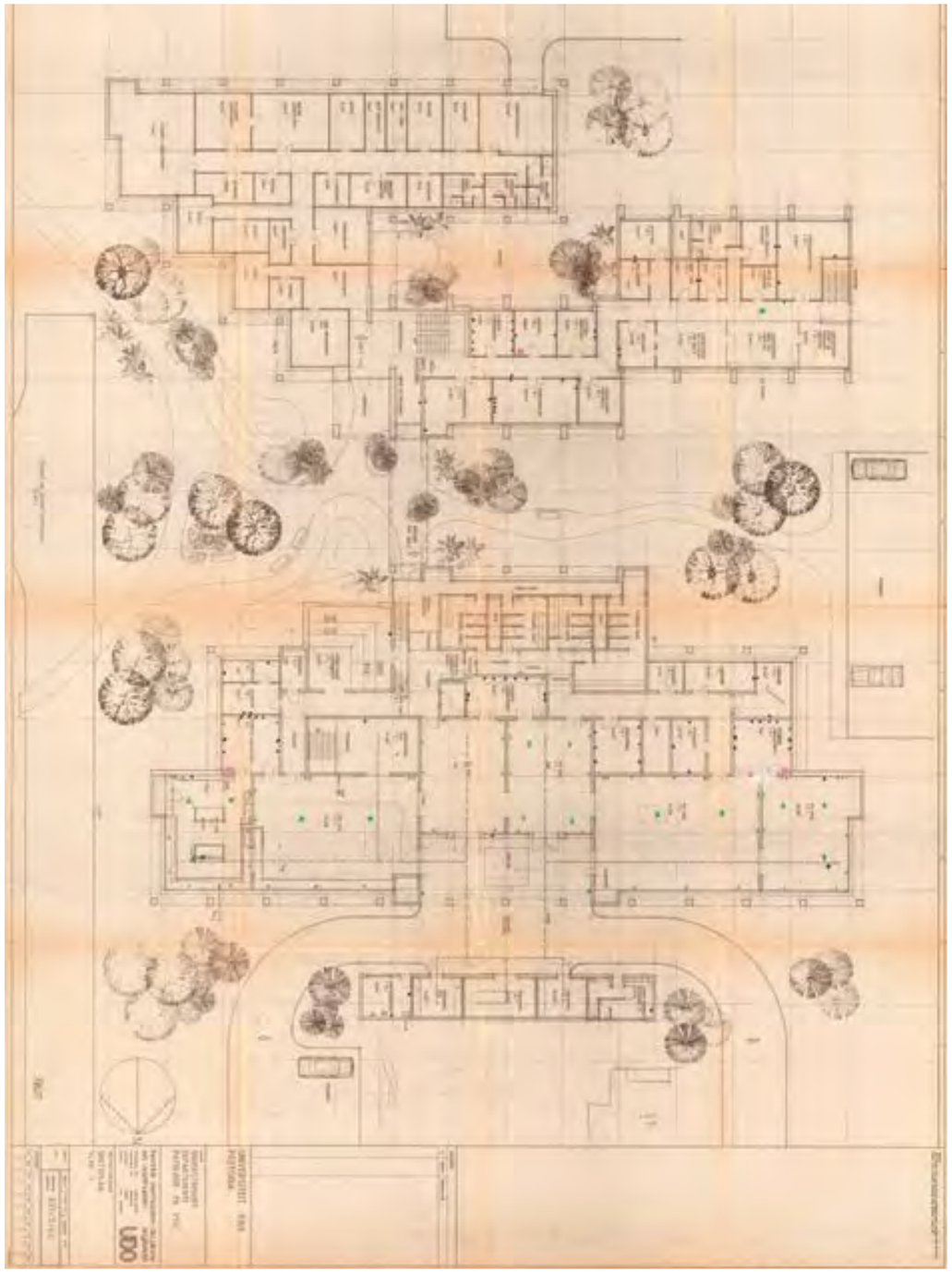
14 September 1987

11 March 1986

VETERINARY ACADEMIC HOSPITAL

In 1993 the University of Pretoria opened a comprehensive Veterinary Hospital, which was able to manage numerous animal species and included specialist services. While the hospital was considered too large for a class of 90 veterinary students at the time, the Faculty has grown into the facility over the years with the current class size of 190. Due to the cost of building the new hospital, it was already suggested at the time, that the MEDUNSA and UP share this facility.

CONSTRUCTION OF THE VETERINARY ACADEMIC HOSPITAL



18 May 1988

18 October 1988

17 January 1989

30 August 1989

30 November 1989

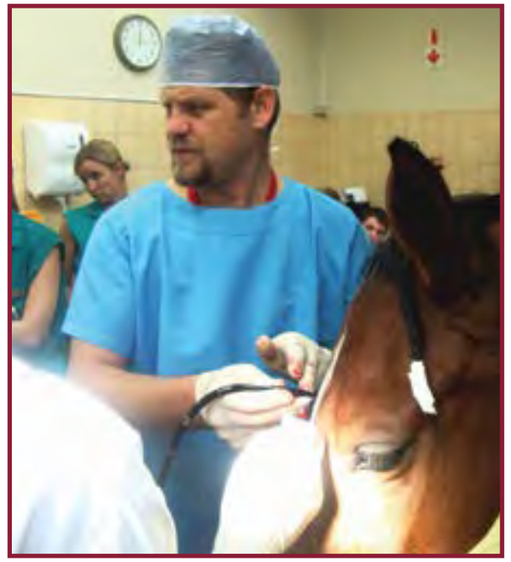
The Onderstepoort Veterinary Academic Hospital (OVAH) was set up as a specialist referral and training centre and offers clinics from medicine to surgery. To maintain standards in training, the university continuously strives to maintain the best facilities.

The outpatients clinic at the OVAH remains the busiest clinic at the hospital, with students getting some of the best hands-on skills in veterinary medicine in the world.

The OVAH also runs a referral equine centre for both medicine and surgery.

The OVAH provides both mobile and hospitalised care of production animals.

The Faculty has through the years invested in ensuring that the OVAH has the latest technology from endoscopy, to CT and more recently MRI.



THE MEDUNSA VETERINARY FACULTY

SEGREGATION OF VETERINARY TRAINING

Despite the first South African-born veterinarian Soga being black, training abroad already in 1886, and the new veterinary school opening some 40 years later in 1920, the training of black veterinarians was not a possibility for many years due to governmental policies. The first case of segregation was already recorded during Theiler's tenure as Dean, when the Transkeian Native Council's request to send two students to Onderstepoort was turned down by the then government. This decision on admission policy was only relaxed 1983, when the University of Pretoria allowed Coloured and Indian students to study at the Faculty, on conditions they were day students and limited a few persons in any given year. For other black students, the option to study veterinary science started with the opening of MEDUNSA.

60 apply, but there's only room for 11

By RICH MKHONDO

MORE than 60 black school leavers applied for enrolment at the Medunsa Veterinary Science Faculty but only 11 could be accepted for training.

