

AUSTRALIAN VETERINARY HISTORY RECORD



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Report of the AVHS P resident 2006-2007

After years of slow progress, the Max Henry Memorial Library was moved in 2006 from unsuitable storage in Canberra to the veterinary school in Parkville. The work of, particularly, Dick Roe, Honorary Librarian of the AVHS, and Helen Newton at the University of Melbourne has finally proved worthwhile. The collection is now secure in the capable care of the librarians of the Gilruth Library, where it is accessible to staff and students and members of the AVA. The content of the collection can be seen on the AVHS website <<http://www.vetsci.usyd.edu.au/avhs/>> and will be catalogued by the university librarians. Donations from several members of the AVHS are augmenting the collection. AVA members who have publications of veterinary historical interest that they would like to donate to this library for the benefit of a wider veterinary community should contact the AVHS via addresses in the Aust Vet Hist Record and on our website.

All issues of the Aust Vet Hist Record are archived in perpetuity by the University of Sydney <<http://ses.library.usyd.edu.au/handle/2123/222>>. Other material published online by the AVHS has not been similarly archived – until now. The National Library of Australia aims to build a comprehensive collection of Australian publications and has traditionally collected items in print. It is also committed to preserving electronic publications of national significance on PANDORA, Australia's Web Archive. During 2006, the National Library sought and was given permission to include some AVHS publications that are published on our web page, into the selective PANDORA Archive. The Library will retain both publications in the Archive and provide public online access to them in perpetuity. The Library will catalogue these publications and add the record to the National Bibliographic Database, which will increase awareness of our publications. The titles are available at: <http://nla.gov.au/nla.arc-63330> (Eminent Australian Veterinarians) and <http://nla.gov.au/nla.arc-63217> (Milestones in Australian Veterinary History). The AVHS, having enjoyed and benefited from cooperation in online ventures with the University of Sydney, is very pleased to now extend cooperation to the National Library of Australia.

The repository in Canberra, which housed the Max Henry Memorial Library under totally inadequate conditions, also housed the Robert I Taylor Veterinary Historical Collection. This collection, which was founded and curated for many years by the late Bob Taylor, was taken over on Dr Taylor's death on the AVA CEO. Its present state and whereabouts are unknown to the AVHS and all AVA members because the AVA CEO, Ms M Conley, failed to account for them in the recently published AVA Report for 2006 or elsewhere. An offer in July 2006 to photograph and identify each item in the Collection, collating identity with an assessment by an archival consultant hired by the AVA Board and with Bob Taylor's inventory was spurned by the Board. The offer was made by an AVHS member who has the knowledge of a lifetime of veterinary practice and the sustained interest in veterinary history to qualify him to provide a more useful evaluation of the veterinary significance of the Collection. The Board failed to realise that by not compiling this virtual annotated Collection and arranging for its publication online, they have missed a great opportunity to display this Collection to all AVA members and the wider public in addition to honoring in perpetuity the name of Dr Taylor.

The archives of the AVA have been in the care of Dr Doug Johns for many years and information about them is published in the website of the AVA. This information appears to relate only to material in the possession of the national office of the AVA in Sydney. Yet the AVA, as a legal entity under its constitution, is the owner of and responsible to members for the everything, whether cash or kind, that is held in the name of all Divisions, Branches and Special Interest Groups that comprise the association. There is no clear basis for the distinction, at the national level, between the contents of the Robert I Taylor Veterinary Historical Collection and the AVA archives. This becomes important when it is realised that there is a glass display cabinet of veterinary instruments in the Brisbane office of the Queensland Division has a collection of veterinary instruments and a similar display, mainly photos and printed memorabilia, encased in the Brunswick office of the Victorian Division. As the latter was recently sold, the whereabouts or fate of this collection is unknown. As the AVA national office ultimately controls these assets, they may be 'cherry-picked' at any time to decorate the Sydney office. The whereabouts or fate of the extensive Victorian AVA archives is also unknown. This situation is intolerable, and the national office should be required to explain how they exercise their responsibility over these assets that comprise the heritage of the AVA. Detailed annual reports of the separate units of these assets and an inventory of each should be published where it is maintained up-to-date and

accessible to all who are interested. This small group of veterinarians through this society can act to ensure that no more of the records of our association and profession are lost through ignorance and neglect but given the care and preservation they deserve for the benefit of coming generations of veterinarians.

My role as your president has been helped greatly by an energetic committee, who will ensure that good work continues. I thank you for allowing me to be your president for seven years and know that my successor will do his best for you as members and for our association.

Trevor Faragher
President AVHS

Secretary's Annual Report 2006

The society continued to serve the profession in 2006 with a successful annual conference and three issues of the Record. In addition it lobbied both the Association and outside bodies particularly for the protection of books and artifacts.

As expected, with our demographic membership remaining a problem with retirements due to age and death outstripping recruitment, members must be proactive in encouraging colleagues to join.

The Society surrendered bookkeeping to central office and this has not been without its problems. The payment of dues to central office, particularly by life members, continues to make difficulty and there does not appear to be any permanent answer.

We continue to draw down on accumulated funds rather than raise subscriptions. Subs for 2007 will remain at \$20. We continue with our free list to libraries.

John Auty

Secretary/Treasurer.

**AUSTRALIAN VETERINARY HISTORY SOCIETY
FINANCIAL REPORT 2006**

INCOME		\$
	Subscriptions	1413
	Conferences	531
	Interest	272
	TOTAL INCOME	2216
EXPENDITURE		
	Conferences	710
	Publications	2216
	Business Service	125
	Other	
	Postage	375
	Net	50
	TOTAL EXPENDITURE	3476
	SURPLUS (DEFICIT)	(1270)
	Accumulated funds brought forward	5946
	Accumulated funds	4676

Report of Honorary AVA Archivist 2006/07

Listing of records has continued for placing on the AVA web archive site mainly using support documents for Board and Policy Council meetings that had been saved and filed by the CEO secretary during 1997-2005.

The minutes of the AVA AGM for 1921 to 1926 were made more legible using the light/shade grading technology of the office copying machine prior to burning on CD. These documents have also been copied onto long-life archive paper.

Documents that were moved from Canberra are now in the storage facilities at St Leonards and are being sorted. Lecture notes have been sent to the Sydney Veterinary School, and editions of course notes to the Post Graduate Foundation. I now have access to F drive on the AVA network and can select all subjects that are of value and burn direct onto an archive CD. These can be downloaded to long-life hard copy as required.

The Kendall College folder contains letters from Leitch, which were sent to WAN Robertson during his term as archivist, which were showing signs of age and difficulty in interpretation I have typed and stored on CD ready for copy as required.

Again thanks to John Holder for his help during the year.

Doug Johns
Honorary AVA Archivist

Report of the Honorary Librarian, 2007

In the early part of the year there was an increased level of requests to borrow books from the library.

The library collect was transferred to Melbourne in October 2006 following a lengthy delay after initial agreement to the move was reached. The Max Henry Memorial Library is now housed in the Gilruth Library in the Faculty of Veterinary Science, Parkville. Here it will be housed under appropriate conditions for a library, will be under the care of a qualified librarian and will be more widely accessible as a result of being included in the national library electronic catalogue system.

At the same time as the MHML was transferred to Melbourne the R I Taylor Memorial Historical Collection was transferred to Sydney. At the time of this transfer the historical collection was catalogued and packed by a qualified curator. As part of this process a large volume of printed material was passed from the historical collection to the history library. Where appropriate this material was incorporated into the MHML while some of the material was passed to university veterinary faculties, the Sydney University Post Graduate Foundation or state archives.

