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AUSTRALIAN VETERINARY HISTORY RECORD



MARCH 2009 – NUMBER 54

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The Australian Veterinary History Group is a Special Interest Group of the AVA [AVHG].

All who are interested in any aspect of veterinary history may join. Annual subscription is \$30.

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PRESIDENT'S REPORT TO MEMBERS

Dear Members and Friends

The following is a copy of the report that I supplied to AVA Ltd for incorporation into the Annual Report of the Association that is also my report to the AVHS Annual meeting in Darwin.

The Australian Veterinary History SIG (AVHS) was founded in 1991 to foster interest in and to record the lives, work and achievements of veterinarians in this country. The members' newsletter, the Australian Veterinary History Record, is currently the only journal devoted to Australian veterinary history. Three issues of the newsletter are published each year. The year 2008 has been one of consolidation of Group activities.

It is the desire of the Committee that valuable insights into the development of the veterinary profession in Australia continue to be collected in the Australian Veterinary History Record, the Max Henry Memorial Library and the Bob Taylor Collection.

There have been only two Editors of the 'Record' being Dr Peter Mylrea and Dr Ian Parsonson. Ian indicated his desire to retire from the position of Editor at the last General Meeting and the job of editing papers and nursing the development of the Record through production and postage to members. It has not been easy to find a replacement but efforts to find an Honorary Editor are continuing.

All previous editions of AVHS have been digitised and are available online at <http://ses.library.usyd.edu.au/handle/2123/222/>.

Dr Tom Hart, Honorary Librarian, is anxious to increase the library and is seeking donations of books and/or money to further the MHML. A separate bank line in the AVA account in the name of the Library has been arranged into which money donations will be placed and payments made from. If you want to donate books or money please contact Tom at tomhart@tpg.com.au. The Library has been catalogued by Dr Nicki Mock, a veterinary graduate as a trainee librarian with the University of Melbourne. Tom Hart has reported that Tammie Goates, Gilruth Librarian, and Nicki Mock have now completed digitising the contents of the MHML and this is available to members for perusal. Details will be provided soon.

If there were Members who would like to record veterinary history for the Record, please contact me at 61 3 9380 1652 or ajturner@bigpond.net.au.

I invite veterinarians to the next Annual Meeting of the Australian Veterinary History Special Interest Group in Darwin on Monday 18 May 2009. A very good scientific program has been developed focussing on the Northern Territory and the development of specialist equine veterinary practice in Australia. As well as the scientific program and following the annual meeting there will be the Annual Dinner on the Monday evening.

I look forward to seeing AVA Members and partners in Darwin for the Meeting and Dinner on 18 May 2009.

Andrew Turner
President
November 2008

I have pleasure in announcing to Members that Dr Neil Tweddle has agreed to be our Honorary Editor of the Record. Neil commences his duties in this issue. Neil will be known to many of you having worked for the Victorian Department of Agriculture in Victoria and the Commonwealth Department of Agriculture, Fisheries and Forestry in Canberra. Neil has retired to Mount Macedon in Victoria. Neil's contact details are at the front of the Newsletter.

While we have not yet held our Meeting in Darwin, it is time to start thinking about the following Meeting in Brisbane in May 2010. The Meeting will be held in the Brisbane Convention and Exhibition Centre at South Bank.

The AVA Conference in 2010 is a Pan Pacific Veterinary Conference incorporating "2010 AVA Annual Conference & 87th New Zealand Veterinary Association Conference" being held from 23 - 28 May 2010.

Anyone wishing to present a veterinary history paper to the Conference should contact me and I will be happy to arrange for the paper to be presented in our history session. Papers having a veterinary history theme relating to Queensland, Pan Pacific Conferences and New Zealand Australian veterinary relationships would be most welcome.

There is no reason why papers must be presented at Conferences so any history items with a veterinary theme that members or friends would like to have preserved, they can be published in the AVHR at any time. The Honorary Editor or I would be happy to receive items for publication.

I look forward to seeing as many of you as possible in Darwin.

Kind regards

Andrew Turner
President
5 March 2009

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C. DITTRICH.

**ANNUAL AND SCIENTIFIC MEETING
AUSTRALIAN VETERINARY HISTORY SPECIAL
INTEREST GROUP**

Sunday 17 May 2009

*Historical Tour of Darwin Surrounds with emphasis on Veterinary History
Arranged by Jan Hills and National Trust NT bus tour – cost \$TBA*

Monday 18 MAY 2009

- 8.00-9.00 pm ***Dr Reg Pascoe Evolution of Specialist Equine Practice in Australia***
- 9.00 -9.30 am ***Dr Trevor Faragher Kendall after Kendall***
- 9.30 -10.00 am ***Dr Jim Whittem Anecdotes of the Sydney Veterinary School and
Northern Territory veterinary services***
- 10.00-10.30 am ***Morning Tea***
- 10.30 -12.00 pm ***PLENARY SESSION***
- 12.00-1.30 pm ***Lunch***
- 1.30 -2.30 pm ***Forum on JA Gilruth in the Northern Territory;
Chair Dr Jan Hills
Hon Austin Asche
Dr Chris Bunn,
Dr John Auty***
- 2.30 -3.30 pm ***Dr Lorna Melville Veterinary laboratories in the Northern
Territory past and present
Dr Peter Hooper***
- 3.30-4.00 pm ***Afternoon Tea***
- 4.00-5.00 pm ***Dr Brian Radunz Eradication of cattle diseases in the Northern
Territory***
- 5.00-6.00 pm ***Annual Meeting of Australian Veterinary History Group***
- 7.30 pm ***Annual Dinner of Australian Veterinary History Society
Moorish Restaurant, 37 Knuckey Street, Darwin – fully licensed
Six Course - Tapas Banquet menu - \$40 per person ++ drinks as
used.***

**Australian Veterinary History Society,
A Special Interest Group of the Australian Veterinary Association
Ltd**

**NOTICE OF 18TH ANNUAL GENERAL MEETING
Darwin, 18 May 2009 at 5.00PM.**

1. Present
2. Apologies
3. Minutes of the 17th AGM of the AVHS (These minutes were published in the Australian Veterinary History Record, No. 52, July 2008)
4. Business arising from the Minutes.
5. Report of the President, Dr AJ Turner
6. Report of the Secretary/Treasurer, Dr JH Auty
7. Report of the Honorary Librarian, the Australian Veterinary History Library, Dr AT Hart.
8. Report of the Honorary Editor, the Australian Veterinary History Record, Dr NE Tweddle.
9. Election of Office Bearers
 - President
 - Secretary/Treasurer
 - Honorary Librarian
 - Honorary Editor
 - Committee
10. General Business
 - Report on Australian Veterinary History Collection
11. Next Meeting of the AVHS
12. Close.

ARTICLE

The article will be the basis for a presentation to the Annual and Scientific Meeting of the AVH SIG in Darwin on Monday 18 May 2009.

RECOLLECTIONS OF THE SYDNEY VETERINARY SCHOOL AND ALICE SPRINGS.

- Extract from 'Veteran and Veterinarian'- an autobiography

Jim Whitem

44Clifton Drive, Port Macquarie, NSW 2444

1. The Sydney Veterinary School.

Early in 1938 at the age of sixteen and now a matriculated student, I enrolled in the Faculty of Veterinary Science in the University of Sydney. My *Alma Mater* is the oldest university in Australia. At the time it was the only university in New South Wales and it was the only Australasian university offering an undergraduate the opportunity to complete a veterinary degree. A veterinary school had opened in 1936 at the University of Queensland, but teaching was suspended early during the Second World War. I was one of forty-eight veterinary students enrolled in Sydney in that year; we were therefore somewhat exclusive though less so than a decade earlier when the numbers enrolling did not reach double digits. At the time Veterinary Science was a five-year course (which had been extended from four years the year before I joined) and it was second in length of study to Medicine, which was a six-year course.

In second year, students from other states and four or five New Zealander joined us. They were sent by their governments to study veterinary science in Sydney. Of the original forty-eight, as augmented by the second-year intake of Kiwis and interstate students, less than twenty graduated in the minimum time and seven of those lucky ones enlisted in the armed services upon finishing their undergraduate studies

One non-curricular organization which I found rewarding was the Sydney University Rover Scout Crew. The crew met once a week at lunchtime in our own Rover Den, a room in the basement of the old medical school. The Rover leader was T.G.Room, FRS, professor of pure mathematics, who had come from Cambridge, where he had belonged to the Cambridge

University Rover Crew. A number of my fellow crewmembers are lifelong friends, including Jim Butchart, an economics student; we became co-Rover Mates of the crew

The crew was just coming to the end of a period when it had organized annual so-called scientific camps, mostly in the Myall Lakes area north of Newcastle. The Rovers would do the camp work including looking after the tents and meals. The non-scout students, drawn usually from the ranks of science undergraduates interested in Botany or Zoology would carry out fieldwork under the guidance of junior members of staff of the relevant science departments. Many careers in field science were facilitated in this way and many young scientists, both students & staff became life-long supporters of the Scout movement. Some of them subsequently became Fellows of the Royal Society. The outbreak of the Second World War impacted upon scouting at large, with most leaders entering the armed forces. We students who remained civilians had to take their places. In fact the university crew became responsible for a significant part of the weekend roster for Scouters at the State Training Camp and its members carried out this service activity for the duration of the war. I was invested as a Rover at Pennant Hills. I took my first practical wood badge training there under Hartley McAllister and then assisted him with subsequent training courses, until we both found ourselves in the services.