Dean of Faculty, Prof N C Owen said this year degree in the welfare of farm stock and pets in the black areas has so far been extremely encouraging.

"This is our highest annual intake since the faculty was established three years ago. We had to place some of the other applicants on the waiting list". Prof Owen said.

Prof Owen said, the university did not have the capacity to accommodate large numbers of students but during the next few years, the university would have enlarged premises and additional capacity.

"Since the Medunsa Veterinary Faculty hospital opened last year, over 3000 animals have been brought to the hospital, and over 500 had to be hospitalised", he said.

Prof Owen believed the faculty would soon need a Chair in Veterinary Extensions Services to upgrade the heatlh management of stock of black farmers in the area.

A special educational black Farmers Day would be held by his faculty at Medunsa during the next two months, he added.

RAND DAILY MAIL, Friday, March 25, 1983

Miss Nazrene Moosa examines part of a horse's inside with white classmates at Onderstepoort veterinary science centre.

Nazrene, vet student who made it against odds

By HELENE ZAMPETAKIS

SHY, diffident, soft-spoken — that's the girl who got what she wanted against all odds.

Miss Nazrene Moosa, an 18-year-old veterinary science student, is one of the very lucky few to be accepted by the University of Pretoria veterinary science faculty at Onderstepoort.

Because not only is Nazrene one of the 25% of women selected for the course, but she is the only black first year student to enrol at the university this year.

The university has accepted Nazrene in accordance with its new dispensation which conditionally admits blacks of academic merit who have no alternative place to study.

The faculty gets about 300 applications to study at the university from students countrywide. About 100 are finally selected for the six-year course.

For more than 60 years, the white Onderstepoort institute was the only university in South Africa where veterinary science was taught.

Two years ago, the black university of Medunsa started its veterinary science course.

But the vast majority of coloureds and Indians were barred from both universities — because they are neither white, nor "African".

It is against this backround that Nazrene hoped "against all hope" that she would be accepted into the veterinary science faculty by the university.

"Ever since I can remember, I wanted to be a vet. I chose my matric subjects around the requirements for the course and in the holidays I worked at a veterinary hospital.

"Then I got my matric results and they weren't as good as I thought they should be. All during the holiday I was on tenterhooks, waiting for the phone call that would tell me whether I could fulfil my dreams," Nazrene said.

Nazrene had been placed on a reserve list, awaiting cancellations from other students.

It was only a week after the course started that her father got that phone call.

"He phoned my mom and told her. I heard her scream with joy and then I knew I'd been accepted."

With Nazrene as an only child, the Moosa family lived in a small flat in Overport, Durban, and had only a cat as a pet.

But Nazrene is "really serious about animals".

How did Nazrene feel about studying on a campus where almost half the students had voted against opening the university to blacks last year?

"They hardly notice I'm not white. Sometimes I get second looks. Its not that they're not racially conscious, but I think the students are more concerned with their own affairs," she said.

Most of her classmates came from towns outside Pretoria, and all had to make adjustments to a new way of life when they started university.

At the beginning of the term, the young veterinary surgeons of tomorrow were anxious to befriend one another, "irrespective of race or sex", Nazrene said.

Besides the ordinary problems of adjustment to university life, Nazrene lived with distant relatives in Lenasia, Pretoria's Indian township — far from her classmates.

She "desperately" needed a car, because without it she was cut off from the library and study groups. She would have liked to have been allowed to stay at the university residence "with the others".

But she loved the work, "guts and all", and she knew it was a job that would give her satisfaction.

The Medical University of Southern Africa (MEDUNSA) had its origin in the recognition of the need to qualify black health professionals: medical, dental and veterinary. The siting of the medical school was the presence of the Garankuwa hospital and was on the grounds of an old golf course.

MEDUNSA

DEAN

FACULTY VETERINARY SCIENCE

Each applicant must be registered as a Veterinarian at the Veterinary Board, and must be in possession of applicable post-graduate qualifications in Veterinary Science.

The successful applicant will be the first appointment in the Faculty and it will be his duty to establish the Faculty of Veterinary Science.

Application forms as well as information concerning conditions of service and salary are obtainable from the Personnel Officer.

The Medical University of Southern Africa is situated in the Province of Transvaal RSA, 31km from Church Square, Pretoria and approximately 8 km west of Rosslyn.

Closing date: 7 December 1979.

REGISTRAR: ADMINISTRATIVE
MEDICAL UNIVERSITY OF SOUTHERN AFRICA
PO MEDUNSA 0204.

TELEPHONE: (012) 582844/5/6/7/8 (Pta).

SATELLITE IMAGE OF THE MEDUNSA CAMPUS NEXT TO GA-RANKUWA

A – Animal production unit; B – Farm paddocks; C – Admin building; D – Animal clinic

MEDUNSA

The Veterinary Faculty of MEDUNSA admitted the first students in 1982. The Faculty was in operation until the end of apartheid and the rethinking of veterinary training in the country. The old club-house on the campus grounds (old golf course) was converted into a temporary animal hospital. The hospital was estimated to have capacity to train 10 students. At the time the placing of the school at the Medical school was said to follow the "One Medicine" concept. This was evident by medical doctors pioneering laser surgery in the animal hospital. The MEDUNSA animal hospital was a specialist referral hospital equipped with theatres for small animals, equines, and production animals. In addition to in-house diagnostic equipment like ultrasound, radiography and ultrasound, staff also had access to specialised diagnostic equipment at the Ga-Rankuwa academic hospital.

The Animal clinic and supportive laboratories

When the MEDUNSA syllabus was introduced, it was a six-year course and was a modification of the Onderstepoort curriculum, which was not surprising as most of the staff were Onderstepoort graduates. The faculty had also pioneered the introduction of veterinary epidemiology into undergraduate teaching, as well as the offering of a PhD-degree programme. The MEDUNSA curriculum changed again in 1994. MEDUNSA admitted students from 1982 to 1997, with the last graduate leaving the system in 2003, five years after the amalgamation. During its existence the school graduated 142 veterinarians, the first black veterinarian in South Africa, who was also the first black woman veterinarian.

X.1 VETERINARY CURRICULUM

The curriculum is spread over two 15 week semesters running from January to November. The minimum duration of the BVMCh course is 6 years Subjects marked with an asterisk are promotion subjects.