R Roe
Honorary Librarian

Report of the Hon. Editor of the Australian Veterinary History Record

During the period 2006-2007, three issues of the AVHR, Nos, 45, 46 and 47 were published in the months of March, July and November.

In Issue No. 45 of March 2006, there was the opportunity to record some of the articles from the Annual Conference program. Experts in fields not often discussed by veterinarians write these papers that are important because of their animal welfare aspects.

One such paper was, "The Veterinarian and Whale Rescue" by Dr T McMannus and I would recommend veterinarians read this article if they have not already done so. Another important paper records the establishment of veterinary practices in Western Victoria, and provides an excellent history of veterinary development in that region.

It was with regret that we learned of the death of our founder and foundation President of the Australian Veterinary Historical Collection Dr Bob Taylor, on 5 March 2006. Our President Dr. Trevor Faragher and colleagues on the Committee of the AVHG have been able to continue Bob Taylor's legacy of preserving and expanding the study of veterinary history and the preservation and expansion of the History Collection and the Max Henry Memorial Library.

I am pleased to be able to record that at last the Max Henry Memorial Library has been transferred from its incarceration of several years in a storage facility in Fyshwick, Canberra to the Gilruth Library at the Veterinary School of the University of Melbourne.

Now the next step is to find a suitable site to house the Historical Collection. Acknowledgement has to be accorded to Dr. Dick Roe for his diligent service in caring for the Historical Collection and the Max Henry Library under adverse conditions for which he has received the thanks of the History Group

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IM Parsonson
Editor

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Dr Michael Bryden
55 Central Avenue, St Lucia, Queensland 4067

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Dr William T Clark, 51 Henry Bull Drive, Bull Creek, WA 6149

SOUTHERN OCEAN DIVERS, PART 2

Dr Michael Bryden
55 Central Avenue, St Lucia, Queensland 4067

I had a telephone call one day in the early 1970s from George Wilson, who was an officer in the then Australian National Parks and Wildlife Service (ANPWS - now Department of Environment and Heritage). A veterinary graduate of Sydney University, he is well known for his work on population biology of kangaroos, native species of the United Kingdom which were the subject of his PhD work in Scotland, and other Australian native mammals. George was keen to promote a study of inshore dolphins, and because I was one of only a couple of people in Australia with research experience with marine mammals at that time, he got in touch with me. We worked out a general plan, I developed it into a formal proposal and applied for funding, and when the funding came through, appointed Richard Lear as Research Assistant and got to work. It was a steep learning curve for me, as the work required knowledge of animal ecology, and marine ecology in particular, as well as aerial survey techniques. In addition to my general reading, Richard taught me much of what I needed to know about ecology, because he had studied it in depth during his science degree. (He also introduced me to a saying that kept me sane during the many wars fought in University committees: "The politics in Universities are vicious, because the stakes are so low"). We read up on aerial survey techniques together, and sought advice from Dr Graeme Caughley, FAA, of CSIRO Wildlife, one of Australia's leading wildlife biologists who had developed the techniques used for surveys of kangaroos. The work resulted in a publication that, at the time, advanced knowledge of movements and habitat selection by inshore bottlenose dolphins!



Humpback whale alongside research vessel (Photo: Miranda Brown)



Flensing humpback whales at Tangalooma whaling station, July 1956.
(Photo : Graham Chittleborough)

Some time after the completion of that project, Peter Corkeron expressed an interest in investigating further the ecology of bottlenose dolphins in Moreton Bay. We were able to obtain sufficient funding to support his study, to assess the size of the population, movements within the bay, and in particular the degree of dependence of dolphins on trawling operations in the bay to sustain the population. Peter stayed on after he completed his PhD, and moved to Sydney University with me when I took up the Chair of Veterinary Anatomy, where he filled a vital role for several years as a Postdoctoral Fellow. Without his skills, energy and drive, much of the cetacean work we did in the years from 1988 to 1996 could not have been done.

GREAT WHALES IN THE SOUTHERN OCEAN

Humpback whales

Toward the end of the first dolphin project mentioned above, I had several discussions with George Wilson about whales, and what the status of some of the southern populations of large whales might be following their demise as a result of over-exploitation of them during the first half of the 20th century. To study whales in the Southern Ocean was impossible at the time, due to the vast area to be covered

by either ship or aerial surveys and the expenditure of almost limitless numbers of dollars such surveys would entail. However there was another possibility: humpback whales were known to migrate along the east and west coasts of Australia during their winter migrations between breeding areas near the northern coasts of eastern and western Australia, and Antarctic waters where they spend the summer months and fatten on the abundance of krill. Resulting from a limited programme of tagging in the first half of the 20th century, the east and west coast humpbacks were believed to be from separate populations, with only very little exchange of individuals between them. During a period of intensive whaling between 1952 and 1962, humpback whales were killed in Antarctic waters and at two whaling stations along Australia's east coast, at Byron Bay and at Tangalooma on Moreton Island. The size of the east coast population prior to exploitation is still open to question, but possibly in the region of 20,000 whales. Dr Graham Chittleborough, a CSIRO scientist, studied the population during the 1950s and early 1960s, and estimated that the population had fallen to about 500, and possibly as low as 200, when whaling at the two coastal stations ceased after the end of the 1962 season, and in 1963 a protective order was put in place. He estimated that it would take 20 years for significant recovery of the population to begin, and more than 80 years before the original population numbers would be approached. I wondered whether those figures might be optimistic, because it is likely that there were virtually no breeding-age whales remaining when whaling ceased. Humpbacks reach reproductive maturity when they attain a body length of about 11 metres, and in the last two or three years of whaling almost all of the few whales seen were smaller than that. Assuming that there would be little or no breeding for the first years following the imposition of the protection orders, and some mortality would be inevitable, the remnant of the population would decline further before any recovery could begin. With this background knowledge, in 1977 we believed it would be instructive to determine whether any sign of recovery of the population could be discerned.

It was about that time that I became aware that a Brisbane radiologist, Dr Robert Paterson, had had an interest in humpback whales for much of his life. His family owned a small cottage at Point Lookout on North Stradbroke Island, with a sweeping view of the headland, ocean and interesting offshore rock formations, and in his boyhood in the 1940s he had shared with his family the thrill of watching those marvellous creatures blow as they surfaced, and their occasional aerobatics, as they migrated northward from May and southward until October, with occasional stragglers seen outside those months. He told me he witnessed the last whale killed off Moreton Island in 1962, when he was camping on the island with his family. It gave us cause to pause during our rough plans to determine whether any recovery of

the population was discernible when Robert told me he had not seen a whale off Point Lookout since that day, even though he and his family spent some holiday time there almost every winter. Having spent quite a bit of time with him in the 1980s, and realised that he was the best spotter of whales imaginable, I have little doubt that if there was a whale in the vicinity when he was on the island during those years, he would have observed it. Our doubts about the possibility of gaining any hint of the status of the east coast humpback whale population from observation off our coast were raised further during the winter of 1977, when I got Richard Lear to head to Byron Bay to look for whales on days we were not working on the dolphin project, and after each trip he came back and reported he had seen no whale. One long weekend my family and I went to Byron Bay, and as luck would have it, on the third day we observed three humpbacks swimming northward, close inshore as they rounded the headland. This at least reassured us that the population was not extinct, and after reporting same to George Wilson, we decided that I should put up a proposal to fund a project. Although I had hoped to involve Robert Paterson, he had his radiology practice to run and besides, he preferred to work independently. I contacted Dr Bill Dawbin, Reader in Zoology at Sydney University, who had been a major player in earlier years of humpback research, had been a member of the scientific committee of the International Whaling Commission, had published on the subject, and was keen to collaborate. However nothing is as straightforward as it seems! I indicated to George Wilson that I would be unable to begin the project until 1979, because I had arranged to spend a sabbatical year at Cambridge in 1978. George wanted to get things started, so while I was in the UK Bill was contracted to begin the project. He surveyed the east coast from the air, from southern Queensland to Tasmania, and saw very little in the way of humpback whales.