I passed first year without difficulty, no doubt assisted by my schooldays spent learning chemistry and physics. In second year our perceptions were changed. We had entered our truly professional course - we had eschewed frogs and newts for horses and sheep, and the pure sciences for the applied. And this was why we had chosen our faculty. We were learning all that was known about the normal domestic animal as a prelude to learning all about its diseases. We wore 'white coats' which became stained with formalin, haematin, urine and faeces instead of acids and alkalis. A significant number of us passed our annual examinations. The most important event of that second university year, whilst I was still living at home in Lane Cove was the outbreak of war. I remember listening to the broadcasts of its declaration by the British Prime Minister and to our own political leaders issuing their own declarations but it was all happening or in the first instance not happening so far away. It did not affect us students at first, except those who failed the annual examinations. When this occurred, many took the easy way out and enlisted in the armed services

instead of returning to repeat the year. Those who passed bore the charmed designation of 'reserved occupation' and were immune from conscription, even finding it difficult to enlist voluntarily in the armed services

I passed the annual examinations with some honours and proceeded to spend the summer vacation of my second year learning the farming life on a dairy farm in the Kyogle area. There I really learned to milk cows. It was actually an exercise in machine milking, useful as background. This summer holiday introduced me to sub-tropical mixed farming. I had never been so far north before - almost to the Queensland border! I had never seen maize growing nor had I had to feed pigs with skimmed milk and corn; my field experience in animal husbandry expanded.

Back in Sydney the successful students entered the third year of the course, a transitional year between learning the anatomy physiology and biochemistry of the normal animal and the much more applied and therefore exciting fourth and fifth years with their emphasis on clinical work.

We continued with the former subjects and commenced some new ones: pharmacology and *materia medica*, for instance; here, too, my introduction to pathology occurred. We were subjected to three lectures a week and two afternoon labs under the enthusiastic guidance of a young Dr H.R. Carne. He was a Sydney graduate with post-graduate experience in the state diagnostic laboratory in New South Wales, in the Lister Institute in London and the Pasteur Institute in Paris He had also visited the veterinary laboratories at Onderstepoort in South Africa where he had come under the influence of Sir Arnold Theiler, then the doyen of veterinary pathologists in the 'empire'. Theiler had deep and abiding interests in diseases caused by poison plants and in diseases of the bones. He was also responsible for directing the work of the laboratories concerned with all of the major livestock diseases in Southern Africa. Carne added to these interests a lifelong activity in the field of bacteriology, especially *Corynebacterium ovis*, the cause of caseous lymphadenitis in sheep He already possessed a senior degree conferred for a thesis on this subject. Elsewhere I have written in greater detail of Roy Carne, who became my first professional mentor after the war.

At the end of 1940 I passed the annual examinations for third year with moderate distinction and some interesting things happened to me. It was the end of the first year of the war and the battle of Britain was over. We successful students were in reserved occupations and I was eighteen years young, so I joined the army.

This, of course, was the 2VES in the dying days of the Australian Light Horse. I went to summer camp of the light horse regiments at Greta in the Hunter Valley of NSW. We were kitted out in khaki woollen tunic, corduroy riding breeches, leather leggings, boots, spurs and a broad-brimmed fur-felt hat with a splash of emu plumes fastened to its upturned left side. We wore a leather bandolier, carried a .303 rifle, and thought that all of the young ladies should fall for us. Well it didn't happen quite like that. My strongest recollections include how stiff and sore I was after my first fifty-miles-in-one-day horseback ride, with army saddle and all kinds of gear attached to it; sleeping on the ground with the saddle-blanket over me and the saddle itself for pillow. We were eaten alive by Hunter valley mosquitoes and fed only after the horses had been watered, groomed and fed on the staked-out picket lines. Scout camps were more fun. I have dim memories of a few beers in a pub alongside the town common at Raymond Terrace, where we must have constituted a perfect nuisance to the worthy townspeople, and of eating the proceeds of a raid on some long-suffering farmer's watermelon paddock. During the whole three months of the camp I never learned that we were in the state's premier wine-growing district, and perhaps this was fortunate.

Whilst we were in this camp a fellow student from my own year, Fred Morley, somewhat older than I was and more senior in the army suggested to me that I should apply for a place in and a scholarship to Wesley, the university college where he and others of our year lived now as comparatively senior students. I took his advice and have been grateful to him ever since

So, at the beginning of my fourth year studies I left my home and family and presented myself to the master and student club of Wesley College. I was allocated a room on the ground floor with a group of newly entered first year students. We were called 'freshers' by the old established students and enjoyed this status throughout our first year in college, irrespective of our seniority in the university. I found myself in a very different working

and social environment in college. I met people such as I had never met before- senior year medical students, theologs, even the crown prince of Tonga, nicknamed Tubby. There was one medical student who played the piano daily in the common room. There I heard Liszt's 'Rigoletto paraphrase' for the first time in my life and soon developed a lifelong interest in classical music. Moreover I found the atmosphere for study just what I needed. There was plenty of extra time; no hours wasted on trams and trains, no kitchen chores; we were close to the lecture theatres and laboratories of the school and to libraries, including a college library. There were five of the Vet. Sci. IV men in Wesley, and two more lived over the way at Andrews. The majority of us graduated with honours. We should have done so, for Wesley was known as the workers' college. As fourth year studies developed we attended four or five lectures a week in medicine, five in surgery and several in parasitology and bacteriology, along with some other smaller courses. In addition there were clinics and labs. Thank goodness I was living on campus and thank goodness I was living in Wesley, where the competition was reasonably strong. Many a weeknight I would go to my window at two or three in the morning before I turned in to ascertain whether the lights were out in the rooms of my competitors and colleagues!

At the veterinary school, at the bottom end of Science Road, there were four more staff members, none of them as yet mentioned in this tale, whom we met formally for the first time in fourth year. Three of them played a part in my subsequent career; the fourth, Hector Geddes played only a bit part and I will deal with him first. Hector was an agricultural science graduate who was recruited to teach animal husbandry - animal nutrition, genetics and the like. It was not my cup of tea. We came under his direction later in the fourth year when we went into residence at the faculty farm at Badgery's Creek for a few weeks 'practical work'.

The second was the dean, Dr Ian Clunies Ross, a Sydney graduate who had been a parasitologist in the McMaster Laboratory of the Council for Scientific and Industrial Research. He became Dean of Veterinary Science just before my fourth year. With his incisive mind on other, weightier matters in this second year of the war, Ian contented himself with giving a course of lectures on livestock economics. He was the only teacher who attempted to instruct me on such esoteric subjects as the law of diminishing returns. Later he became the first chairman of the renamed CSIRO.

Thirdly, there was H.B. (James) Parry, BA (Cantab) BVSc, MRCVS, who taught us medicine. He had come from Cambridge via the USA, where he had spent a year or so as a scholar or fellow with one of the philanthropic foundations. He had been appointed at the time of the retirement of Professor J.D Stewart, the founder and first dean of the school, who retired at the age of seventy-two or thereabouts at the end of my second year at the school. Parry had become imbued with the necessity to teach medicine as a discipline derived from physiology, rather than from experience or mumbo jumbo. We students were only the second class of Australian graduates who had this benefit. Parry was a great innovator to whom all subsequent Sydney graduates owe a large debt

The last of the quaternity was R.M.C.Gunn, who taught us surgery. Surgery is a discipline that does not alter in essentials, rather like Gunn himself who could reasonably have been described as being immutable. Rex Gunn had trained at the Royal Dick in Edinburgh and he was as dour as any Scot. He had obtained his DVSc for some timely work on the negative effect of high ambient temperatures and consequent high scrotal temperature on fertility in the merino ram. He was an adequate teacher of surgery although in his later days he seldom picked up a scalpel. Junior members of his staff performed all demonstrations and he ruled staff and students with a rod of iron. I obtained honours in surgery even though in my final practical examination, at the conclusion of performing an intestinal anastomosis on a horse, my suture needle accidentally punctured a largish blood vessel and the operative field was swiftly flooded with blood. I muttered a curse and looked up. Gunn was standing over me, wearing his inscrutable smile. Interestingly enough, Rex Gunn became my most assiduous correspondent among the school staff during my subsequent years overseas with the RAAF, perhaps because he maintained interest in graduates serving in the armed forces as he had done during WWI.

At this time the faculty had decided that, following one term of lectures to complete the medicine and surgery courses, fifth year students would 'specialize' in clinical work, laboratory work, or animal husbandry though all would graduate as B.V.Sc. So another career waypoint was reached when I opted for laboratory studies. I think that the compelling reason for my choice was that my primary interest as a student was scientific rather than in individual animals or herds and flocks.

At end of 1941 I passed my fourth year exams and was looking forward to final year and graduating soon after my twenty-first birthday. These matters decided, I went off happily enough to spend my last long vacation as a veterinary student working at Haddon Rig; one of Australia's foremost merino studs. There I hoped to learn something of management of the upper crust of the sheep and wool industry. In addition this stud was the site of some quite early Australian work on artificial insemination in sheep. A recent graduate, Bill Granger who had spent a year with Gunn doing graduate work was performing it. At Haddon Rig we vets lived in the homestead as guests of the owner and it was my introduction to the lifestyle of the Australian 'squattocracy.' The house was large, cool and comfortable even in the hot summer weather. Full domestic service was provided whether or not the owner was in residence. On this occasion he stayed only a few days and then flew out again.

Not long after his departure, on 7 December, 1941 the Japanese attacked Pearl Harbor and the war in the Pacific commenced in earnest, with its more immediate threat to the national security of Australia. This event led to an immediate resurgence of interest on the part of my generation in 'joining up' - the then colloquialism for voluntarily enlisting in the armed services.

I forsook Haddon Rig and took the first train to Sydney, where after consulting with my parents I presented myself early one morning in the corridors of the veterinary school with the objective of obtaining the dean's blessing to abort my studies and enlist immediately. Interestingly, six or seven of my colleagues from the new fifth year class were there on the same business. We comprised about a third of the surviving final year.

Ian Clunies Ross was then part-time Director of Scientific Manpower for the Australian Government and no doubt the prospect of losing a third of his own senior students to war service before graduating would have been more than a little embarrassing. So he listened to our pleas, said that he would see what he could do and invited us to be in touch again in a few days. These events took place only a few days before Christmas of 1941. The Dean made his decision and all necessary arrangements for the seven of us to commence our final year lectures a week or so later, in early January and to sit our final examinations in May, when we would be free to enlist in the armed service of our choice. Quite aptly we were dubbed 'the

accelerated course'. It is remarkable that there is no record of this major decision of Ian Ross in either of his biographies.