First Year

SUBJECT	PERIODS/YEAR	1st SEMESTER	2nd SEMESTER
Chemistry IA	240	120	120
Biology	240	120	120
Biophysics IA	240	120	120
English Language	240	120	120
Introduction to Veterinary Science	210	105	105
Total	1170	585	585

Second Year

SUBJECT	P/YEAR	1ST SEM	2ND SEM
Veterinary Anatomy I	390	195	195
Embryology	60	30	30
Histology	210	105	105
Physiology IA	480	240	240
Animal Production IA	120	60	60
	1260	630	630

Third Year

SUBJECT	P/YEAR	1ST SEM	2ND SEM
Veterinary Anatomy II	120	60	60
Animal Production IIA	30	30	0
Livestock Economics	60	30	30
Microbiology	150	75	75
Pasture Science	105	60	45
Pathology I	105	60	45
Poultry Science	105	60	45
Entomology & Acarology	105	60	45
Epidemiology	60	0	60
* Animal Production IB	105	45	60
* Animal Production IC	105	60	45
* Comparative Physiology and Nutrition I	105	60	45
* Diagnostics and Propaedeutics II	30	0	30
* Pharmacology and Therapeutics I	30	0	30
	1215	600	615

Fourth Year

SUBJECT	P/YEAR	1ST SEM	2ND SEM
Animal Production IIB	75	30	45
Animal Production IIC	45	45	0
Clinical Pathology	75	45	30
Comparative Physiology and Nutrition II	75	30	45
Comparative Reproductive Physiology & AI	90	45	45
Diagnostics and Propaedeutics II	90	60	30
Helminthology	120	60	60
Pathology II	120	60	60
Toxicology	120	60	60
Pharmacology & Therapeutics II	90	45	45
* Anaesthesiology	15	0	15
* Companion Animal Medicine and Surgery	90	60	30
* General Medicine & Surgery I	60	30	30
* Infectious Disease I	135	75	60
* Veterinary Public Health I	60	0	60
	1260	645	615

Fifth Year

SUBJECT	P/YEAR	1ST SEM	2ND SEM
Anaesthesiology II	15	15	0
Companion Animal Medicine & Surgery II	120	60	60
Equine Medicine & Surgery I	105	45	60
General Medicine & Surgery II	75	30	45
Infectious Diseases II	150	75	75
Poultry Medicine	90	45	45
Production Animal Medicine I	195	90	105
Radiology	45	45	0
* Pathology III	120	60	60
* Preventive Veterinary Medicine I	180	90	90
* Practice Management I	105	45	60
* Veterinary Public Health II	75	30	45
	1275	630	645

Sixth Year

Students spend 42 weeks on clinics during their 6th year, divided as follows:

Companion Animal Medicine and Surgery	-	10 weeks
Production Animal Medicine	-	9 weeks
Pathology	-	10 weeks
Herd Health	-	3 weeks
Infectious diseases and Public Health	-	3 weeks
State Veterinary and diagnostic lab	-	2 weeks
Abattoir	-	1 week
Milk hygiene and Municipal vet	-	1 week
Private practice	-	3 weeks
		42 weeks

FACULTY NEWS

First Indian Vet to Qualify at Medunsa

On Wednesday, 7 February 1990 two veterinary students participated in an attestation ceremony during which an oath, similar to the Hippocratic oath, was taken.

The occasion had additional value in that the two attestants, Drs V P Singh and D W P Ngobesi, brought to seven the number of veterinary students to have graduated from Medunsa's faculty of veterinary science.

Dr Singh is Medunsa's first Indian veterinary graduate and probably only the third to have qualified locally. The first six black graduates to have qualified on South African soil have all been trained by Medunsa. This is no mean feat considering that there are only about 10 registered non-white vets in the country.

Seen here are Drs D W P Ngobesi and V P Sigh (right) signing the oath

MEDUNSA'S GRADUATES SIGN DECLARATION

"I will always practise my profession with conscience and dignity.
I will maintain and uphold high professional and scientific standards.
I will use my professional knowledge, skills and resources to protect and promote the health and welfare of animals and man.
I will strive to further the status and image of the veterinarian and be a worthy member of the veterinary profession.
I will uphold the name of the Veterinary Faculty and the Medical university of Southern African at all times."

MAMAKGABA MOGAJANE

Veterinarian, director in Veterinarian Services, MEDUNSA

Dr KGABI MOGAJANE BVMCh, the first back women to qualify as a vet, is no stranger to firsts. As the director of animal health in the chief directorate of veterinary services and livestock improvements at Medunsa, she has once again taken pole position.

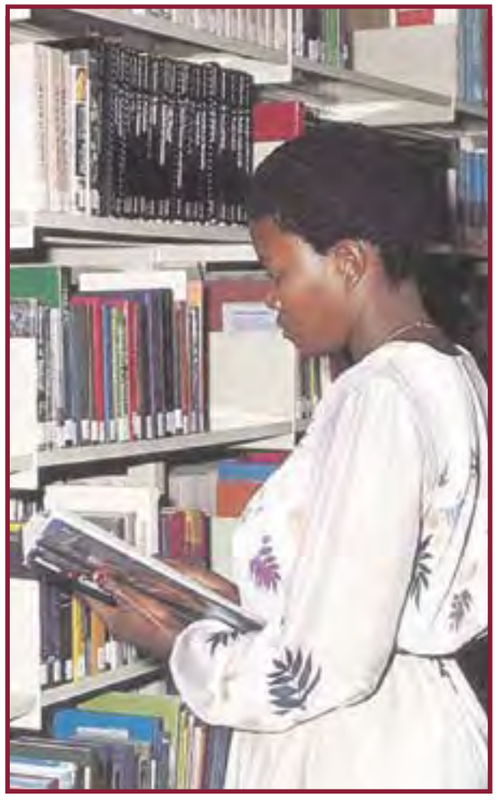
Mogajane showed her mettle in the veterinary field during her studies when she consistently achieved top marks in her class. She has worked as a state vet in both Bophuthatswana and the Transkei, where some of the duties she loved the most were helping farmers to control animal diseases and helping them access facilities and build up their farming capacity.

She started lecturing at Medunsa, where she also did post graduate studies, specialising in cattle medicine.

She is one of those people who believes that the knowledge one gathers is for use for the betterment and upliftment of one's fellow human beings. This explains the work she does both at Medunsa and with farming communities.

Her membership of community service and outreach unit at Medunsa and the advisory role she plays for the National African Farmers Union (FAFU) is testimony to that.

Support facilities for student training included a dissection hall, library and an extensive animal production unit with feed mill, which at the time cost R3 million to build.

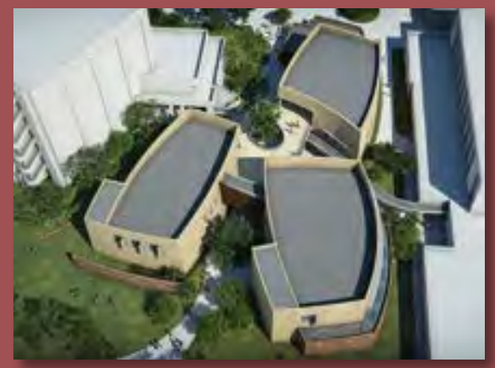


The MEDUNSA Animal clinic, was a specialist centre that offered advanced medicine and surgical services to clients in the region as well as referrals from elsewhere in the country. The hospital also offered specialist training in a number of subject areas.

The MEDUNSA clinic, while able to manage any animal species, was particularly focused on large animal practice. Top left: Theriogenology examination of a horse by Prof Morkel Terblanche who was later a Dean at the Faculty; Top right: A bovine under anaesthesia on a tip table; and middle left: A sheep being scanned.

The MEDUNSA clinic operated mobile clinics as part of the training. During the visits students managed a variety of animals from pets to production animals.