Humpback whale breaching off Point Lookout, North Stradbroke Island,



Humpback whale and whale-watching boat, Harvey Bay, Queensland.

After my return to Australia at the end of 1978 I submitted a new proposal for a three-year project, which ANPWS approved and funded. I established a base at Point Lookout on North Stradbroke Island with a team of volunteers (mostly postgraduate students who were pleased to spend some time in that beautiful part of the world, and hopefully see whales). On the dirt runway near Dunwich, on the western side of the island, we had a Partenavia (twin-engine, high wing light plane), and at Point Lookout the team of volunteers and Dr David Hendry, a Senior Lecturer in Geology at Sydney University who was a qualified pilot with experience in the RAF (he later left the University and joined Qantas as a pilot, becoming chief flight instructor for Eastern Airlines among other things). The plan was to have the team at the headland looking for whales, and for two weeks at what we believed to be the peak of the northward migration, carry out simultaneous aerial surveys of the area from Cape Moreton to the north of Point Lookout, to Byron Bay well to the south of it. In the first year the surveys extended to 45 km offshore, in order to determine the width of the migration path of whales, but we found that all whales seen were within 15 km of Point Lookout, so in subsequent years the surveys were confined to waters within 15 km of the shore. Results from the first year were preliminary, because so few whales were seen that it was not possible to draw firm

conclusions, and a brief report of the 1980 and 1981 results were published in 1985². Shore-based teams established at several prominent headlands, from Seal Rocks in New South Wales to Moreton Island, Queensland indicated that the migration path of whales tends to funnel close to shore as they pass Point Lookout, and it was estimated from the simultaneous aerial and land-based observations that whales could be seen up to ten kilometres out to sea from Point Lookout in good conditions. Using an indirect method of observation, it was calculated that 96% of whales migrate northwards within visible range of the headland. The population size was tentatively estimated to be about 400 during those years. We did not realise it at the outset, but we were just extremely fortunate that the surveys were carried out in southeast Queensland, because the coastline from about Sydney or further north, to a little north of Brisbane, is the only place in the world where the migration path of humpback whales takes almost the entire migrating population so close to the coast, where they can be surveyed from the land with a high degree of accuracy. The only other population of whales that can be surveyed in that manner is the gray whales that migrate along the west coast of the United States. Like the humpbacks, they have made a remarkable recovery in numbers following full protection, the major difference being that they have been protected for much longer, and their population is now believed to have reached pre-exploitation numbers.



Southern right whales seen from the cliffs, head of the Great Australian Bight,
(photo : Stephen Burnell)

When we began this work, I had some doubts about the land-based project. Just how boring would it be to sit on a headland for several hours a day, staring out to sea in the hope of seeing whales and recording their numbers? Would one be able to maintain the concentration necessary to spot a whale or whales, which might only appear every few hours or days? As it turned out, that concern was ill-founded. All involved enjoyed it immensely, partly because of the pleasure of working together during the day, then writing up and socializing in the evening, and partly because of the friendly competitiveness that was established. Who would be first to see a whale or group of whales? Would whales appear in the next minute, the next hour, the next several hours? And even after spending many hundreds of hours observing in that way, there is still something of a thrill to see a large whale or group of whales. If that were not the case, Robert Paterson would not have spent winter after winter alone for several weeks, scanning the sea all day from his house at Point Lookout and recording every whale he saw. Just why it is enjoyable is difficult to say, except that one experiences a buzz to see any animal in its natural environment, and perhaps that buzz is greater if the animal is very big and there is some mystique about it. For me, sitting on a headland in the warm sunshine on Stradbroke Island in the southeast Queensland winter, surveying an Antarctic species, beat the pants off spending hours in the freezing rain, sleet and howling wind while observing elephant seals at Macquarie Island, as I had done 15 years earlier!

Having established a reasonable baseline estimate of the east coast population of humpbacks, ANPWS accepted our recommendation to conduct intermittent surveys over the coming years, and they have continued to the present. I sought the expert statistical help of Dr Geoff Kirkwood, who was at CSIRO Fisheries at the time and served on several international bodies as the statistician who estimated and advised on the status of stocks of various marine species. Geoff improved our analytical techniques, and we published results of surveys from 1981 to 1987³ demonstrating an increase of 130-140% in population size over the five years, an astounding annual net increase of approximately 14%.

Miranda Brown continued and extended these studies, first as a PhD student, then as a postdoctoral fellow when she moved to South Africa, and established that the high rate of increase in population numbers was sustained over following years, although the estimate was a little lower than 14%, nearer 10-12% per annum. Regardless, it meant that the numbers were increasing very rapidly. Meanwhile Robert Paterson continued his independent observations at Point Lookout, and obtained similar results. Along with Peter Corkeron and Robert Slade, Miranda obtained skin biopsy samples from 180 whales off Point Lookout during the

northward and southward migrations in 1992⁴, and made the interesting observation that a high proportion of whales were males (2.4males:1 female)⁵. A re-analysis of the catches made during commercial whaling in the same and other areas of the southern hemisphere gave a sex ratio of the same order. The most plausible explanation, supported by some evidence, is that some females remain in feeding areas of the Southern Ocean throughout winter. But it does mean that population estimates have to take account of it.

Michael Noad changed the direction of the humpback whale research during his PhD studies in Sydney, examining in detail the fascinating, complex song of that species. However since completing his PhD work and taking up a Lectureship in Veterinary Anatomy in the University of Queensland, he has continued the surveys while extending his acoustic studies. A paper he presented at the meeting of the Scientific Committee of the International Whaling Commission in 2005⁶ reported that the rate of increase in the population (10.6+0.5%) has been sustained for the past 25 years, and that the population has increased during that time from initial estimates of approximately 400, to 6,555+389 at the end of the 2004 migration.



Head of a southern right whale. The pattern of white callosities on the head is individually unique, and used to identify individuals. (Photo : Stephen Burnell)



Leopard seal with time-depth recorder attached over the lumbar region.
(Photo : Steven Burnell)

Resulting from the rapid recovery of whale numbers and therefore increase in possibility of seeing them, a significant industry, whale watching, has sprung up at several points along our east coast. The first was in Hervey Bay, Queensland. Nobody knew what affects, if any, the approach of boats might have on migrating whales. Particularly in Hervey Bay, where several whale-watching enterprises sprang up quite quickly, we felt an investigation should be carried out. A particular concern was that, later in the southward migration, when many mothers and calves are present, heavy boat traffic might interfere with the mother-calf bond. With funding support from several sources, an intensive study of humpbacks in the bay was made,

involving boat and aerial surveys⁷. That work helped the Queensland Department of Environment and Heritage to develop guidelines for whale watching boats, and led to the suggestion that there was no significant threat to the population from controlled commercial whale watching. Other whale-watching ventures have been established along the Australian east coast since, and over several years there has been no discernible impact on the rapid recovery of the population, even though presumably many whales interact with whale watchers several times during their migration.