Fifth year was quite rushed, with lectures every morning and not too much laboratory or clinical work. I do not remember details of those hectic few weeks while the Japanese were wreaking havoc in our north. I sat and passed my final examinations, gaining second-class honours.

- - - - -

The war was over. Early in January 1946, still in the uniform of an officer of the RAAF, still wearing my pilot's wings, I paid my first visit to the Veterinary School since 1942. I now entered the front door as a junior member of staff. For the next twelve years I was to work in the pathology department of my old school in Sydney. H.R.Carne, head of the Pathology Department, explained to me his plans for expansion of the department. This would be primarily to service the expected influx of student ex-servicemen who would take advantage of the Australian government's Commonwealth Reconstruction and Training Scheme, or CRTS. He proposed to enlarge the teaching laboratory and to build a 'temporary' asbestos-cement building for the department to house its staff and facilities.

After a year or so, I began to take over the lectures in systemic pathology and was promoted to the rank of lecturer, with tenure, and I looked set for a lifetime of teaching pathology in Parramatta Road. Roy Carne was always interested in encouraging younger members of staff to develop their skills and knowledge by travel, and in due course he arranged for me to spend a week or two with Dr. Frank Burnett at the Walter and Eliza Hall Institute for Medical Research in Melbourne. Along with some of his junior staff, I had the unforgettable experience of attending his 'kindergarten' in virology laboratory techniques. I deepened my interest in neuropathology and canine virus diseases, and further papers followed. Carne was helpful, too, to younger members of Gunn's department; with his encouragement, two colleagues went abroad - Jim Steel to Cambridge, Doug Blood to Cornell.

Then, in mid 1950, it was my turn to depart on sabbatical leave, a little before the regulation seven years. I had decided that I needed further studies in neuropathology, virology, and histochemistry. I won one of the first Fulbright awards and was accepted as a graduate student by the

University of Minnesota, There, the medical school was able to offer me the programs I needed.

This was the next frenetic period of my life. I would travel by streetcar or bus across the city to Millard Hall, at the University's Medical School, where for the first six months or so I attended lectures and labs in histochemistry, neuropathology and virology. Millard Hall was an exciting place by day and by night in the early fifties, my studies in virology progressed most satisfactorily, and soon I was a temporary staff member of that Department. Apart from these duties there were my own studies to pursue- virology, epidemiology and many others. Dr Syverton, medically qualified, was one of those rare people, like Burnett, who saw his discipline broadly and not as the purview of one profession. My nights were spent 'bashing the books', both medical and veterinary microbiology, virology, bacteriology, mycology, and immunology. When not teaching, my days were spent getting my research projects under way and helping with other people's projects. The University of Minnesota was an exciting place at that time. The hunt was on for a vaccine against human poliomyelitis, and our department was heavily involved in tissue culture as a tool for isolation, selection and attenuation of suitable strains of poliovirus, although in the long run we did not win. That race was won by Salk, later by Sabin, who developed, respectively, the first inactivated vaccine administered by syringe, and the first attenuated, orally administered one. All of this required a level of microbiological technical expertise second to none- the laboratories were loaded with poliovirus, there were no vaccines, and every research worker and student in the place ran the very real risk of developing polio himself, and perhaps transmitting it to his own children! It was very good training in safe microbiological technique.

My own research was concerned with using a new histochemical technique with the pet-name 'fluorescent antibody technique' to detect specific viruses in the tissues of infected animals, in particular in the so-called inclusion bodies in brain and other body cells. I had long thought that these might represent *in-vivo* colonies of virus and it seemed sufficiently important to try to find out if this was true. For this research I had to manufacture my own fluorescent reagent from available basic chemicals. This took me the whole northern summer of 1951. I succeeded in this chemical foray, and was among the first to develop this method for

diagnosis of virus diseases, now a standard technique in histopathology. At the end of our American sojourn, I went solo on an itinerary which encompassed veterinary schools and research laboratories down east, including Cornell, Rockefeller, Lederle, Philadelphia, and Guelph, meeting with the cream of American biological and veterinary researchers. I also paid my first visit to Washington, D.C., visiting the United States Department of Agriculture and the Armed Forces Institute of Pathology. Then we travelled by rail to Vancouver to embark for Australia. We remember quite clearly the morning of our departure - there were two news items. Dorothy remembers the death of King George VI; I read of the outbreak of foot and mouth disease in southern Saskatchewan.

On return from my Fulbright-assisted graduate studies, I was duly promoted to senior lecturer. I took over a good deal more teaching and began to develop an interest in congenital deformities of calves that led to publications in the *Journal of Pathology and Bacteriology*, published in London, and to a growing international reputation. Others went off on their sabbaticals, and eventually Roy Carne himself went to spend a year at Cambridge, working on his beloved *Corynebacterium ovis*. I became involved in the New South Wales Division of the Australian Veterinary Association, as secretary, then president of its NSW Division, and a federal councillor.

One fine day in mid 1956, Jim Gill, Chief of the CSIRO Division of Animal Health and Production, invited me to come over to his office. Gill had recently returned from a visit to Alice Springs whither he had gone in response to an invitation from Colonel A.L. Rose, the Director of Animal Industry of the Northern Territory, to report on the need to build a modern veterinary laboratory for diagnosis and research into livestock diseases.

Rose had asked him to try to recruit somebody to spend the summer of 1956/57 in the Alice as relieving pathologist to assume responsibility for the laboratory services while the incumbent was on leave and Jim wondered whether I would be interested.

I had met Lionel Rose at an Australian Veterinary Association meeting where he had presented a paper on 'Birdsville disease' of horses and had shown a colour silent movie film of it, taken in the Alice Springs district. This had interested me as being a disease worth further investigation; it

was clearly a neurological syndrome without described neuropathology, and therefore it seemed that more expert work might be needed.

Roy Carne raised no objections, Dorothy was willing, especially as she had been raised on the prairie in the middle of Canada and in the decade she had lived in Australia she had seen nothing of the inland. The necessary arrangements were made, including our use of the house in the Alice occupied by the officer whom I was to relieve.

I put Dorothy and the kids in our faithful old Holden, and we set off for Alice Springs via Bourke, Cunnamulla, Longreach, Winton, Mount Isa and Tennant Creek. We had decided to camp out along the way, so I had assembled a swag, loaded a tucker-box, canvas water bag, a drum of drinking water, my old .22 rifle, and a bottle of salt tablets. The trip through Western Queensland gave Dorothy a good first taste of the inland. At Winton we learned that the first storms of the wet season were expected in a day or so, so it seemed important to get off the black soil plains, at least to Cloncurry, and preferably on to the bitumen road between Mt Isa, Alice Springs and Darwin, before the storms broke.

At the hamlet of McKinley, where we stopped for a few beers, rain ahead was reported, and so we decided to drive all night in order to reach Cloncurry. We arrived there at about three o'clock in the morning after driving through a deluge. Having escaped by the skin of our teeth, we travelled on the next day to and through the Isa, Camooweal (the Weal), Frewena and Tennant Creek, to Alice Springs (the Alice) where, well after dark, we ran out of petrol in the main street. Within an hour, Animal Industry Branch staff had rallied around and we were installed in Arch Campbell's house with some cold beers.

That working holiday in the Alice proved to be another frenetic period of my life, involving fieldwork, laboratory work, meeting the Territorians, and learning something of the social, geographic and climatic imperatives of the red centre. After a couple of months we were in love with it all; the challenge was three-fold. The place, the people and the job to be done were new to us, and we both developed a life-long magnificent obsession about them all.

Lionel Rose, known as the Colonel, or the boss, to his staff, ran a tight ship. He had been District Veterinary Officer in Cootamundra, New South Wales, before the war. During it, he had risen to be a member of Macarthur's combined operations staff during the Borneo and other campaigns. He was of military bearing, leavened by a wicked undergraduate sense of humour, had a reputation for straight speaking, hard drinking, and he possessed an unusual ability to understand and get along with his sub-professional staff, who thought the world of him. He was respectful but direct with his superiors, firm in leadership. He became the second, and the most important, of my professional mentors.

I had hardly settled down in the laboratory, which like the office occupied temporary wartime frame buildings in the centre of the town, when we received a report of an outbreak of Birdsville disease a hundred or so miles north west of Alice Springs. Rose asked me whether I would go out and see it in the field; I replied that this was one of the principal reasons for my coming to the Alice. So the team, comprising stock inspector Ian Michael, chemist Ray Murray, and myself, set off by Land Rover one mid-afternoon. Unfortunately, a few miles after we had turned off the Stuart Highway onto the Mt. Allan Road, a fire broke out in the load, and the vehicle burned to the ground. We escaped with water bag, rifle, and a roll of banknotes - the Christmas payroll for the station staff!

We walked back to the bitumen, got a lift into the Alice and duly reported to Rose, who was having drinks with a few people in his garden. Ian reported the loss of the vehicle and Rose, characteristically, as I was to discover, said "same arrangements tomorrow, in another vehicle". He then invited us to join in the drinking.

So, late the next afternoon we arrived at Mt. Allan and I saw my first clinical cases of Birdsville disease, carried out several autopsies and collected much material for subsequent study in the pathology laboratory.

Back in the Alice, I busied myself delving in to the treasure-house of histopathological material which had been collected since Rose arrived there soon after the end of the war. The tissues had been processed but never examined, as neither of the two incumbents of the position of laboratory officer (a bacteriologist and a serologist) had had the necessary experience in pathology to examine it.