THE NEW NATIONAL FACULTY OF VETERINARY SCIENCE



THEN


General view of Onderstepoort and Environs
1. Onderstepoort farm.
2. New residential area.
3. Students hostel and sports grounds.
4. Faculty.
5. Railway.
6. Old residential area.
7. The institute.
8. Cultivated area of institute.
9. Pretoria North.
10. Magaliesberg mountain range.

NOW


Onderstepoort

ACADEMIC DEPARTMENTS

At the start of the Pretoria Faculty, academic staff were provided by the various sections at the Bacteriology Laboratory. As the Faculty was expanded in 1954, the Faculty had five departments Anatomy, Physiology, Medicine, Surgery, Pathology with Zootechnics, Poultry Pathology, Parasitology and Infectious Diseases being part time departments staffed by the Institute.

After separation from the Veterinary Institute, the Faculty comprised of following Departments: Anatomy; Physiology; Veterinary Pubic Health; Pathology; Medicine; Surgery; Production Animal Medicine and Surgery; Genesiology; Parasitology; Infectious Diseases; Ethology.

By 1998, the UP Faculty had the following Departments: Veterinary Anatomy; Veterinary Physiology; Pharmacology and Toxicology; Veterinary Tropical Diseases; Companion Animal Medicine; Companion Animal Surgery; Production Animal Medicine and Community Health; Reproduction, Paraveterinary Studies and Veterinary Production and Ethology.

The MEDUNSA Veterinary Faculty was made up of the Departments of Anatomy, Physiology; Pharmacology and Therapeutics; Animal Health and Production; Infectious Diseases and Public Health; Companion Animal Medicine and Surgery; Production Animal Medicine; Pathology; and Herd Health and Production.

Following the Amalgamation the Faculty went through a restructuring process, to optimise the teaching a more modern veterinary and nursing syllabus, into five departments and the hospital.

The five academic departments are the Departments of Anatomy and Physiology; Paraclinical Science (Pathology, Veterinary Public Health, Pharmacology, Toxicology and Phytomedicine); Companion Animal Clinical Studies (Small animal and Equine medicine and surgery); Production Animal Studies (Production animal health, herd health and epidemiology) and Veterinary Tropical Diseases.

RENOVATIONS POST-AMALGAMATION

The Theiler building received some modification following the increase of the class size to 190. Modification included increases in class room seats, a new computer room, a post-grad centre and modifications to the library. Due to limits in space, the cafeteria was moved into the new Lesedi complex.

LESEDI COMPLEX

Following discussions on the needs for veterinarians in the country, the class size was increased from 140 to 200. To accommodate for the increased students the Lesedi complex was built. The complex contains student admin, a skills lab, multidisciplinary laboratory and cafeteria. By moving the microscopes out the lecture halls the Faculty was able to increase the number of seats to 220 per lecture hall.

SKILLS LAB

A state of the art skills lab with simulated models was opened at the Faculty in the Lesedi complex. The skills labs allows for the controlled training of students using dedicated models, many built at the Faculty. The models, while allowing students to learn in a safe environment, also minimised the initial use of animals in training. The latter exemplifies the principle of replacement in animal teaching.

SKILLS LAB *continued*

CAFETERIA AND MULTIDISCIPLINARY LABORATORY

TEACHING PHILOSOPHY

While the Faculty started from a centre of research excellence and prides itself on research and post-graduate outputs, the Faculty has always recognised the importance of the scholarship of teaching and learning. As a result the Faculty places huge emphasis on teaching methods and manner of instruction. Teaching has moved to student-centred training and hybrid training methods. This is included the use of online training aids, models, group work and active learning projects. The Faculty takes pride in current module pass rates which are above 98%, and the best in country.

ANIMAL TRAINING FACILITIES

Since many of the students coming to Onderstepoort don't have experience with the handling of all species, the Faculty maintains a small animal training unit on site. One of the newest addition to the facilities is a feedlot, where students gain direct experience in all aspects of feedlot management. The latter project was started by Prof Dietmar Holm, who won a University Teaching Laureate award this innovative teaching method.

MAMELODI AND HLUVUKANI

In addition to the state of the art OVAH, the Faculty runs community clinics in Mamelodi and Hluvukani, with the former being in a urban area and the latter in a rural area. Through the use of these clinics, the Faculty is able to ensure that students are able to manage all clinical scenarios they may experience in private and community practice.

COMMUNITY ENGAGEMENT

Community engagement has become a formal part of the veterinary curriculum with the philosophy being for Higher Education Institutions to support local communities rather than being ivory towers dissociated from societal needs.

WILDLIFE CLINIC

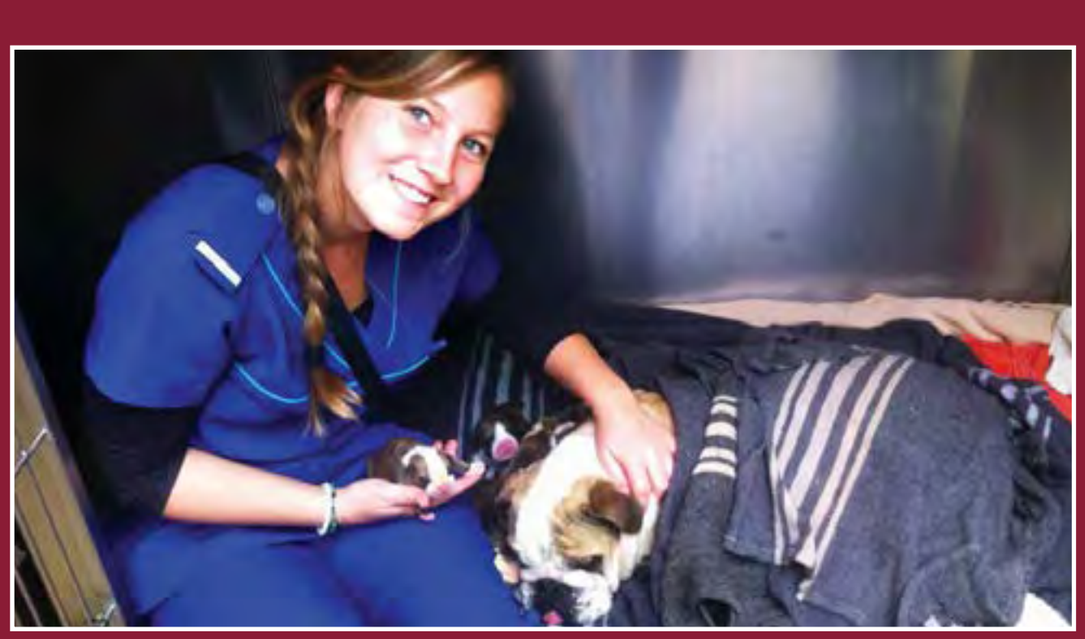
The most recent addition to the Onderstepoort campus is the wildlife wing of the OVAH. The impressive concrete bomas makes the OVAH one of a very few hospitals in the word that can manage all animal species.