Southern right whales

Humpback whales were not the only species of whale to have been plundered for many years. In fact in the northern hemisphere large whales were sought for their valuable blubber oil, a pursuit involving open boats and great danger, earlier than the 16th century, and probably some whales were taken as early as the 12th century. It was following the development of the harpoon gun, and later the construction of large factory ships that could remain at sea for long periods and store vast amounts of whale products, in the early 20th century, that the major slaughter of large whales began in the Southern Ocean. All the large whale species were taken, and the numbers of the largest of them depleted so severely that they became economically extinct. The blue whale, the largest animal that has ever lived on earth, was reduced to possibly 1% of its original numbers, and severe depletion of fin, sei, humpback and right whales occurred. However estimating population size in blue, fin and sei whales is far more difficult than in humpback whales, because they do not migrate along coastlines as humpbacks do. The precipitous decline in numbers of these great whales was obvious from the ever-increasing effort needed to find them as commercial harvesting continued, but accurate estimates of total numbers were virtually impossible to obtain. Even now, ship surveys in the southern ocean can only provide indications of numbers of these species.

Southern right whales were taken from simple shore stations in the bays and inlets of Tasmania from the time of early settlement. Like many baleen whales, they migrate from summer high latitude feeding areas to lower latitude breeding grounds in winter. Adults move annually to bays and inlets of the southern coastline of Australia and other countries, where pregnant females give birth and usually remain close to the coast for up to several weeks postpartum, during which time they mate. The combination of their proximity to shore, large size, high proportion of oil in their bodies and relatively phlegmatic nature made them favoured targets of whalers, and their stocks were severely depleted prior to the 20th century. However, unlike the humpback story, recovery of the populations did not occur to any significant

extent over the next 100 years or so, even following the imposition of international protection in 1935. This fact puzzled biologists for many years, and in light of the remarkable recovery of humpback whales, exercised our minds as well. Media reports of the presence of right whales at Warrnambool in Victoria in the early 1990s, suggesting that possibly a recovery of the southern Australian population (or populations - it was uncertain whether there was more than one) stimulated us to begin work on that species. Stephen Burnell instigated a project for his PhD, and provided significant new information about the species. During his research, carried out at the Head of the Great Australian Bight, it was revealed in a letter to the journal *Nature* by the Russian biologist Yablakov, that large illegal catches of great whales had been made by the USSR for many years after the imposition of protection, and went a long way to explaining why right whales in particular had shown little or no sign of population recovery for more than a century, despite having been 'protected' for more than half that time. In one year on one factory ship alone, several hundred pregnant right whale females were killed.

Right whales at the Head of the Bight remain so close to shore that they can be observed from the cliff tops, and Stephen did almost all of his work from the land. He observed whales in the study area from mid May to late October, and showed that females that calved resided in the study area for a mean of 70 days. By contrast unaccompanied adults were resident for an average of 20 days⁸. Aware that humpback whales on Australia's east coast constitute a different population from those on the west coast, Stephen combined John Bannister's results of long-range aerial surveys of right whales from southern Western Australia to South Australia, and his own surveys from Adelaide to southern New South Wales, to determine whether there were different populations of right whales on Australia's southern coastline. This was made possible by each researcher having a number of photo-ID records of whales. It is possible to identify individual whales from the pattern of the strange callosities on the head that are characteristic of that genus. Stephen and John concluded that the right whales seen off the southern Australian coast during the winter months constitute a single population. Further, they were able to assess the size of the population, and following sequential surveys showed that the population is now increasing at a rate only slightly less than that of the east coast humpback population. Although he moved to the United States soon after completing his PhD, Stephen has continued monitoring the population, in collaboration with biologists at Deakin University, and shown that the population increase is continuing.

WHALE COMMUNICATION

Michael Noad's acoustic work is insightful and fascinating. His PhD work was made possible by the working relationship we had developed with Dr Douglas Cato, a senior scientist in the Defence Science and Technology Organisation (DSTO) and later, in addition, Adjunct Professor in the University of Sydney. Doug's background is in Physics, with a specific interest in sounds of the sea; he is a world leader in that field of research. He also has a good knowledge of biology. In my opinion, nobody should undertake a study of underwater communication in Australia without first having at least a discussion with Doug. After talking with Doug and me, and doing some preliminary reading, Michael settled on a project to study humpback whale song, a subject that had interested Doug for some time. He had gathered recordings of singing humpbacks for several years, and had a large bank of data that he had not had the opportunity or time to work up, and as a preliminary he made that available to Michael. Having Doug as a co-supervisor was critical to the development of Michael's project.

Humpback whales, like some other large mysticetes (blue, fin and bowhead whales), produce sounds in repetitive patterns that have been called songs. However, the songs of humpback whales, which are sung only by males, are much more varied and complex than those of the other species. An excellent review of knowledge of the song of humpback whales formed part of the introduction to Michael's PhD thesis. As well as song, humpbacks produce a range of other sounds, collectively known as social sounds. As well as continuing his study of song, Michael has made social sounds the subject of recent work he is supervising at the University of Queensland. I maintain an interest in this work in my role as Adjunct Professor.

The song patterns of humpback whales in one region are distinct from those of another. Doug Cato and others also showed that, while the song within an ocean basin is stereotyped, slight changes do occur from one year to the next, suggesting slow evolutionary change in the song, which is learnt. However during his PhD work, Michael made a remarkable observation: between 1996 and 1998, a complete change in the song occurred in migrating eastern Australian humpbacks, which he recognised to be a cultural revolution⁹. The finding attracted a great deal of interest around the world among those interested in animal communication, human linguistics and other branches of biology. It is remarkable to visit Michael's temporary winter-time laboratory at Peregrine Beach on Queensland's Sunshine Coast, where he sets up a vast array of computers and interactive equipment, sonabuys anchored offshore to make continuous recordings of whales as they migrate through the area, and simultaneous electronic communication between the sonabuys, observers offshore in small boats, observers from a nearby hilltop, and

the base laboratory. What a far cry from our humble beginnings in surveying whale numbers, where we sat on a headland with binoculars, notebooks and pencils, and looked!

SEAL COMMUNICATION

Although I had known Doug Cato and his work beforehand, the first direct involvement he had with our laboratory was when Tracey Rogers began her PhD in the early 1990s. Tracey had been a trainer in the marine mammal section of Taronga Zoo for a year or two, and expressed an interest in furthering her qualifications. She had a science degree from the University of Queensland, and enrolled in a Masters Qualifying degree with me. She was keen to take advantage of the presence of two leopard seals held in the zoo at that time, and with Doug Cato's help we developed a project to examine vocalisation and communication in leopard seals. After a year of outstanding progress, it was clear that she was capable of switching directly into a PhD programme, with the aim of extending her zoo work to study acoustics of leopard seals in their natural habitat. The zoo study showed that, of 12 different underwater sound types recorded, six were produced during agonistic interactions and were heard in almost all months of the year, and were considered to be 'local calls'. The other six sound types were produced by seals when alone, and were referred to as 'broadcast calls'. Such calls were produced by the sexually-mature female only when sexually receptive, and by the mature male during December and January, months believed to be the breeding season in the wild. The conclusion was that underwater acoustic behaviour is important in the mating system of leopard seals, which are solitary animals for most of the year, and that broadcast calls are used by mature females to advertise their sexual receptivity, and possibly by males in search of mates¹⁰. In field studies at Prydz Bay, Antarctica, Tracey showed that leopard seals, nine of which had not been described previously, produced the same 12 underwater sound types. She further compared the calls she recorded in Prydz Bay with calls recorded in the Ross Sea by other workers, and noted that geographic variation exists in the call repertoire. On the other hand, two of the call types were heard frequently in both areas, and are probably important in species recognition¹¹. Her studies underlined the value of complementing field studies with those in the zoo. Interpretation of results of the work in Antarctica would not have been possible without the year-round, controlled study at Taronga. About the time Tracey completed her PhD, the then Director of the Zoological Parks Board of New South Wales (ZPB) Dr John Kelly and I were successful in establishing the Australian Marine Mammal Research Centre (AMMRC) under a Memorandum of Agreement between the University of Sydney and the ZPB. Critical to that was promised financial support of the Australian Stock Exchange, thanks to the energy and enthusiasm of its Chief Executive Officer, Mr Richard