Within a week or so I was able to produce a reasonable description of the histopathology of a number of diseases enzootic to the territory, details of which do not usefully occupy a place in this story. Suffice to say that, with Lionel Rose's prior knowledge and agreement, I was able to present the data to the senior staff of the branch. At weekly meetings for the remainder of that summer, I regaled veterinarians, chemists, the botanist, and senior administrative staff with the secrets that had been filed away in the laboratory cupboard for years. I believe that these activities of mine provided a needed stimulus to further research into these important and very interesting local problems, some of which were common to the neighbouring states.

As our stay there drew toward its end, because I had to get back to Sydney for the beginning of the new academic year, the staff decided to give us a farewell barbecue. That somewhat alcoholic night was indeed memorable. I still remember my surprise when Lionel Rose and Tom Hare drew Dorothy and me to one side, and dropped a bombshell. It was an invitation, practically a command, for us to return to the Territory permanently at the end of the forthcoming academic year. Then, I would have approximately six months to familiarize myself with the administrative side of the Animal Industry Branch and its industry responsibilities before succeeding Rose as Director of Animal Industry and Chief Veterinary Officer of the Northern Territory, upon his retirement. To the best of my recollection, we said 'yes, sir' that same night, and so another career was launched.

Back at the Veterinary School, I lunched with Roy Carne, who told me that he had decided that the Pathology Department should take part in the University's recently inaugurated Ph.D. program, that he had taken on two recent graduates as our first Ph.D. students, and that I was to be responsible for supervising one of them, Len Lloyd, who would be allocated a research project concerned with a peculiar skin cancer of sheep- a problem in pathology. In return, I told him of our plans, that I would resign my university position at the end of the coming academic year and return to the Northern Territory, with exciting prospects. Therefore, my supervising of Lloyd's work would last for only one year. Needless to say, Carne accepted this change of plans with his usual good grace, and the end of my days as veterinary pathologist in Parramatta Road began to approach.

The academic year of 1957, then, was the next frenetic period in my professional life. In addition to teaching the undergraduates, supervising my graduate student, and winding up a number of my own research projects in pathology, I commenced to travel in a way that I had never done before but which was to continue for the remainder of my working life. Lionel Rose arranged for me to attend two national meetings of Chief Veterinary Officers that year, firstly a meeting of the Australian Animal Production Committee in Perth, and the Biennial Conference of Commonwealth and State Veterinary Officers in Canberra. At these meetings I was introduced as the next Chief Veterinary Officer of the Northern Territory to my future opposite numbers, and other colleagues in the State and Commonwealth Departments of Agriculture and Health. I began to comprehend the widened range and magnitude of responsibilities and interests I had assumed in that slightly inebriated moment on Archie Campbell's lawn in the Alice.

In the preceding twelve years, I had taught pathology, and especially the art of post mortem examination, to more than one thousand veterinary students, many of whom subsequently pioneered rural veterinary practice in Australia and New Zealand.

2. Alice Springs

Early in that November, after marking the final examination papers of my pathology students and at the end of my career in academia, I celebrated my thirty-sixth birthday. Then, leaving my pregnant wife and the three children in Sydney, I flew, for the first of many times, to Alice Springs, in the red heart of Australia.

The next few months were extremely interesting and instructive. In the office, I learned how the branch was organized, how to plan and run meetings of the senior staff, what legislation we administered: the Stock Diseases Ordinance, the Stock Routes and Travelling Stock Ordinance, the laws about abattoirs, protection of birds and so on. This was a far cry from pathology and veterinary students. I travelled widely through the territory, from the Finke district on the South Australian border, where sometimes it did not rain for years, to the Barkly tableland, a huge expanse of treeless black soil plains. There the cattle station named Alexandria was bigger than Belgium, and there was an eight to nine month dry season every year.

In all these areas I was introduced to the pastoralists- the men and women who owned or managed the leases of these huge areas of cattle country and their large herds. They were our clients, depending on us to advise them of the science involved, to seek and supply the information which would help them to avoid losing cattle from disease, to help them get water for their herds, diagnose diseases and identify poison plants. Later, I travelled similarly through the Victoria River and the Darwin and Gulf Districts; the latter is now more commonly referred to as the 'Top End'.

Rose took me by road to Darwin, where I had never before been, to a Legislative Council meeting where I sat in the visitor's gallery learning what I would have to do at the next one. I met the members over drinks, and our Darwin-based and other northern staff members. I met His Honour, the Administrator, Clarrie Archer, a colonial service type who had been a prisoner of the Japanese during much of the war, his assistant Administrator, Reg Marsh, whom I had met in the Mediterranean theatre of war as a representative of post-war reconstruction. I met the heads of other branches of the Northern Territory Administration and the directors of other federal government agencies such as the Attorney General's and Health Departments that provided services to the Northern Territory government.

Archer invited us to dinner one night at Government House, then and probably still, the loveliest building in Darwin, and it was fascinating to sit there and remember that Jock Gilruth, one of the grand old men of the veterinary profession, had lived in Darwin as Administrator during the First World War. Clarrie had two souvenirs of a trip that he had recently made to visit his counterpart and neighbour, the Governor of East Timor. These comprised some bottles of magnificent Portuguese red wine, which he did not know how to present and preserve, and the original cast recording of "My Fair Lady" which he played for us. That was the beginning of another life-long love affair for me.

I was able to fly back to Sydney a few weeks later to pack and pick up the enlarged family. We all flew to the Alice via Adelaide and shook down in our brand new house without any car or furniture, which was coming by road or rail from Bundeena. The Animal Industry Branch staff rallied around scrounging stretchers and camping gear to use until our own possessions arrived.

Soon after our arrival, a party was held to mark Lionel Rose's retirement, my succession, and Dorothy's arrival in the Alice. This was one of the better parties that we had survived up till that time. Memories include my discovery that at least three staff members were quite creditable cartoonists- the walls of the hall were covered with depictions of many of the highlights of the career of my illustrious but prankish predecessor, both in the N.T. and beforehand.

It was now Dorothy's turn to be high on the learning curve. Only a few days after her arrival, and before the gear and the car had arrived from south, I went off to Wyndham, Western Australia, to lead an investigation into a disease of cattle often seen in the meat works there. I did not return to Alice Springs for some weeks, due to a number of commitments arising after my departure. The first of these was a Legislative Council meeting; I had been appointed vice Rose by the then Governor-General. Archer chose to let me know, over at Wyndham, by a telegram classified 'Confidential', which was transmitted over the Flying Doctor's radio network so that everybody in Northern Australia heard it.

This first Legislative Council on which I served had a most interesting membership. The Legco, as it was nicknamed, in 1958, bore all the hallmarks of a colonial type legislature worthy of the British Empire in its heyday. The President was the Administrator of the Territory. There were seven appointed members, comprising the heads of the following Branches and Departments: Animal Industry, Lands, Mines, Welfare (*syn.* Aboriginal Affairs), Health, and Attorney Generals. The Assistant Administrator was leader of the Government.

There were six elected members, elected by the white adults of the six electorates in the normal way, and mostly drawn from the three towns - Darwin, Alice Springs and Tennant Creek, with two from pastoral/mining regions. Naturally, the arithmetic was soundly against the elected members ever winning a vote on any matter. On the other hand, we were undoubtedly a body of competence, even a collection of experts- a mining engineer, a gouger, three lawyers, a surveyor, a trade unionist from the mining industry, a teacher, a medico, a veterinarian and two clerks.

My first Council meeting was followed immediately by a trip to Canberra, in July, of all the members of the Council, to confront the Federal Government over questions concerning further self-government for the Territory (which has not achieved full statehood yet!). Dorothy dined out on the story of repeated requests from the director to send him clothing more suitable for these civilized activities than the stockman's gear he had worn to Wyndham. She never understood why I did not return to base for the intervening weekend, as did some others. The hard truth was that I went fishing with the Crown Law Officer in Mickett Creek, where we caught a mass of barramundi and other delicious piscine species. Eventually, I returned to the Alice to find the family quite settled in. Our gear had arrived, Branch staff had rallied around to help the unpacking and arranging of furniture, the car had arrived and the little family was a going concern.

We spent the next six years in the territory, domiciled in Alice Springs but travelling widely. They were busy, interesting and fruitful years for the adults, and character-forming years for our four children.

Lionel missed being a member of the Legislative Council, that excellent drinking club, and he stood for a Centralian rural seat as a private member in the next election, and won it. Thereafter, in this very small legislature, there were two vets - one on either 'side' of the chamber. By the time we had finished with them, the other members knew more about foot & mouth disease and a number of other problems of animal health, than did the members of any other legislature in the world.

Another noteworthy legislative battle took place some years later. Our representations to the Menzies Government in Canberra had resulted in a miniscule step along the territory's road to self-government. The constitution of the Council was altered to eight elected members, six official members (who toed the government's line), and three other members nominated by the Minister to be watchdogs over the three economically important areas of cattle, mining and tourists. This meant that any government legislation needed the support of all three of these members to pass, as the elected members tended always to vote against the government.

After this change had been made, I had little trouble getting my bills through the council, as they were technical and apolitical. For example the

Veterinary Surgeons Ordinance passed without debate. A little later, a potential problem did develop, with amusing consequences. We needed legislative backing to bring scientific considerations into the management of our wildlife resources. This was breaking new ground, and with the assistance of Harry Frith, Chief of the CSIRO Division of Wildlife Research, we drafted a bill that we believed would serve as a model for the more backward states. This was somewhat more contentious than my usual legislation, as of course anything to do with conservation still is. I introduced the bill and gave the second reading speech toward the end of the first week of a three-week Council meeting, we adjourned for the weekend, and I stayed in Darwin to do some lobbying. .

One afternoon Fred, the clerk of the Council, called me out of the Darwin Club to help him with a problem. A five-foot grass snake had been found under a member's desk in the Council chamber, and would not leave. It did not help that the desk in question belonged to our sole female member, whose electorate was known as Fanny Bay. This was obviously a job for the Director of Animal Industry.