WILDLIFE CLINIC *continued*

VETERINARY NURSING

The Faculty introduced the nursing diploma in 1977, which was replaced by the degree in 2019. As a philosophy, nurses are trained to be part of the veterinary team, and play an invaluable role in patient care. While the Faculty had teething problems in introducing the clinical components due to the size of the old hospital, the training of nurses took to the fore with the opening of the new OVAH.

Nowadays newly graduated nurses are in high demand, with successful private practices having more than one nurse to a veterinarian. The Faculty is also looking forward to introducing post-graduate programmes for vet nurses.



RESEARCH

The Faculty prides itself on being a centre of research excellence. To support this culture of excellence, the Faculty maintains an extensive set of laboratories from clinical pathology to molecular biology. Many of the faculty laboratories are also ISO17025 accredited. Numerous laboratories are also approved for research into infectious diseases. In addition to research undertaken in the five academic departments, the Faculty has dedicated contract or academic research units. These include the Equine Research Centre which has made tremendous strides in protecting local horses from African horse sickness; the Veterinary Genetics Laboratory which developed the RHODIS database and pioneered techniques that are effective in prosecuting rhino poachers; Centre Veterinary Wildlife Studies which a is home to wildlife research at the Faculty; A NRF Chair in Poultry health which has played a major role in poultry health; the Exotic leather cluster which has been involved in enhancing leather production; and a Chair in Primary Animal Health which is improving production outputs of small-scale farmers.

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Review article

From the discovery of the Malta fever's agent to the discovery of a marine mammal reservoir, brucellosis has continuously been a re-emerging zoonosis

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(Received 1 May 2004; accepted 16 September 2004)

Abstract – Brucellosis is not a controllable disease in humans. The source of hu... always resides in domestic or wild animal reservoirs. The modes of infection are ma... teric, occupational or recreational, linked to travel and even to bioterrorism. New Bru... or species may emerge and existing *Brucella* species adapt to changing social, cultur... agricultural environment. *Brucella melitensis* is the most important zoonotic agent, ... *Brucella abortus* and *Brucella suis*. This correlates with the fact that worldwide, t... bovine brucellosis (due to *B. abortus*) has been achieved to a greater extent than the co... and goat brucellosis (due to *B. melitensis*), these latter species being the most import... animals in many developing countries. The long duration and high cost of treatme... brucellosis reduces the efficacy of the therapy. There is no human vaccine for brucel... occurrence of brucellosis is directly linked to the status of animal brucellosis in a ... control, the World Health Organization has defined the development of a human vac... the implementation of control and eradication programs in animals, as a high ... pathogenicity for humans of *B. suis* biovars 1, 3 and 4 is well established, whereas *B.* ... 2 seems to be less pathogenic. Indeed, although human and pig farmers have ... experimental infections caused with *B. suis* biovar 2 (found in wild boar and rodents in ... Europe), isolation of *B. suis* biovar 2 from human samples have only been seldom repo... recently brucellosis, due to two new proposed *Brucella* species i.e. *B. ceti* and *B. pi*... represents a new zoonotic threat for the pathogenicity for humans of the different *Bru*... found in cetaceans and pinnipeds and has to be clearly established.

Brucella / animal and human brucellosis / zoonoses / domestic and wildlife reserv...

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PNAS

The genome of the heartwater agent *Ehrlichia ruminantium* contains multiple tandem repeats of actively variable copy number

Nicola E. Collins*, Junita Liebenberg†, Etienne P. de Villiers‡, Kelly A. Brayton§, Elmarie Louw†, Alri Pretorius†, F. Erika Faber†, Henriette van Heerden¶, Antoinette Josemans†, Mirinda van Kleef†, Helena C. Steyn†, M. Fransie van Strijp†, Erich Zweygarth†, Frans Jongejan‖, Jean Charles Maillard**, David Berthier**, Marli Botha††, Fourie Joubert††, Craig H. Corton‡‡, Nicholas R. Thomson‡‡, Maria T. Allsopp†, and Basil A. Allsopp*§§

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Edited by Barry J. Beaty, Colorado State University, Fort Collins, CO, and approved November 22, 2004 (received for review September 8, 2004)

Heartwater, a tick-borne disease of domestic and wild ruminants, is caused by the intracellular rickettsia *Ehrlichia ruminantium* (previously known as *Cowdria ruminantium*). It is a major constraint to livestock production throughout subSaharan Africa, and it threatens to invade the Americas, yet there is no immediate prospect of an effective vaccine. A shotgun genome sequencing project was undertaken in the expectation that access to the complete protein coding repertoire of the organism will facilitate the search for vaccine candidate genes. We report here the complete 1,516,355-bp sequence of the type strain, the stock derived from the South African Welgevonden isolate. Only 62% of the genome is predicted to be coding sequence, encoding 888 proteins and 41 stable RNA species. The most striking feature is the large number of tandemly repeated and duplicated sequences, some of continuously variable copy number, which contributes to the low proportion of coding sequence. These repeats have mediated numerous translocation and inversion events that have resulted in the duplication and truncation of some genes and have also given rise to new genes. There are 32 predicted pseudogenes, most of which are truncated fragments of genes associated with repeats. Rather then being the result of the reductive evolution seen in other intracellular bacteria, these pseudogenes appear to be the product of ongoing sequence duplication events.

gene duplication | bacterial genome | molecular sequence data | intracellular adaptation

Ehrlichia ruminantium (previously known as *Cowdria ruminantium*) is an obligate intracellular bacterium in the order Rickettsiales. Species in this order cause serious diseases in man and domestic animals throughout the world. *E. ruminantium* is transmitted by ticks of the genus *Amblyomma* and causes heartwater, a fatal and economically important disease of wild and domestic ruminants. The disease occurs throughout subSaharan Africa and on several Caribbean islands, from which it threatens to invade the Americas (1), but the existing immunization procedures are rudimentary and relatively ineffective (2). *E. ruminantium* is a fragile bacterium with exacting culture requirements in eukaryotic cell lines; genetic manipulation has not been attempted, and little is known about its mechanisms of virulence or pathogenesis. Heartwater affects all domestic ruminants, and 80–95% of naive animals die within 3 weeks, but those that recover have a T cell-mediated immunity to subsequent homologous challenge (3). In the absence of any directed strategy to identify T cell-stimulatory proteins we sequenced the *E. ruminantium* genome in the expectation that access to the complete protein-coding repertoire of the organism would facilitate the search for vaccine candidate genes.