Humphry. Tracey Rogers' background in school teaching and her zoo experience, in combination with her now completed research training and her business acumen, made her the obvious choice when we sought someone to fill the role of Postdoctoral Fellow, whose primary role was to oversee the research activities of AMMRC and continue to seek funding for research. Later she was appointed the Director of the Centre, and adjunct Associate Professor in the University of Sydney. The Centre completed its tenth year of activity in 2006, a major theme under Tracey's guidance being furthering the study of leopard seal acoustics. An aspect that has been of particular importance is the establishment of acoustic surveys to estimate leopard seal numbers (as well as numbers of some other seal species). All previous surveys had involved counting animals on ice floes or fast ice from ships or helicopters. The acoustic studies have shown that those methods significantly underestimate numbers, at least in certain species. In a general paper describing the place of marine mammals in the Antarctic marine ecosystem, I outline the importance of assessing numbers of high-order predators to assess changes within the system¹². Other studies of the Centre have included taxonomy of otariid seals, reproductive biology of sea lions, bottlenose dolphins and humpback whales, vocal communication in Weddell seals and population ecology of southern right whales. Ongoing research includes involvement in the international programme Climatic impacts on coastal communities, which aims to address the impact of climate-induced glacial melting on marine and terrestrial coastal animal communities on a gradient along the western Antarctic Peninsula; the international programme Climatic impacts on pelagic communities, which is examining the key open-ocean choke point for the Antarctic Circumpolar Current in the Drake Passage, between the southern tip of South America and the northern extremity of the Antarctic Peninsula. There is concern that continued global warming will interfere with the currents in this area, with dire ecological consequences.

WHY A MARINE MAMMAL GENERALIST?

Most people who choose to follow an academic or pure research path are drawn by the fascination of a particular branch of science, and continue to develop it throughout their career. In practical terms it is the wise approach, because with it comes the possibility of advancing that area significantly and making a major mark in the scientific world. I explained above how I came to include the study of cetaceans (whales and dolphins) after having set out studying the anatomy and physiology of diving mammals, particularly as they apply to growth and development. In the eyes of scientific purists, to spread my interests was an unwise choice, but for me it has been a wonderful voyage. The seeds for further dilution of scientific purity were sown as far back as 1969: while working at Cornell

University*, I was contacted by Richard Harrison, then Professor of Anatomy at University College, London (later Sir Richard Harrison, FRS, Professor and Head of Anatomy in the University of Cambridge), who had read my papers on elephant seal growth and development. He asked me to contribute to a book he was putting together on the anatomy of marine mammals. Accepting that invitation¹³, and his subsequent invitation to come and work in the Department of Anatomy in Cambridge, was one of my better decisions in life, because thus began a fruitful collaboration and a close friendship with both Richard and his research assistant, Dennis 'Mac' McBrearty. It meant becoming more of a generalist, because while in Cambridge in 1978, I spent some time on a small modified fishing vessel in the Norwegian Sea studying harp and hooded seals¹⁴, and much of the year preparing sections of ovaries with 'Mac' and staring down a microscope, putting together a study of reproduction in the small inshore South American dolphin known as the Franciscana. Richard had obtained from Dr Robert Brownell a large collection of ovaries taken from dolphins killed in shark nets off Punta del Diablo, Uruguay, and by careful examination of them, plus a fair bit of detective work (much of it discussed over pints in the University Arms in Cambridge), we were able to draw conclusions about the reproductive biology of the species¹⁵.

* I spent three marvelous years with my mentor and much valued admired friend Professor Howard Evans, learning to be an anatomist and working on Embryology and Teratology. But that is another story.

During another six months in Cambridge in 1980-81 we outlined a plan for a book on dolphins, and set to work contacting leading specialists and inviting them to join our contributions. It took some time to complete, but after getting together in the pubs of Cambridge and London during international conferences and one or two other visits to the UK, we finally got it done and published¹⁶. We collaborated on one other publication, as Consulting Editors for a popular book on cetaceans¹⁷, which I was informed, sold more than 120,000 copies and were translated into nine languages. And probably accounts for why so many of those who know me, or know of me, believe I only ever studied whales!

Another advantage of having become a marine mammal generalist was that I obtained visiting scientist status in the Smithsonian Institution in Washington, DC, with a stipend, and was able to benefit from a 4-month stint working with Dr James Mead in the Smithsonian's Natural History Museum. We examined much of the reproductive material collected from stranded dolphins, and those entangled in nets and deposited in the Smithsonian collection, and recorded which of those animals were reproductively active, and at what stage of the reproductive cycle they were

when killed. The outcome did not result in a scientific publication, but it contributed to the collection significantly, and we presented a short communication at a conference¹⁸. Jim and I spent almost every lunch hour together during that time, when he introduced me to the many eating establishments throughout the vast Smithsonian complex, as well as the treasures of that Institution and the National Gallery.

If given another life, I would try to do it all again!

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THE EARLY YEARS (1912-1950) OF THE VETERINARY BOARD OF WESTERN AUSTRALIA

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The veterinary board was constituted under the Veterinary Act of 1911. The Governor, on recommendation from the Minister for Agriculture and Industries, appointed five board members. At the initial meeting, held at the Department of Agriculture on the 21 May 1912, the members elected R E Weir as chairman of the board.

Board members

R E Weir MRCVS (Glasgow) came to Ballarat, Victoria in 1882 and practiced there for a number of years before he joined the Department of Agriculture and Industries as an inspector of stock at Fremantle in 1896. He was appointed chief inspector of stock in 1904 and he may have been the first veterinarian to be appointed to this position in Australia. Weir continued to chair the board until he retired 1924.

J Robson MRCVS (Edinburgh) and member Royal Veterinary College (London). Mr Robson arrived in Perth in 1909 and established a successful practice in the city. In 1911 he had built a veterinary hospital to accommodate equine patients and treated roaring (recurrent laryngeal nerve paralysis) cases by laryngotomy and mucosal resection. According to a contemporary report he obtained "a successful result in a fair percentage of cases". Mr Robson also held honorary appointments to the Agricultural Society, the SPCA, the WA Kennel Club, Perth City Council and the Metropolitan Fire Brigade. Mr Robson retired from the board in 1932.

EA Le Souef, Graduate of Melbourne Veterinary College (GMVC) and BVSc Melbourne University, was the first director of the Perth Zoological Gardens appointed in 1897 and he also acted as an honorary veterinary officer for the Agricultural Society. He had an active role in the army before and during the 1914-1918 war and rose to the rank of colonel. In 1916 Col. Le Souef was posted to Egypt where he served in the First Anzac Mounted Division until he was invalided home in 1917. After his return to Perth Col. Le Souef took on additional duties as a part-time teacher of veterinary subjects to students studying agriculture at the University of Western Australia. Col. Le Souef served on the board until he died in 1937.