Well we got the snake out, put it in a large glass coffee jar, and put the whole device in the refrigerator in the members bar. When the Wildlife debate resumed, I waited for the best opportunity to have a little fun and make my colleagues laugh so that they would vote for my bill. An opportunity arose whilst I was dealing with the various classes of protection we intended to afford to wildlife. Seeking the president's permission, I opened the jar that had been sitting unnoticed on the corner of my desk, and lifted a long, cold but very quiescent snake out and held it up by the tail to make my point. Naturally, every member except, perhaps, the lady, laughed uproariously. Having achieved my immediate objective, we adjourned the debate for some days.

At that time, there was a fellow sitting in a cave in Katherine attempting to break the record for cave sitting, and this was in the newspapers and on radio. When the debate resumed a day or two later, Tiger Brennan, the Council's comic, produced a jar similar to mine, filled with raw king prawns, sought the President's approval to speak, opened the bottle of prawns and claimed that he had been down in that cave where the fellow was sitting and had discovered a new species of wildlife there. This he had christened "*Lyellis terrestris*, the blind prawn". The real joke was that

Lyell was the first name of a very unpopular assistant administrator who made everyone's life miserable. Amid the ensuing laughter, my bill was passed.

The funniest incident was not a veterinary one. We had a new administrator, Roger Nott, who had been Minister for Agriculture in NSW, who was determined to change the work pattern of the council to include an after-dinner session. In Darwin, that was crazy because almost every member, including, of course, Lionel himself, drank far too much during the dinner adjournment. One evening the Director of Lands who tended to be discursive and very long-winded, was speaking. Rose got fed up, took a point of order and moved that the member be no longer heard. The motion was carried unanimously; after-dinner sessions of the legislature were no more.

Life and living in the Alice in the late fifties and early sixties was a new dimension for us. The physical environment was desert, with long hot summers and short, sharp cold winters. A daily maximum temperature of 100°F for one hundred consecutive days was not unusual. I still find swimming unattractive in lower ambient temperatures. The desert heat was dry, not humid, of course, and care had to be taken, especially with the little ones, to avoid dehydration (called 'perishing'). Urinary volumes were small, and the large amount of water lost through the sweat glands was not noticeable as it immediately evaporated.

Mostly we wore khaki shirts and shorts, broad-brimmed hats, and elastic-sided riding boots which the aborigines called 'laughing-sided boots'. During the short winter, the temperatures were described as 'shirtsleeves by day, four blankets by night' by the white residents, whilst the aborigines referred to the nights as two, three or four dog nights, depending on the number of dogs they found necessary to have in their swags to keep warm. A popular winter pastime was bird watching in the town streets, for the female tourists from south would be seen in the briefest of shorts and the thinnest of sweatshirts. By day we local whites wore long sleeves and slacks or moleskins depending on the nature of the work and at night I would add a heavy sweater or battle-dress jacket.

Fortunately, I was able to get away for the greater part of the winter, or the dry season as it is called in the north, for that was when the cattle

work was carried out on the stations, when the big mobs travelled the stock routes, the meat works operated, and my far-flung field staff became busy out in the bush, leaving their wives and kids to fend for themselves, like mine were doing. The Director was also in the field, meeting people, showing the flag, and investigating disease problems when he was not in Darwin, interstate, or overseas.

The years that we spent in the Alice proved to be the beginning of a severe drought in central Australia that lasted almost a decade. One year, instead of the average rainfall of ten inches, we had three inches only, which fell within half a day. The dry Todd River which runs through the town 'came down' and those of us living on the east side could not get home because of the flash flood. Dorothy once spent a night at the rectory under such circumstances, and the kids looked after themselves.

Another memory of life in the centre is that we became familiar to the point of boredom with all of those magic tourist sights that other mortals travel halfway around Australia or the world, to see. The magnificent red ranges, the 'gaps' with their dry rivers with perhaps a rock pool at one end, were in our backyard, as it were. They provided the venue for many children's birthday parties and other barbecues. When family or other important visitors came, one or the other of us would take them on a half-day tour in order to see these sights at the most auspicious time of day. Less frequently, we would travel as a family group and stay out in the swag overnight, or spend a night or two with friends on a-not-too-distant cattle station. Once or twice, we deserted the kids while Dorothy and I travelled much greater distances to picnic race meetings, at Brunette Downs, Haart's Range, or elsewhere.

We did not manage to visit Ayers Rock, the Olgas or Mt. Connor until Easter, 1963, when we drove out by Land Rover for the first time, spending some nights in the swag out in the open and others in a smallish cave under one edge of the rock itself. Nowadays, that would not be permitted. This adventure led to one old staff member guessing (correctly) that we might be leaving the Territory before long.

We had many official visitors during those years, from the United Kingdom, Canberra or State capitals. Some were politicians, others scientists. I clearly remember the visit of Sir Rudolph Peters and his lady.

Peters was an emeritus professor of biochemistry from Cambridge and was a world expert on the Krebs cycle - a fundamental but complex set of biochemical reactions of special relevance to one of our most important research projects, Gidyea poisoning of cattle.

I had learned that Peters was to visit Canberra, and persuaded him to visit us in the Alice to discuss the problem and give us some advice. In due course, the aircraft arrived in a red sandstorm, the doors opened, and out stepped the professor, a small, elderly Englishman in a blue suit and bowler hat. Their visit was quite short, and we kept Rudolph busy in the laboratory whilst Dorothy took Lady Peters to see the sights. Their last day was devoted to performing a critical experiment using guinea pigs or rats dosed with an extract of the suspected toxic plant. For some long-forgotten reason the work was running very late that day and so the experimental animals were moved onto the veranda of our house at the Research Institute, and occasionally the professor and the director would excuse themselves from the farewell dinner party to view the animals.

When appropriate, tissue specimens were taken, treated according to Sir Rudolph's instructions, packed carefully, and around midnight, were put on an aircraft for Darwin. There they were transferred to a jet bound for London, and in thirty-six hours or so were in Peters' laboratory in Cambridge. There, his staff performed the necessary biochemical tests to verify our hypothesis- that the toxic principle of *Acacia georginae* was the fluoroacetate ion. Next morning, we put the Peters on a flight back to Adelaide. The next time I met him was in Cambridge, where he hosted me to dinner in the Combinations Room of his college. I had walked from the Red Lion to the Trinity gate, where he arrived on his bicycle, still wearing his bowler hat. I always think of Rudolph as the English knight on the bicycle.

We had other visitors- including a whole set with whom we became involved due to my having a seat on the Legislative Council, and being the only 'official member' resident in Alice Springs. We helped to entertain Governors-General, including Sir William Slim, the Mountbattens, and so on. It was fun for Dorothy and interesting and instructive for me. We were heavily involved in the royal visit of 1962, Queen Elizabeth's first visit to the centre. I remember two stories, both relating to the official luncheon at the Stuart Arms Hotel, where the Legco

members and their ladies took their seats with Elizabeth and Phillip at the high table. The first is simply told. The royal wine steward really earned his salary; the white was truly magnificent, and Australian, but I have forgotten what it was. I never found out whether the folks at the lower tables enjoyed the same wine, but our steward certainly did not serve them.

At the end of the luncheon itself, the Administrator, Roger Nott, rose to his feet to deliver a speech but was unable to make himself heard over the buzz of conversation in the room at large. My old friend and colleague, Lionel Rose, sitting in the body of the room noticed the problem, and, in a loud, parade ground voice said '**shut up**'. Well, it worked; the conventional pin could have been dropped immediately. Roger made his speech, the formalities were concluded and the royal party departed for afternoon tea at Hamilton Downs. I bought Roger a couple of brandies, which he seemed to need, having thought initially that Lionel was telling him to shut up! Well, the local press, and probably the whole world press, got it all wrong as usual, and all over Australia that evening there were headlines such as 'Queen told to shut up'. Oh, how the Pooh-Bahs raved and shouted.

Other vignettes of Centralian life come to mind. The town like Alice comprised about 5,000 people. This did not include the aborigines, who were expressly excluded from being counted (in the decennial census), by an interesting provision of the constitution. I could, and often did, stand in Todd St. on a Saturday morning, see many of my friends from both town and bush, and transact business with them if necessary. We made our own fun. After the office closed most of us went to the Memorial Club, which I had to pass on my way home. On Fridays, Animal Industry Branch staff members usually gathered in the blackfellow's bar at Lycurgus Underdown's Alice Springs Hotel

Veterinary Officers were not immune from criticism. One such became bogged one day, and was able to recover only after he took the doors off his Land Rover, placed them in front of his wheels, and drove out. Another, driving the Director's Holden one dark night way out near Argadargada in the Georgina basin, misjudged the distance between two tree trunks and squashed the vehicle laterally. It happened that the

Director was sitting in the passenger seat that night, and after a little trouble, received a new Holden station wagon as his official vehicle.

The Field Biologist (Zoologist) of the Branch was a special case. An administration pimp reported him for driving his kids to school in the Alice in his official vehicle. In the office, we sat and watched the file on this matter grow until it was an inch thick, whereupon the officer was suitably admonished. More interestingly, the same officer, working out near the Peterman ranges, found a cave containing a number of churingas, presumably the property of a local tribal group. Zoologists, of course are faithful contributors to museums, so the churingas were transferred to a wooden box in the Land Rover, which set out for Alice Springs. Alas, some days before it returned, the local welfare officer informed the Director of the event. He confronted the miscreant, causing him to return the loot to the next-door office. It remains to be said that there was no radio communication between the Alice and the cave in question.

As the years went by, the town grew, but it was still principally a government town, with most housing provided by the Commonwealth government. We ourselves moved in due course from the East Side to the Animal Industry Research Station, which became the Arid Zone Research Institute with the passage of time. So we moved into a new house five miles out of town, near the airport, and greater freedom from neighbours, plenty of space for the growing kids, and a little farm life for their enjoyment and education.

We fenced in a horse paddock around the house and then did a deal with some friends on a station northwest of Alice Springs, borrowing a little chestnut mare named Sabadin for Wendy's use, in return for caring for her during the drought. This was not difficult because we grew irrigated lucerne, as an example to station people; utilising water from our own bores. So Wendy, at the age of eleven joined the pony club, and I had to find fifty pounds or thereabouts for a saddle!