Materials and Methods

Genome Sequencing and Assembly. The genome sequence was obtained by whole-genome shotgun sequencing of clones from two small insert *E. ruminantium* (Welgevonden-type strain) genomic libraries. An existing library constructed in Lambda ZAP II (4) was used for initial sequencing. A second small insert library was constructed in pMOSBlue (Amersham Pharmacia) by using *E. ruminantium* genomic DNA prepared from the culture stock derived from the South African Welgevonden isolate (5) grown in a bovine aorta endothelial cell line (6). Genomic DNA was nebulized for 2 min at 100 kPa in a Medel (San Polo di Torrile, Italy) jet nebulizer reservoir, and fragments in the 600- to 1,500-bp range were cloned into the plasmid. All sequencing was done by using BigDye chemistry (Applied Biosystems) on ABI377 and ABI3100 sequencers. Sequences were assembled by using PHRAP (www.phrap.org) and GAP4 (7) was used for manual checking and editing. Initial contig ordering was performed by comparing the positions of mapped genes and restriction sites to the physical map (8) and by exploiting synteny with the preliminary genomic sequence of *Ehrlichia chaffeensis*, the closest relative of *E. ruminantium* for which genomic data are available. The preliminary sequence was made available by The Institute for Genomic Research (www.tigr.org). Contig joining was performed by sequencing genomic PCR products spanning the gaps, and repeat regions and areas represented by single reads or clones were verified by the same means. The final assembly contains 25,648 reads with an average length of 569 bp, giving 9.6-fold coverage of the genome. The assembly was finally confirmed by comparison with the physical map (8).

Annotation and Analysis. Three gene modeling programs, GENEMARKS (9), ORPHEUS (10), and GLIMMER (11), were used to

This paper was submitted directly (Track II) to the PNAS office.

Abbreviations: CDS, coding sequence; SSR, simple sequence repeat; LTR, large tandem repeat.

Data deposition: The sequence data have been deposited in the European Molecular Biology Laboratory database (EMBL accession no. CR767821).

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Refugia—overlooked as perhaps the most potent factor concerning the development of anthelmintic resistance

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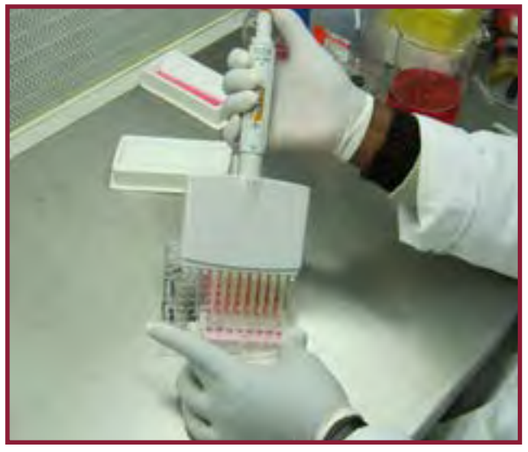
INTRODUCTION

Over the years, the Faculty has published well over 5000 research publications.

As an institution the Faculty has over 50 publications with over 50 citations. While the Faculty has published widely, staff at the Faculty have also published in high-impact journals such as Nature and Science. Despite the various subject areas in which the Faculty has published, the top publications are share a link with the Faculty's founding principles around local disease research. The three publications above, all dealing with infectious diseases, have been cited over 300 times each since publication.

LABORATORIES



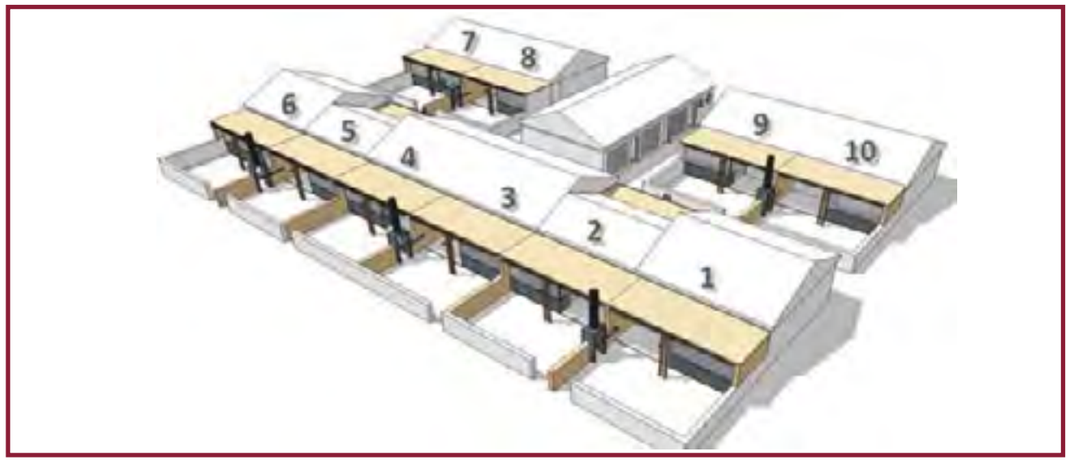
WILDLIFE MEDICINE

Wildlife Research and Health featured as a key research focus area at the UP. All the Faculty publications in *Nature* or *Science* were linked to wildlife research.

HANS HOHEISEN WILDLIFE RESEARCH STATION

The Faculty had the opportunity to take over the Hans Hoheisen Research Station near Orpen Gate in the Greater Kruger National Park, which after renovations hosts laboratories and student accommodation. The HHWRS is also linked to the Faculty's Hluhvukani clinic.

HANS HOHEISEN WILDLIFE RESEARCH STATION *continued*



SPECIALIST TRAINING

In addition to training undergraduate students the Faculty prides itself as being the major source of veterinary specialists in the country. The first candidates graduates from the specialist programmes in 1964. The Faculty further increased the MMedVet programmes on offer in 1971 and currently offers 19 tracks. For some of the specialised programme, graduates gain direct entry into the corresponding American and/or European College examination.

Veeartsenykunde *386*

Vyfde jaar:
(1) Interne Geneeskunde;
(2) Chirurgie, Spesiaal en Operatief;
(3) Geslagskunde en Kunsmatige Inseminasie
(4) Veterinêre Voedselhigiëne en Volksgesondheid
(5) Infeksiesiektes II
(6) Staatsveterinêre Medisyne
(7) Pluimvee Siektes
(8) ** Parasitologie Kliniek

II MAGISTERSGRAAD.

1. Die graad M.Med.Vet. word in die volgende vakke toegeken:
   (a) Fisiologie en Biochemie (Phys.)
   (b) Farmakologie en Toksikologie (Pharm. Et. Tox)
   (c) Voedselhigiëne en Volksgesondheid (Hyg.)
   (d) Staats Veterinêre Medisyne en Geregtelike Veeartsenykunde (S>V>M> et Jur.)
   (e) Genesiologie en Kunsmatige Inseminasie: M.Vet.Med. (Gyn.)
   (f) Chirurgie (Chir.)
   (g) Geneeskunde (Med.)

2. Toelating
   Kandidate vir die M.Med.Vet. graad moet in besit wees van die B.V.Sc.-graad of kwalifikasie wat reur die Universiteit as gelykstaande daarmee erken word. Sodanige kandidate word tot die kursus toegelaat na die verstryking van die tydperk hieronder aangedui:-

(a)	M. Med.Vet. (Phys.)	Onmiddellik na B.V.Sc of vrystelling.
(b)	M. Med.Vet. (Pharm. Et Tox.)	2 jaar na B.V.Sc of vrystelling.
(c)	M. Med.Vet. (Hyg.)	1 " " " " "
(d)	M. Med.Vet. (S.V.M. et Jur.).)	3 " " " " "
(e)	M. Med.Vet. (Gyn.)	3 " " " " "
(f)	M. Med.Vet. (Chir.)	3 " " " " "
(g)	M. Med.Vet. (Med.)	3 " " " " "
(h)	M. Med.Vet. (Hyg.)	1 " " " " "

In alle gevalle waar inskrywing nie onmiddellik na behandelin an die B.V.Sc.-graad (of ander kwalifikasies) mag geskied nie, moet 'n kandidaat die Universiteit tevrede stel dat hy vir tenminste genoemde tydperk toepaslike ondervinding gehad het.