E Rose came from a farming family and in 1885 went to the Kimberley region of

Western Australia with supplies for two years and animals to establish a pastoral station. He raised cattle and sheep and his ventures were successful. In 1898 he purchased and largely cleared a farm near Bunbury. He served on the board until 1948.

MG Bodey was born in Victoria and received medals for his military service in the South African war. With his brother he then moved to Western Australia and established a successful business importing draught horses to the State. He also owned a large property near Pingelly and served on the board until 1926.

Meetings of the board

Peak periods of activity for the board occurred in the years immediately following the Veterinary Act of 1911 and Veterinary Surgeons Act Amendment Act of 1923. Much of the work consisted of assessing applications to practice veterinary surgery in several categories. Between these times there were years when few or no meetings of the board were held (Table 1).

Table 1. Meetings of the Veterinary Board 1912-1932

Year	Meetings	Year	Meetings	Year	Meetings
1912	12	1919	0	1926	0
1913	10	1920	1	1927	1
1914	8	1921	0	1928	1
1915	3	1922	1	1929	0
1916	2	1923	1	1930	0
1917	1	1924	5	1931	0
1918	2	1925	1	1932	1

Work of the board

The main issues which occupied the members of the board in the early years included registration, examinations, illegal practice, complaints about the quality of veterinary services, provision of services in regional centres and financial and legal matters.

Registration

The Veterinary Act 1911 states that

"The Board shall from time to time cause the names of all duly qualified persons applying for registration under this Act to be registered, together with their respective places of residence and a description of their respective qualifications in a register to be kept by the Board."

The Act also says that

"If any registered veterinary surgeon shall, after due inquiry, be adjudged by the Board to be incompetent or to have been guilty of misconduct as a veterinary surgeon, the Board may direct the registrar to remove the name of such surgeon from the register."

The register had two sections. An applicant who held a diploma of competency as a veterinary surgeon, from the Royal College of Veterinary Surgeons of Great Britain or from some other college or institution recognised by the board or had passed a prescribed examination to the satisfaction of the board, could be registered as a veterinary surgeon.

An applicant, without formal training, who had practised veterinary surgery in Western Australia for five years continuously before the passing of the Act and had applied before 31 December 1912 could be registered as a veterinary practitioner.

Although their names were entered in different sections of the register the veterinary practitioners could carry out all tasks and responsibilities of veterinary surgeons but they were not allowed to describe themselves as veterinary surgeons. It is interesting to note that the Act of 1911 specifically states that it is not illegal for any person to perform for reward the operation of castration, spaying or dehorning on any animal or the tailing of lambs.

The registration of veterinary surgeons appears to have been easy as there were very few applicants. By 1914 only seven names were on the register and by 1931 only two additional names. Of the nine veterinary surgeons registered by 1931 four were graduates of the Melbourne Veterinary College, one had a Melbourne University degree, two had MRCVS qualifications and the remaining two graduated from Ontario and Chicago.

Veterinary surgeons employed by the Western Australian Government were not required to register, a matter that did not please the board. In the period from 1912 to 1950 twenty-three veterinary graduates were employed by the Department of Agriculture but only eleven are listed in the register.

Registration of the second category, veterinary practitioners, was more difficult. The board had to be satisfied that the applicant was of good fame and character and that he had practiced veterinary surgery in Western Australia continuously for five years. Assessing applications formed a large part of the work of the board in the early years. The Act allowed unsuccessful applicants to appeal to the Supreme Court and a small number of men whose applications were originally rejected were registered after successful legal action. In total 22 men were registered as veterinary practitioners at that time.

The Veterinary Surgeons Act Amendment Act of 1923 introduced a further route by which persons without formal qualification could legally charge for veterinary services. The Act states that

“The Board may, and if the Minister so directs, shall...issue to any person a permit in writing whereby it shall be lawful for such a person to perform and give for reward any veterinary service, operation, or advice, if and so long as no registered veterinary surgeon resides and practises veterinary surgery within thirty miles of the residence of such person”.

The Amendment Act 1923 did not restrict the permit holder to any specific location but in 1934 the board approved a motion to change the regulations so that a permit could only apply to one place that had been approved by the board. As a result this Act a total of 34 permits were issued, the last one in 1958.

The Amendment Act also made a small change to qualifications required to register as a veterinary practitioner. The Act states that

“any reputable person who, prior to the Great War, had undergone not less than three years’ training in a veterinary hospital in this State...and who subsequently served abroad with the Australian Imperial Forces, shall...be registered as a veterinary practitioner.”

Only one person was added to the list of practitioners as a result of this amendment.

Number of registrations

It is difficult to determine how many veterinary surgeons and practitioners were registered at a specific date as the register does not record when an individual registration ceased. The Act required that the currently registered names be published annually in the January edition of the Government Gazette. In the years from 1916 to 1948 it seems that the board neglected this responsibility so the record is incomplete. The names of seven veterinary surgeons and 22 veterinary practitioners were published in the Government Gazette in 1915. Two veterinary surgeons worked for the Department of Agriculture, two were in private practice in Perth and one in Katanning, one worked at the Zoo and one was in the army overseas. Seven veterinary practitioners worked in Perth and 15 in the country. The 1950 edition of the Gazette contained the names of 15 veterinary surgeons, 8 veterinary practitioners and 12 permit holders so after 35 years there was only a net increase of 6 people registered to provide veterinary services in the State plus a few unregistered veterinary graduates who worked for the Department of Agriculture.

Further information is available from the Post Office Directory that carried a classified veterinary section. In 1911, the year before the Act, the directory listed 17

names. Three of these men had veterinary qualifications, ten subsequently registered as veterinary practitioners and the qualifications of four others are unknown. The figures for subsequent years are given in Table 2 and the qualifications have been checked against the register and other historical sources.

Table 2. Post Office Directory Listing of Veterinary Services

Qualification	1915	1925	1935	1949
Registered Veterinary Surgeons	2	7	10	16
Unregistered Veterinary Graduates	1	0	6	0
Registered Veterinary Practitioners	11	14	21	8
Registered Permit Holders	0	1	18	13
Unknown	4	2	1	0

Examinations

The minutes of the first meeting of the board record the chairman as stating that veterinary practitioners could be admitted to the register after satisfying the board by prescribed examination, but this statement is incorrect. When the bill was debated in parliament there was discussion about examinations for practitioners but the Veterinary Act contains no provision for examinations for practitioners and none were admitted by this route.

Examinations for veterinary surgeons were discussed enthusiastically at first and Messrs Weir, Le Souef and Robson were asked to prepare regulations for the examinations. However the first requests for examination came from men who had been denied registration as practitioners and the board felt that they had no chance of meeting the expected standard for veterinary surgeons. After receiving information from the Crown Law Department the board decided "That no steps be taken at the present moment towards the preparation of regulations prescribing the examination as set out in the Act."

In 1918 Mr Le Souef moved

"That in justice to the students now attending courses at the various veterinary colleges, the board consider it inadvisable to prescribe an examination with a view to enabling unqualified persons to obtain registration, especially as veterinary colleges are open to all persons in the Commonwealth who are desirous of qualifying for the profession."

The motion was carried.

Many years later, after amendment to the regulations, examinations were held between 1955 and 1961 for three graduates from European veterinary schools. All passed and were registered as veterinary surgeons.

Illegal practice

Complaints about practice by unregistered men soon arrived at the board. One case involved a man in Fremantle charging for treating horses belonging to several businesses. The prosecution was successful and he was fined ten shillings plus costs. The board had no staff to investigate complaints of this nature so an arrangement was made with the SPCA for some of their inspectors to act as honorary inspectors for the board. The duties are stated in the minutes.