During the middle years of our sojourn in the centre, I became involved with the Central Australian Show Society, eventually becoming president, responsible for the arrangements for the annual Alice Spring Show. I am a life member of that society, though I never get to its functions.

My working hours were divided, generally speaking between industry matters, professional veterinary matters, and politics. Travel, within the territory, within Australia, or around the world, seemed to be an integral part of each of these responsibilities, and study of my travelling expense file for one year revealed that I was away from home for more than half of that year. Major travel included a visit to Manila and Hong Kong on cattle industry business, and a trip to Munich to give a paper at a conference of the World Federation of Neurology. With the support of Reg Marsh and Paul Hasluck, I was able to extend this trip to the United Kingdom, Rome, Kenya, Rhodesia and South Africa, with beneficial professional consequences.

Control and support of the Territory's major industry, cattle production, was the *raison d'etre* of the Animal Industry Branch over which I presided. The only other industry of consequence was mining, and this had been the pattern for one hundred years. More recently, tourism has become a third major income earner. As the NT pastoral map reveals, the 500,000 square miles was divided into four pastoral districts, named Alice Springs, Barkly Tableland, Victoria River, and Darwin and Gulf. These districts were as different as chalk and cheese, or as desert and wet tropics. They had developed differently, had populations from different states and markets in different states (if they had any). Distance, climate, and disease were the problems confronting any real change or economic improvement. All this I learned rapidly, with the help of the field staff who between them knew the face of the Territory as well as they knew their wives' faces, and in her similar changing moods. Obviously, this history is not the place to present the details of the cattle industry in northern Australia, and therefore I will content myself with a brief list of the achievements of the Animal Industry Branch during my six years as its director.

We commenced eradication of contagious bovine pleuropneumonia and showed Australia the way. We carried out research into this disease and into many of the Territory's plant poisoning syndromes. We concerned ourselves with developing markets for the cattle of the Top End and encouraged, and saw built, export meat works in Katherine and Darwin. We further developed field science including botany and wildlife biology. We commenced development of rational cattle husbandry in the Top End, to replace the simple hunting of feral cattle. We demonstrated good husbandry and nutritional methods, caused the building of beef roads and

encouraged the development of road transport of cattle so that the days of the drovers and the big mobs travelling on the hoof to Queensland gradually came to an end.

We followed Lionel Rose's precepts and practices and put the Northern Territory, always the Cinderella of the Australian cattle industry, firmly on the map. We developed Alice Springs as an acknowledged centre of arid zone research. We encouraged the development of private veterinary practice and introduced the flying District Veterinary Officer, admittedly a generation after the Flying Doctor.

Alf Humble, a former student of mine in Sydney, had been in private practice in Mount Gambier; tired of this lifestyle and approached me for a job in the Territory. So I appointed him DVO Alice Springs. A former RAAF pilot like me, he came in his own aircraft, an Auster monoplane, and so we set about trying to make it all official. This file grew bigger and faster than the one about the school children drop-off, and eventually the authorities agreed that Alf should be paid for the use of his aircraft. The clerks determined that the rate should be one shilling per mile. We wasted much time and ink trying to explain that aircraft flew by the hour, that they had no odometer, and so on.

I had personal use of the Auster on at least two occasions. The first was a trip from the Alice to Wyndham via Brunchilly and Victoria River Downs. That was a long day, and as we flew across the Murangi, I thought I saw the glint of sunlight off a newish asbestos cement roof, away off to starboard. We had built recently a new house for the stock inspector, Top Springs, in the area. So when we reached the Wickham River, Alf said 'Boss, do we turn to port or starboard' and I was able to say 'Starboard', and soon we buzzed the VRD homestead and were refuelled there. Later, I was informed by an apologetic DVO that he had swung the compass, which had been out by fourteen degrees on a heading of 270.

There is an interesting story about development of a major meat works in the Alice, which, although not built until well after my departure, concerned me in the early planning stages. During our years in the Alice, the little old town abattoir functioned south of the town itself, on the north-eastern side of Heavitree Gap, not far from where the road to the

casino now crosses the Todd River. The Director of Welfare had designs on that part of the town as the site for an expanded aboriginal housing scheme. I realised that eventually it would become necessary to move the meat works out of the expanding town, and so planning commenced. For disease control reasons, we decided that the preferred site for the new works would be in our quarantine paddock just west of the end of the sealed portion of the road to Adelaide, about five miles south of the gap, near the airport and the research institute. In order to run a meat works, a plentiful supply of water is necessary, and so I prevailed upon the Director of Water Resources to institute a drilling program in that general area, to provide water for the meat works. In the long run, the Department of Civil Aviation vetoed the site proposed for the meatworks, due to danger to aircraft from carrion-eating birds. The water-drilling program resulted in the discovery of the Merenie field which now supplies the town of Alice Springs with its water, enabling the population to have trebled or quadrupled since those days.

I designed the new laboratory that Jim Gill had recommended to Lionel Rose, though it was not built for some years after my departure from the Alice. I was a leading member of the original committee for eradication of pleuropneumonia, always suggesting that we worked at the fringe of knowledge, changing habits and procedures of five generations. I became a vocal, and I hope, respected member of the various national committees dealing with animal health and production. I was happy in my work and lifestyle; I loved the Territory, respected the Territorians, and my cup of satisfaction was overflowing.

In the autumn of 1963, I spent three weeks on a most interesting field trip. This took me and a number of others northwest of the Alice, through the Tanami Desert, into Western Australia to a remote cattle station called Billiluna. We were developing a stock route to enable cattle to be driven to the Alice Springs railhead, as Billiluna was pleuro-free. I believe that we drove over country that no white man had seen, and we found a pocket or two of good cattle country in the desert, which were subsequently developed.

We even named some previously undescribed geographic features after members of our families. We had arranged with the DVO Alice Springs to meet us in the Auster on a designated claypan some three days drive from the bitumen, on our return, and had sent him a shopping list via the Flying

Doctor radio. This list included a quantity of spirits, of which we had run short. Alf, who was never a big drinker, omitted to bring this requirement, and after he landed on the claypan and we discovered the omission, one member of the party said ‘you mongrel’, and that is how the newest cattle station in the Tanami desert came to be called ‘Mongrel Downs.’

Returning to the Alice, I found that Dorothy was strangely disturbed, and a little apprehensive. After dinner she produced a letter from Tom Gregory, chief of the Division of Animal Health CSIRO, which was no more or less than an invitation for me to leave the Territory and move to Melbourne to become Officer-in-Charge of the Parkville Animal Health Research Laboratory. None of us wanted to leave the Alice, or the Territory, and certainly not to go and live in Melbourne but non-acceptance would have been shutting the door to further advancement within the veterinary profession.

CSIRO was then one of the most highly regarded research organizations in the world. The Parkville Laboratory was the best in Australia. I knew and held in high regard most of its senior staff, and many of its research programs were closely related to my own current research interests, including pleuropneumonia and poison plants. In those happier far-off days the Organization was known and respected for its light administrative hand and the freedom to pursue basic research within the broad confines of its programs. I would have no problems in transferring, as I was already a Commonwealth Public Servant. This invitation was an honour not to be lightly spurned. On the other hand I was, as I have already said, deeply involved in the Territory, in its administration, its science, and its politics- the three major serious interests of my life. I enjoyed the place, the people and the challenge of the work.

Of course, there were other considerations. I did not know for how much longer I could withstand the pressure to move the Animal Industry Head Office from the Alice to Darwin, for what I regarded as all the wrong reasons. We knew we would enjoy the Darwin lifestyle but I much preferred the desert and the buffer that distance provided from our political and administrative masters. Education in the Alice was becoming a problem; Wendy was in Sydney at SCEGGS that was costing me almost half of my salary, with the three boys to be educated.

Unlike the night on Archie Campbell's lawn seven years earlier, there was no quick or easy answer to my 'predicament'. Many people had to be consulted, including Paul Hasluck, the Administrator, my colleagues and advisers, family members - the list seemed endless. But in September 1963, we were finally on the road to Melbourne, via the Barkly Highway, Cairns, and Sydney, where we dropped Wendy back to school.

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The article will be the basis for a presentation to the Annual and Scientific Meeting of the AVH SIG in Darwin on Monday 18 May 2009.

THE EVOLUTION OF MODERN EQUINE PRACTICE IN AUSTRALIA

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INTRODUCTION

The evolution of modern equine veterinary practice began with the increasing number of veterinary graduates immediately after the end of World War II. Prior to this period, in most States, only small numbers of veterinary surgeons derived the bulk of their income from horse practice.

Prior to the 1960's horse practice had long languished for many decades in the arcane world of whimsical ephemora! There was a practiced mystery about matters equine, partly designed to protect the assumed 'special knowledge' of its major proponents. They were 'expert emissaries of elliptical communication'! A thinly disguised and rather calculated mystique prevailed. During the enlightened '60's a few real scientists began to fully examine 'what makes a horse good' and what 'makes a good horse'?¹.

The initial impetus began around 1955 with the Sydney Post Graduate courses which covered a wide variety of topics usually either related to species or to systems, and as was the case where systems were presented, the information primarily focused on small animals, with economic animals including horses being less well presented .

These courses were usually held over a week, expanding from one to a number occurring throughout the year under the very capable directorship of Dr Tom Hungerford who invited overseas lecturers from the USA and England to present cutting edge lectures on horses, covering the areas of Equine Medicine, Surgery and Reproduction. These courses were hugely successful as they excited a great thirst for knowledge which was difficult to obtain due to the lack of published scientific articles with interest in the horse and its problems. As these courses drew veterinary surgeons from all over Australia and New Zealand, many firm friendships developed and in some way, helped with the dissemination of ‘new’ knowledge.