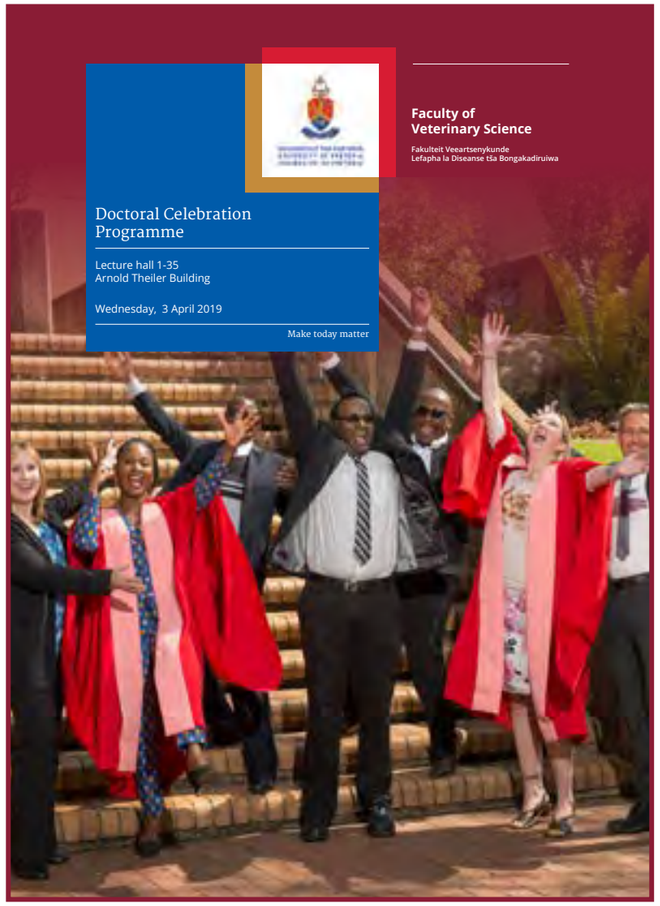
* Bywoningskursusse waarin eksamen in 'n latere studiejaar afgeneem word.
** Hersieningskursus.

b) Toelating:

Behoudens die bepalings van Reg. G.44(15) moet 'n kandidaat vir die M.Med. Vet.-graadstudie in besit wees van die B.V.Sc.-graad of tot die status daarvan toegelaat wees. Sodanige kandidaat word tot die kursus toegelaat na die verstryking van die tydperk hieronder aangedui: Met dien verstande dat in alle gevalle waar inskrywing nie onmiddeling na behaling van die B.V.Sc.-graad of ander toepaslike kwalifikasies mag geskied nie, moet 'n kandidaat die Universiteit tevrede stel dat hy vir ten minste genoemde tydperk toepaslike ondervinding gehad het.

(i) M.Med.Vet. (Chir.): 3 jaar.
(ii) M.Med.Vet. (Phys): onmiddellik.
(iii) M.Med.Vet. (Pharm. et Tox): 2 jaar.
(iv) M.Med.Vet. (Med.): 3 jaar.
(v) M.Med.Vet. (Gyn.): 3 jaar.
(vi) M.Med.Vet. (S.V.M. et Jur.): 3 jaar.
(vii) M.Med.Vet. (Zootech.): 2 jaar.
(viii) M.Med.Vet. (Hyg.): 1 jaar.
(ix) M.Med.Vet. (Morph.): onmiddellik.
(x) M.Med.Vet. (Path.): 3 jaar.
(xi) M.Med.Vet. (Bact.): onmiddellik.
(xii) M.Med.Vet. (Vir.): onmiddellik
(xiii) M.Med.Vet. (Anaes.): 2 jaar.
(xiv) M.Med.Vet. (Rad): 1 jaar.

PhD CELEBRATIONS



Sir Arnold Theiler

Bronze bust on a granite base by the artist Coert Steynberg, created in 1934.

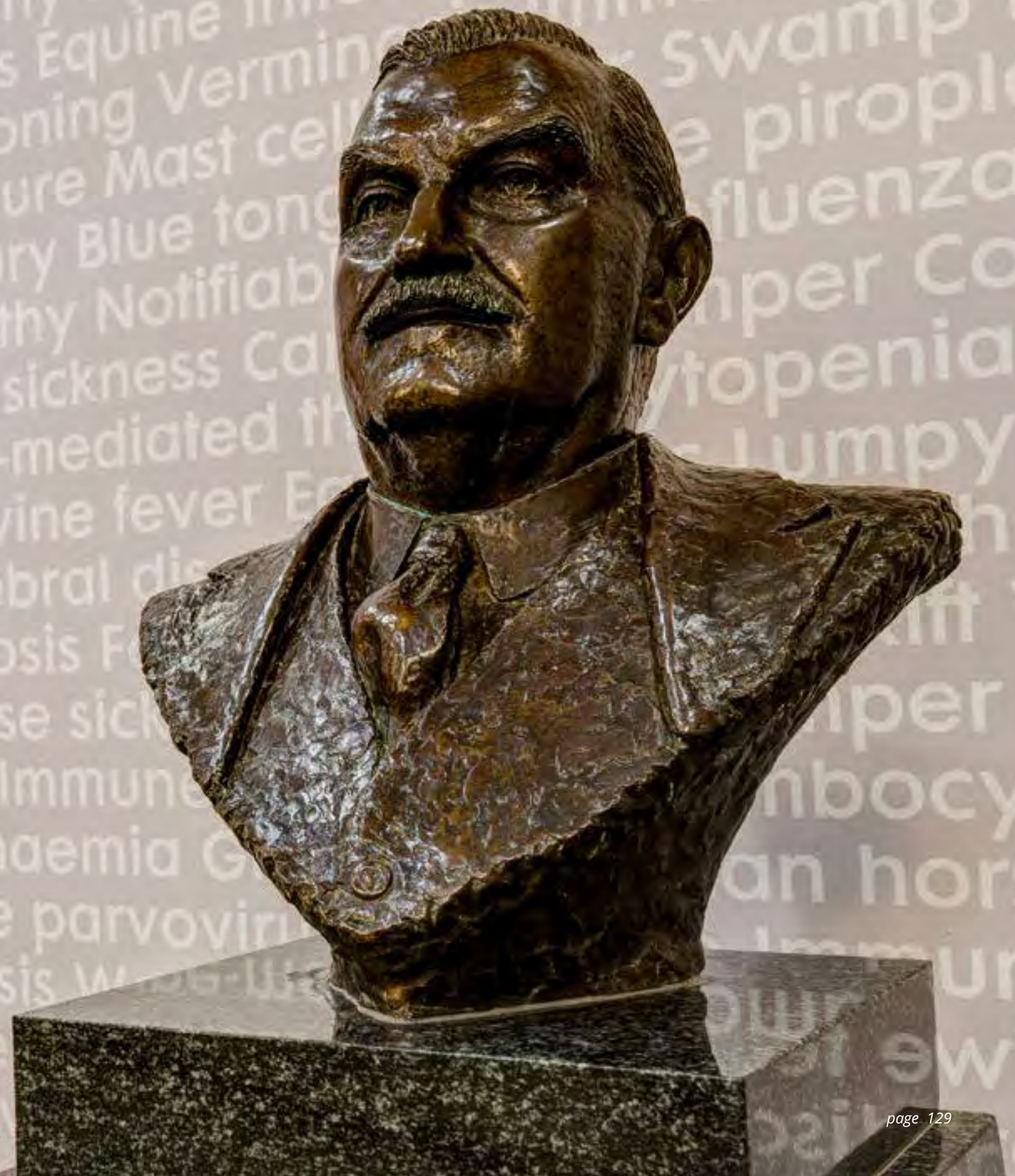
The bust was unveiled by Dr. Gertrude Theiler, Sir Arnold's daughter, at the 53rd annual South African Veterinary Medical Association Congress held at Onderstepoort in August 1959. In her speech, she mentioned the fulfillment of her father's life ambition to be a teacher, when he was asked to organize the veterinary faculty.