“1. To visit different districts, chiefly in the South West and Eastern portions of the State.

2. To investigate complaints which may be made with regard to unregistered persons practising as veterinary practitioners. In making the investigations he will require to ascertain the nature of the work such person is carrying out, dates, etc.”

The Commissioner of Police was also asked to draw the attention of constables to the Act. From reports in the minutes it appears that the police were more effective than the SPCA, possibly because they had a bigger presence in country districts. A number of successful prosecutions were reported to the board but the problem persisted for a number of years and in 1927 the board decided

“That the Manager of Telephones be written to for the purpose of ascertaining the manner in which information is supplied by a number of persons who appear in the telephone directory as “Veterinary Surgeons” but are not entitled to this designation.”

Complaints about veterinary services

The minutes of the board meetings held in the early years contain few references to complaints about the standard of veterinary services. One of the earliest cases in 1912 concerned dystocia in a mare. The veterinary practitioner was unable to deliver the foal and during his efforts intestine escaped. As the prognosis at this stage was hopeless the mare was euthanased and a post-mortem examination carried out immediately.

The board interviewed the owner, a friend of the owner and the veterinary practitioner and conflicting accounts of the events were given. The owner and his friend asserted that, on the post-mortem examination the cervix was not open and the foal was alive. They considered that if the mare had been left alone she would have foaled normally. The veterinary practitioner stated that the cervix was open, one of

the foal's legs was turned back, its head was doubled back and it was not alive.

The board decided that there was no evidence to prove that the practitioner injured the mare during his examination and that the mare could not have foaled without assistance. The rupture and escape of intestine may have been due to violent straining by the mare.

Veterinary services in regional centres

The provision of subsidised veterinary services to farmers in regional centres was debated in parliament during the passage of the Veterinary Act but no action had been taken. At the first meeting of the board it was agreed

“That the board recommend that a veterinary surgeon be appointed to the various principal centres by the Government subject to approval by the board.”

Mr Rose said that such a step would facilitate the work of the inspection of dairy herds in the principal centres. Two meetings later

“Mr Weir thought that when agricultural societies were strong enough they may be prevailed upon to assist in subsidising district veterinary surgeons”.

The board then approved a motion

“That the Hon. The Minister for Agriculture and Industries be informed that the Board recommend that veterinary surgeons, when available, be appointed to the principal district centres (such as Bunbury and including surrounding districts, Albany to Wagin, Narrogin to Beverley, York and Northam, Kellerberrin and Geraldton) to be subsidised at from £100 to £200 per annum and allowed private practice.”

This matter was discussed again in 1914 and 1915 when the board decided that the under secretary for Agriculture should be asked to provide an amount for subsidising veterinary surgeons in the next year's estimates for the development of agriculture. The board's efforts appear to have been unsuccessful but over time an increasing number of veterinary surgeons were employed by the Department of Agriculture and provided services in the country areas. However as employees of the Department of Agriculture these veterinary surgeons did not have to register.

Financial and legal matters

At first the members of the board acted in an honorary capacity but had travel costs refunded. This was in accordance with the views expressed by the Minister for Agriculture when the Veterinary Act was debated in parliament. However in 1927 the board passed a motion authorising an attendance fee of £1/1/- in addition to rail fares to and from Perth be paid to members attending meetings of the board.

At the second meeting of the board

“Mr Bodey expressed the opinion that an annual fee of £1/1/- be made beside the registration fee, as it would benefit the man practising, and would deter antiquated old fossils from practice.”

By December 1912 a number of men, whose applications for registration as the board, appealed to the Supreme Court and the board, had turned down veterinary practitioners realised that it needed a solicitor to deal with these legal matters. The crown solicitor was approached but he advised that he was unable to help so the firm of James and Derbyshire was engaged.

Some of the court cases were decided in the board's favour and costs awarded but the board members became concerned about their personal financial exposure and decided to write to the Minister for Agriculture

“pointing out the difficulties under which the board is working, that the position they hold is only an honorary one, and ask that some guarantee be given that members would not be personally liable for payment of any damages which may be awarded against the board.”

In reply the Minister promised that an annual amount of £100 would be set aside for the purpose of the Act. This appears to have satisfied the board members.

The cost of prosecutions also concerned the board. In the case mentioned above where a prosecution for illegal practice was successful with a fine of 10/- and costs against the offender the legal firm acting for the board submitted a bill for £4/4/6 being the costs over and above those awarded by the court. The chairman and the registrar consulted the crown solicitor on this matter and it was the crown solicitor's opinion that if the magistrate did not allow costs equivalent to a fair remuneration for a solicitor's services the solicitor was entitled to receive a fair amount from the client.

Association of veterinary surgeons and registered practitioners

The minutes of a meeting in October 1912 record that

“A letter was received from A MacIntosh (veterinary practitioner) in reference to the formation of an Association of Veterinary Surgeons and Registered Practitioners, under the direct supervision of the board, for the purpose of unifying veterinary knowledge amongst local members.”

The registrar was instructed to acknowledge the letter and point out that the suggestion was thought to be a good one, but rather premature. The Western Australian Veterinary Association as a branch of the Australian Veterinary Association was established in 1924.

Official seal

The regulations for the 1911 Act stipulated that certificates should carry an official seal so, in 1913, the board arranged to have a seal made by a company named Cumpston's Engraving Works at a cost of £4/10/-. Mr Gibbs of South Perth was asked to make a drawing of a Hackney stallion named Matchless Methias and this design was to be used in the seal. The seal was to incorporate the words "The Veterinary Board of Western Australia" and a motto "Advance Veterinary Science" written in Latin. Unfortunately the seal has been lost and to date I have been unable to find any images made by it.

Acknowledgements

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Veterinary Surgeons Board of Western Australia

- The original register maintained by the registrars
- "The birth of the Veterinary Board in Western Australia and the first 46 years of its life" by GW Ward, 1958
- "Department of Agriculture – Veterinary Services." The document is unsigned but probably written by J Shilkin
- Veterinary Act 1911 and Veterinary Surgeons Act Amendment Act 1923

Western Australian Government Gazette

- Details of regulations relating to the Veterinary Acts of 1911 and 1923
- Lists of registered veterinary surgeons, veterinary practitioners and permit holders in 1915 and 1950.

HISTORY OF THE AUSTRALIAN COLLEGE OF VETERINARY SCIENTISTS

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THE ORIGINAL CONCEPT

Although the Australian College of Veterinary Scientists was formally established at an inauguration ceremony on 18 May 1971, the concept of such a body dates back to 1958. Dr AN Sinclair suggested to those in the profession who advocated a change away from State and Territory registration to a national system, that the formation of an Australian College of Veterinary Surgeons would provide a vehicle to achieve this objective. He suggested that such a body could be modeled on the Royal College and could provide a post-graduate education program.

A sub-committee of the New South Wales Division of the Australian Veterinary Association (AVA) was formed in late 1958 to address this proposal. The available minutes of this committee indicate that several factors weighed heavily against a national body to control registration and its disciplinary functions. These included the jealously guarded State versus Federal legislative powers, the then small number of about 1000 Australian registrants, and other perceived difficulties. In any educational function, there was possible duplication of and conflict with University and AVA sponsored post-graduate education and the difficulty in coping with the diversity of disciplines in veterinary science.