One of the first of these courses purely for horses was the Post Graduate Committee in Veterinary Science J. D. Stewart Course on ‘Equine Diseases’ in 1970, driven by the icon Dr. T. G. Hungerford. This course was held at the old Wallace Lecture Theatre on Science Road at Sydney University. The keynote speaker was Associate Professor of Pathology at the University of Pennsylvania Dr. Jim Rooney DVM. Dr. Rooney had autopsied over 900 horses and was a revelation! He was very ably supported by A. M. Bain, P. E. Sykes, D. R. Hutchins, T. K. Bell, Hugh McL. Gordon, R. R. R. Pascoe, J. D. Steel, M. Robinson, R. H. C. Penney, L. H. Larsen, P. Fallon and J. G. McLean. Even today this would be judged an eclectic coterie! We were ‘swinging from the rafters’ or at least standing in the aisles! This truly was enlightenment, enrichment.¹

INTERNATIONAL EVENTS

The next most significant event occurred with the first International Equine Reproduction Symposium at Cambridge in England in 1974. A group of seventeen Australian and New Zealand veterinary surgeons, and four wives, made the pilgrimage via the USA, France, England and then to South Africa for the first World Equine Veterinary Conference held in the Kruger National Park.

The pre-conference tour of breeding centers in California, Kentucky, France and England awakened the Anzac party to the huge money gaps in the value of stallions and mares in the countries visited when compared to our own horses and forcibly drew attention to the very established customs used in the breeding industries of these countries.

The first conference proved to be a huge knowledge hurdle for us as we realized the progress of the various research groups headed by the likes of Professor John Hughes, Bill Prickett, Ed Squires, RM Kenney, Dan Sharp and OJ Ginther (USA) and Marian Silver, Peter Rossdale, Twink Allen (UK), Cliff Irvine and Sue Alexander from New Zealand, Virginia Osborne, Murray Bain, Peter Irwin and Reg Pascoe from Australia, together with Marcell Vanderplashe (The Netherlands), Eric Palmer (France), Eric Klug and Hans Merkt (Germany), Y.Nishikawa (Japan), Doug Mitchell and Keith Betteridge (Canada) and Chris Van Niekerk (South Africa).

This successful conference illustrated the increasing awareness of the need for coordinating advances in research in equine reproduction and so began the 4 yearly International Symposium on Equine Reproduction.

Attendance at the Second International Symposium on Equine Reproduction at UC Davis, California USA in 1978 gave rise to Australia's successful bid for to the Third International Symposium on Equine Reproduction in Sydney in 1982. In my (admittedly subjective) view, this was the 'biggest and best' achievement of the AEVA and yet to be emulated or matched?¹

EARLY STEPS IN AUSTRALIA

While the level of equine veterinary knowledge was at a low level in Australia in 1950's, there was a group of equine veterinarians such as Percy Sykes, Murray Bain, Virginia Osborne (New South Wales), Greg Morrison, Peter Fallon and Les McManamny (Victoria), Peter Irwin and Rex Butterfield (South Australia), Bill Bellinge (West Australia), Reg Pascoe and Scotch McClellan (Queensland), Charles Roberts and Cliff Irvine (New Zealand) all engaged in the management of horse breeding in Australia and New Zealand, and established the technique of manual palpation of ovaries, uterus and cervix as a routine stud practice to assist in the breeding of mares.

Dr David Hutchins graduated from the Sydney Veterinary School in 1948, a quiet, tremendous achiever who has commented on some of the areas that the Sydney Veterinary School has played in the 1950 and 1960's.

“The immediate post war years saw a rise in student numbers due in part to the intake of New Zealand students plus returned servicemen. Simultaneously, in 1948 a group of young enthusiastic lecturers were appointed (Doug Blood, Jim Steele and Len Larsen) who greatly influenced the future of clinical veterinary practice in Australia. At this time clinical training was undertaken at the Garvie Smith Farm at Badgery's Creek and we saw the introduction of short refresher courses for large animal veterinarians which was the first instance of continuing education to occur in Australia. The resignation of Doug Blood and the transfer of resources to the Camden site in 1957 enabled new facilities to be constructed at the Camden site, albeit with an extremely limited shoe string budget . It was wisely decided to include clinical pathology services at this new site including both staff and necropsy services These facilities provided an opportunity to undertake surgery in indoor facilities and cease field surgery out in the open. Musculoskeletal injuries were, and still remain, a major challenge, and attempts were made to refine a technique pioneered by a Queensland veterinarian using floatation tanks to manage such injuries Whilst in the final analysis the technique was plagued by significant complications, it was responsible for two productive outcomes.

- 1. It highlighted the importance of postural drainage and respiratory tract infections and was followed by post-graduate research by the late Professor Dariah Love and post-graduate students, which significantly elucidated the pathogenesis of equine pleuro-pneumonia.*
- 2. It was the stimulus to conduct a public fund raising effort to provide a new state of the art equine surgical facility with improved student viewing facilities”.*

OPERATING ROOM ADVANCES

Equine surgery was very much a ‘grass lawn’ adventure with poor, ineffective anaesthetics, almost no analgesics and no tranquillizers.

The anaesthetics of the 1950's were still IV chloral hydrate, chloroform inhalation and Equithesin plus regional nerve blocks.

In 1955, the (perhaps unfortunate) use of Suxamethonium first occurred and initially was hailed as the solution for a short acting “immobilizing” agent particularly for castration, stake removals and skin tears. Its use was abandoned for humane reasons and also due to a very sharp rise in fatalities following its use in the late 1950’s.

The introduction of tranquillizers in the early 1960’s facilitated many procedures even though the earlier drugs often showed irregularities in the individual response. This has improved greatly to the level now achieved with alpha2-adrenoceptor agonists and opioid drugs.

The advent of safe, rapid IV anaesthesia, very efficient analgesics and the use of anaesthetic machines, initially using Halothane, has reduced anaesthetic deaths, accidents and enabled smoother recovery following prolonged anaesthesia.

In the mid 1960's dedicated private equine hospitals with operating theatres and recovery areas began to appear in Australia. These followed a similar pattern to those established overseas, including the tilt-table from the USA and the roll-out/roll-in from recovery suite to operating theatre and back to recovery room favored by the British establishments.

Initially in the 1950’s most equine surgeries were conducted on green lawns with the odd recovery stall lined with hay bales. Dedicated operating rooms were used in Sydney, and later Melbourne, veterinary schools. Initially these were simply clean dedicated rooms with smooth padded walls and often a composition waterproof floor.

Queensland Veterinary School transferred to the St Lucia campus in the early 1960’s, and with the completion of the west wing, had a fairly cumbersome LA operating table with an adjacent extremely large padded recovery room. This had been poorly designed as it was added to the west wing after the shell construction was completed

Oakey Veterinary Hospital’s operating room and padded recovery suite was used for its first surgery on 12th March 1969. The table was primarily used in the standing position using a heavy head collar, a wide belly band and tail rope. The horse was tranquillized 30 minutes prior to placement alongside the upright table. The head collar was then attached and the

horse hand-restrained at the head, belly band attached to a single pulley to the table and the tail rope attached loosely to the table. Ideally, 3 personnel are required to simultaneously push the horse against the table and at the same time pull the tail and belly ropes onto the table cleats. Once fastened, the horse was given a short acting barbiturate and, as anaesthesia deepened, the table was hydraulically rotated to the horizontal and lowered to operating height. At the completion of surgery the horse was wheeled on the operating table into a bay in the recovery room becoming part of the floor of the recovery room.

The *Planet Kingdom Memorial Large Animal Operating Theatre Complex* at Camden was cutting edge, state of the art. This was designed and supervised under the watchful guidance of Professor David Hutchins and officially opened on 5th December 1982. David Hutchins continues

”Subsequently an isolation unit was developed to provide intensive care of adults and neonates. Major advances in equine surgery have resulted from:

- 1. The availability of specialised surgical facilities, and*
- 2. Improvement in understanding respiratory physiology and anaesthesia.*

Few current veterinarians can remember the experience of outdoor field surgery usually using intravenous anaesthetic agents, e.g. chloral hydrate and Equithesin with their vagaries and very prolonged recoveries.

Future advances will require the utilisation and adaptation of medical and experimental surgical techniques to meet specific equine injuries.”

These improvements enabled the introduction of a very much higher level of aseptic surgery and allowed the possibility of open joint surgery, in particular, the removal of carpal and metacarpal osteo-chondral fragments and sesamoid chips. There was an initial limited use of this technique for the removal of osteo-chondral defects from hocks and stifles. The introduction of arthroscopy (1984) to equine surgery increased the range of very successful surgical cases which were less invasive and a less dangerous approach to joint repair. The introduction of the video endoscopic camera (1993) for use with the arthroscope enabled significant advancement in the easier positioning of the arthroscope and its use for both hock and stifle surgery.

THE ADVENT OF ULTRASOUND

Perhaps one of the greatest advancements occurred in late 1970's through the use of ultrasound for examination of the reproductive system of mares and with its ability to detect follicles, ovulation, pregnancy and various pathological conditions of the breeding tract.

There were some early attempts in 1970 to use human ultrasound machines but the very large bulky probes, poor portability and the physical difficulty in their transport, made them unworkable. The initial Fisher research unit at Oakey Veterinary Hospital (May 1981) was also very bulky, with a very large probe and a very low output. However, it was portable to a limited extent. Its images were poor, difficult to interpret but were so exciting due to the expectations of improving technology that its use experimentally was quickly followed by wider and more useful images being produced as smaller more powerful and more portable machines became available.

One of the greatest effects of ultrasound was the fact that, as mare owners, managers, etc could see the real-time images of the mare's uterus and ovary, it diverted the previously suspicious or sceptical attitude of farm managers as to validity of the results of a routine rectal examination for either breeding ovulation or pregnancy by the veterinarian by transferring the attention to the ultrasound images of the mare reproductive tract itself.

Before long, the improved, more powerful ultrasound machines were being used for scanning of tendons and ligaments and other exercise induced injuries. With further technical improvement on the introduction of Doppler, ultrasound became invaluable for advanced cardiac evaluation, as well as chest and abdominal scanning.