100 YEARS

OF VETERINARY EDUCATION

1920 - 2020

FOUNDED BY SIR A THEILER



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

100 YEARS OF VETERINARY EDUCATION

100 Years of Veterinary Education
Part 3: Student and staff life

STAFF AND STUDENT LIFE

STAFF AND STUDENT LIFE *continued*

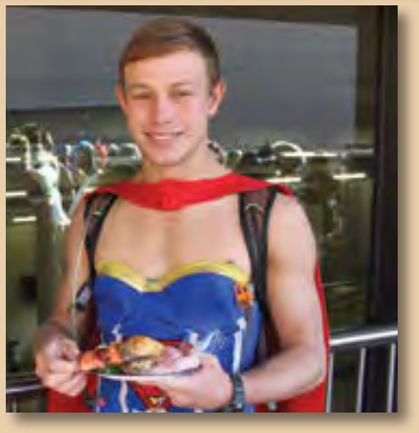
REACH OUT AND GIVE (RAG/JOOL)

The TUKS Rag has a long history that dates back to 1925, where people paid to watch the initiation of first year students in Church Square, Pretoria. This started what we now know as Rag. The OP students are known to participate in the RAG, albeit at in a typical naughty veterinary manner.

STAFF AND STUDENT LIFE *continued*

FINAL LECTURE DAY

FINAL LECTURE DAY *continued*



DEAN'S CULTURAL EVENT

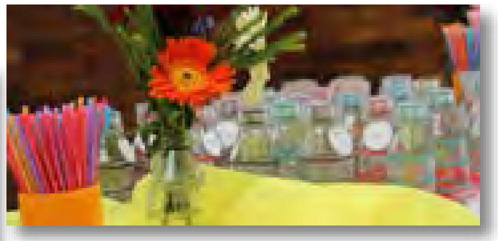
MEDUNSA SOCIALS

I WANT TO BE A VET

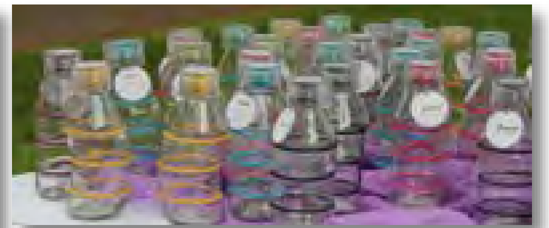
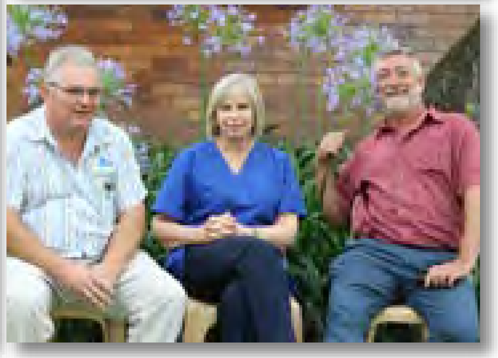
ONDERSTEPOORT SOCIALS

YEAR-END FUNCTION

YEAR-END FUNCTION *continued*






















HERITAGE DAY

SPORTS DAY

















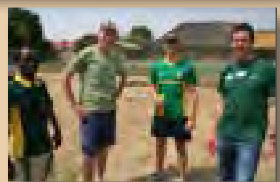


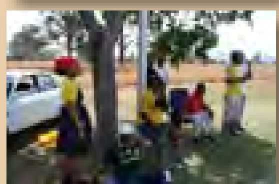






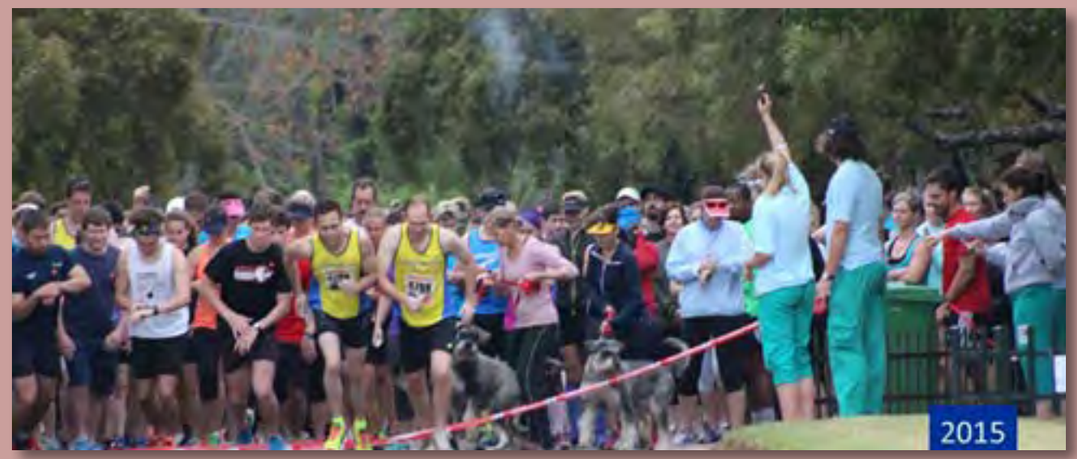




STUDENT OUTREACH

RUN FOR RHINOS



100 YEAR CELEBRATIONS

100 YEAR CELEBRATIONS *continued*















100 YEAR CELEBRATIONS *continued*

100 YEAR CELEBRATIONS *continued*

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100 YEARS

OF VETERINARY EDUCATION

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Prof Vinny Naidoo