CRYOSURGERY

At a slightly lower technical level was the introduction of cryosurgery which in human medicine was in use for the early treatment of skin cancers. While it has about an 80% treatment success rate, it is none the less effective as a first line non-surgical treatment. The absence of suitable equipment able to deliver accurate extremely rapid freezing hampered its use in equine cases.

Initial equipment used liquid nitrous oxide from a cylinder linked to a spray mechanism to spray liquid nitrous oxide onto small skin tumours.

Another method was to freeze a 25mm brass rod in liquid nitrogen and, when completely cold, apply the metal rod to the tumour until its freezing ability was expended. This was repeated until the tumour had been frozen and thawed three times. Results were similar but were cumbersome; many required re-treatment.

During 1977 a pressure vessel with a system of pressure valves (Frigtronics cryosurgical unit) allowed a regulated stream of liquid nitrogen in liquid form to be sprayed on tumours to achieve the required freeze-thaw cycle 2-3 times. This was an extremely sophisticated piece of equipment. It proved to be very effective to use but unfortunately it was difficult to obtain regular service maintenance, and without this, it became a very temperamental piece of equipment.

ENDOSCOPY

Another very significant breakthrough occurred in the mid 1960's, in particular at the 1966 Adelaide AVA national conference where Dr Peter Irwin demonstrated the use of a rigid 600mm long endoscope to examine the horse larynx. At last we were able to see something of the functioning of the horse's respiratory tract, but of course there were drawbacks. The light bulbs were extremely expensive, they became extremely hot when turned on, and accidental contact with pharynx or larynx was want not only to produce violent head movements by the horse, but attracted incidents like black eyes to the operator and violently flung endoscopes being broken or bent beyond use. This meant the modality was restricted in its use but this changed significantly by the introduction (mid 1980) of pediatric human flexible endoscopes which allowed a greatly improved examination of the upper respiratory tract of the horse including the ethmoid plate, guttural pouches, upper trachea and the trachea as far as the length of the scope (1.5m) would permit.

In mid-1990, the availability of second-hand 2 & 3 meter human colonoscopes next opened the way for their diagnostic use for adult horse stomachs, revealing the widespread occurrence of gastric ulceration. This modality was further enhanced by the introduction to veterinary practice of the improved video-endoscopy units for treadmill studies in respiratory tract research projects.

Respiratory tract surgery prior to 1970 was confined to standard and modified Hobday operations to remove the laryngeal saccules. The introduction of laryngeal tieback surgery, reported overseas in 1970, was first performed by Dr Vic Speirs in Perth, WA in 1971.

This involved the insertion of a “lycra prosthesis” between the cricoid and the muscular process of the arytenoid cartilages. This was subsequently modified by the use of synthetic suture material, often used as a double prosthesis. An alternate treatment was the nerve transplant technique which was introduced as a serious alternative to tieback surgery by Ian Fulton in 1991.

The use of high speed treadmills and improved video endoscope studies has extended and improved our knowledge in other areas such as entrapped epiglottis, various grades of laryngeal hemiplegia, displaced soft palate and conditions affecting the aryepiglottic folds. This in turn has led to new attempts to improve the airways in high performance horses.

PARASITOLOGY

In the late 1940's-early 1950's, the use of anthelmintics in horses was often ineffective for the removal of worms and bots, and dangerous for both horse and veterinarian, with the use of such drugs as carbon bi-sulphide, carbon tetrachloride and phenothiazine. Again, many of the horse treatments were arrived at by experimentation with cattle and sheep treatment.

In the 1960's, sheep thiabendazole led to development of more horse-orientated benzimidazoles so that phenothiazine was fully and more effectively replaced.

Routine worming on a regular basis on Thoroughbred farms started in early 1950's but, mainly because of the necessity to starve horses for 18 hours prior to carbon bi-sulphide and the need for drenching to be given by stomach tube, was a procedure only for veterinarians. This rapidly changed as farm managers mastered the technique of passing stomach tubes and so another routine veterinary procedure was lost to the profession.

There should be a pause for reflection on this. All too frequently, many routine procedures can be learnt by lay people but without the wider knowledge of toxicity and resistance from inadequate or incorrect sequencing of anthelmintics. More importantly, it reduces the on-farm visits which are so important for the close relationship needed in the breeding season between stud managers and veterinarians.

The introduction of individual dose paste syringes, initially complicated by the large bulky dose and, in some horses, the ability to spit the dose out, led to the development of smaller, more effective dose syringes which in turn led to the

wholesale use of paste ‘drenches’ and therefore a loss to the veterinary profession of one of its routine breeding farm jobs.

In 1980-1, the introduction of injectable Ivermectin in experimental trials showed its tremendous efficacy for almost all worms, including larval forms and bots. Unfortunately it proved to be hazardous, particularly in New Zealand where a number of treated horses died as a result of a clostridial infection at the injection site. This led to its withdrawal and was followed in the early 1980’s by both an oral liquid for sheep, which was suitable for the off-label use in horses, as well as a paste formulation.

Since the introduction of moxidexin and the indiscriminate use of all horse anthelmintic products, we are now threatened with the development of resistant cyclostomes (small strongyles) as being a serious threat to horse health

EDUCATION

Education has played a leading role in the development of the equine veterinary profession. The formation of the Australian College of Veterinary Scientists in 1974 led to recognition of various levels of expertise and to the introduction into the veterinary registration system of a means of regulation and registration of veterinary specialists. As well as this, the development within the College of Specialist Chapters has further enhanced this education process.

The recognition of the Australian veterinary professional organization, the Australian Veterinary Association (the AVA), as the peak industry body had a major impact. Initially, the AVA was the province of veterinary schools and government veterinary surgeons – Departments of Primary Industries or Agriculture - with only a minor representation of the private practicing profession. This also changed rapidly in the 1950s as more and more new graduates entered purely private practice. Within this period, the Association of Official Racing Veterinarians (AORV), later to become the Association of Official Racing Veterinarians and Veterinary Technicians, was established. Membership was virtually restricted to those veterinarians who were employed by racing clubs on race days.

In 1971, there was a move by AVA members with equine interests to form an equine branch within the AVA. This was strongly supported by AORV and indeed many eventually became members of both organizations.

The formation of the Australian Equine Veterinary Association in 1972 with Dr John Bourke as its first president, saw the beginning of a very professional body whose interests were wholly orientated toward all forms of equine practice. This created some strong competition in the continuing education area with the Post-Graduate Foundations in Brisbane, Sydney, Melbourne and Perth, and the Australian College Chapters, all engaging in short education courses. The AEVA commenced its annual Bain Fallon Memorial Lectures in 1974. These have gained wide, and international, acclaim as being, on the whole, a class level along with the British Equine Veterinary Association and American Association of Equine Practitioners annual conference meetings.

GENDER SHIFT

Another driving force which has changed the face of the whole veterinary profession worldwide has been the gender shift. Australia has been no exception and the first recorded female graduate to become a registered veterinary surgeon was Miss Belle Bruce Reid, GMVC - a graduate of Kendall's Melbourne Veterinary College in 28 November 1906.

The University of Melbourne's Faculty of Veterinary Science celebrated its first centenary by establishing "The Belle Bruce Reid Honour Roll" on 26 November 2006. A selection of 100 female veterinarians, including some overseas graduates, were named in the roll to honour their contributions to veterinary science in Australia.

Of these initial 100, five have been selected for their role in the development of future equine practice in Australia. Each of these five has displayed an exceptionally high dedication to their profession and the horse industry and has been an exemplary role model for all women graduates.

Miss Margaret Gwendoline Keats, MBE graduated from Melbourne 1923. She pioneered rural veterinary practice at Kerang in north-west Victoria and was honorary veterinarian to Kerang, Swan Hill, Moulamein and Gunbower Turf clubs and the Kerang Trotting Club. She was held in high esteem by her clients for her outstanding work during the early Murray Flood, the Great Depression and among land grant soldier settler farmers. As well, she occupied the position of Commissioner of the High Court to carry out livestock inspections in both Victoria and New South Wales. Her practice has been owned and worked by women graduates since her death in 1971.

Kathleen Farr, OAM (Mrs. Walker) graduated Sydney 1938 and is still very much alive and well - a tremendous supporter of AVA and of rural and horse practice in New South Wales.

Virginia Osborne graduated Sydney 1941 and devoted more than 40 years as a veterinary anatomist at Sydney Veterinary School. Her research life was devoted to the collection and study of mares' ovaries, including an abattoir survey of 6763 mare reproductive tracts the results of which were presented at the First International Reproduction Symposium held at Cambridge UK in 1974. The results of her breeding cycle research led to the Standard bred Stud Book changing the official foal birth date to 1 September in 1987. Her great interest in breeding horses was rewarded by her success in the breeding of both Standard bred and Thoroughbred racehorses.

Kathleen Josie (Jo) Barty graduated Sydney 1948 and initially practiced at Bendigo. She married Ed Barty and they moved to Maldon and established Trevenson Park Horse Stud. She continued as an equine practitioner, particularly in equine reproduction, and was active in mentoring veterinary students and young graduates.

Patricia Margaret (Tricia) Ellis graduated Melbourne 1968. Tricia has been a tireless worker for the equine profession ever since graduation. Following graduation she worked in a dairy cattle practice for 12 months. She had a teaching position at the Farm Service at the Veterinary Clinical Centre at Werribee. Tricia worked in equine positions in England, Ireland, Bahrain and Victoria. She has occupied many official positions in both the Victorian and Commonwealth governments concerned with quarantine, horse health, the implementation of horse disease control measures and, by her persistence, has ensured the Australian horse industry is well informed on horse disease threats to Australia. Equally, Tricia has contributed widely to AEVA/EVA as a foundation member, president in 1992 and in many other committee positions.

CONCLUSION

The breadth and scope of this evolution of equine practice continues to roll on and will benefit from further chronicles being presented

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