A New College

It was not until 1967 at an Annual General Meeting of the AVA that a resolution was passed “that the establishment of a Veterinary College be approved in principle, and directs the council to the necessity of early action”. An AVA committee, under the chairmanship of Professor DC Blood, recommended in 1968 that “The College would exist primarily to provide professional qualifications to veterinarians of superior competence; the College would be a national institution and membership (with the exception of Foundation Membership) would be gained primarily by examination; and that entry examinations could be oriented towards one of a

number of fields of competence, but Membership of the College must be open to all veterinarians of Australia and New Zealand.”

In 1969 an Interim Council chaired by Professor RM Butterfield had available a comprehensive report of the AVA Committee which dealt with the aims and objectives of the College; criteria for membership and the desirability of two levels of membership; criteria and procedure for invitations to possible foundation membership; procedures for examinations for entry to the College; suggested specialties in which examinations might be held; and estimates of probable costs and revenue. The Council at its first in-person meeting in February 1970 decided that the name should be the “Australian College of Veterinary Scientists”. It also proposed that there would be two levels of membership – Members and Fellows, that provision be made for specialities, that the criteria for foundation members be at least eight years since graduation with a high level of proficiency and skill, and that fellowship be by election or by thesis or preferably by examination. It also resolved that New Zealand veterinarians would be eligible as members and to keep the New Zealand Veterinary Association informed.

At a second in-person meeting in June 1970, decisions were made to finalise the Memorandum and Articles of Association for submission to the Registrar of Companies, NSW to establish a Company limited by guarantee, to set the entrance fee for Foundation Members be \$A70, and to request Dr M Pullar to convene a sub-committee to report on proposals for the College crest, badge and regalia. Selection Committees in each State were to nominate Foundation Fellows, Life Members or Life Fellows from the lists of Members who had accepted Membership invitations. The Inaugural Meeting of the College is to be held at the time of the AGM of the AVA in Canberra in May 1971.

The First Council

The first elected Council comprised Dr DF Stewart as President, Professor RM Butterfield Past President, Dr IJ Cunningham (NZ) Vice President, Dr KJ Astill Honorary Treasurer, Professors DC Blood, KVF Jubb, Associate Professor DR Hutchins, Drs MB Buddle (NZ), RE Churchward, BC Eastick, DM Flynn, JR Gannon, HMcL Gordon, AW Huddleston, PR Knight, SJ Miller, IW Montgomery, WJ Pryor, WR Sidman, BF Smith (NZ), RI Taylor, and LK Whitten. Mrs L Hicks was appointed as Secretary and to act as Public Officer of the Company.

Inaugural Ceremony

The Inaugural Ceremony of the College was held at the Australian Academy of Science, Canberra on 18th May 1971. Dr BC Eastick BVSc, MHA chaired this important event attended by 120 Foundation Members. Dr Eastick formally handed a copy of the Memorandum and Articles of Association to the first elected President, Dr DF Stewart. The address meeting was chaired by Dr Stewart and by Professor Butterfield. Dr Graham Ward responded on behalf of Members of the College and expressed appreciation to the Interim Council for their work in bringing the establishment of the College to fruition. These addresses were published in the Australian Veterinary Journal, 1971:47.:453. Dr Eastick was subsequently elected as Vice President following the death of Dr Cunningham in September 1971.

First Council Meeting

The first meeting of the elected Council was held in Sydney in August 1971. The Council decided to explore inadvertent omissions from the original offers of foundation membership and to make additional offers. It was resolved that the number of Fellowships offered be limited to 10% (subsequently changed to exclude Life Fellows) of the total membership. Foundation Fellows were to be elected from among those members who had gained professional eminence in veterinary science. Of the 503 offered Foundation Membership, sixteen were designated Foundation Life Members and fourteen were elected as Foundation Life Fellows. Council elected twenty-seven Foundation Fellows on the recommendation of the Fellows Committee comprising Professors RM Butterfield (Chairman) and KVF Jubb, and Drs BC Eastick, SJ Miller, RI Taylor, and LK Whitten.

An urgent task requiring attention was to formulate regulations governing admission to the College and the conduct of examinations for entrance to membership. This task was entrusted to a Melbourne committee comprising Professors DC Blood and KVF Jubb, Drs DM Flynn, JR Gannon and IW Montgomery.

Memorandum and Articles of Association.

The Memorandum defines the objects of the College, limits the application of the income and property of the College and provides for the winding-up or dissolution of The College. The principal objects are to advance the study of veterinary science and to bring together members of the veterinary profession for their common benefit, and to hold, conduct or arrange examinations of professional proficiency for the purpose of general Meeting to vary the number of Councillors. At least one Councillor shall be a resident of Australia and one of New Zealand. If not an elected Councillor, the Chief Examiner shall be a member of Council. Further amendment in 1998 provided for a third class of members, namely Associate Members who shall be specialists registered in either Australia or New Zealand.

Annual General Meeting - 1972

President Dr DF Stewart at this meeting said, inter alia “I consider that with the establishment of the Australian College of Veterinary Scientists, the veterinary profession in this part of the world has reached maturity.” Dr BC Eastick was elected President for 1972-73 with Dr AA Blakely as Vice President and Professor DC Blood as Chief Examiner. Other members of the initial Board of Examiners were Drs LJ Fulton, JR Gannon, TE Jones, GM McFadden and BH Rushford. The meeting was addressed by Dr RL Doherty MBBS, FRACP, FRCPA, MPH a distinguished Director of the Queensland Institute of Medical Research, the address being dedicated to the memory of Dr EM Pullar. This was the first of a series that ultimately became the College Oration to recognize Australian and New Zealand veterinarians who had made a major contribution to Veterinary Science.

Science Week

The College AGM was originally held at the time of the annual AVA conference but for several years has been held in conjunction with the College oral examinations and Science Week. The latter has developed into a major continuing education event attracting veterinarians who are keen to enhance their knowledge at the cutting edge of their special interests.

Examinations

Considerable debate ensued during the early years of the College on the “creation of a corps of specialists by admission to fellowship of the College by examination”. A paper by 1974/75 President Dr JR Gannon and Professor DC Blood on this topic led to Council approval in December 1975 of fellowship by examination in addition to election by Council. The former was designed to show that the successful candidate has sufficient knowledge and experience in a particular area to gain acceptance as a specialist in that area of work. It comprises written papers and a searching oral / practical test conducted by highly qualified examiners including many from abroad in the early years. Subsequently Fellows of the College in many disciplines have been granted automatic specialist registration by the registering bodies in New Zealand and Australia.

By 1976 Professor DC Blood, Chief Examiner had compiled a Manual of Procedures for College examinations both membership and fellowship, the latter to facilitate the new fellowship examinations. Since this period, considerable effort largely by Drs Philip Thomas, the first College Executive Officer and his successor Dr Megan Parker with input from the Boards of Examiners has resulted in the availability to potential candidates of The Red Book, “Guidelines to Membership”

and the Blue Book, “Guidelines for Fellowship”. These offer detailed advice and guidance to potential candidates on all aspects of the two levels of College examinations. A further publication, The Purple Book offers advice to examiners. The progress from the original Manual of Procedures to the current availability of these three publications has been an evolutionary journey over the history of the College and has resulted in an enviable format. These publications are now available on the College’s Website.

Membership examinations are offered annually in the most sought after disciplines and every second year in others. Fellowship examination subjects are available on demand and for many years have been the only means of attaining Fellowship. Council approves currently 29 membership and 25 fellowship examination subjects.

The ACVSc and the Royal College

Approaches were made to the Royal College of Veterinary Surgeons for recognition of the Australian College by the inclusion of the qualifications MACVSc and FACVSc in the register. Copies of the Memorandum and Articles of Association and a list of Fellows and Members and regulations governing admission and examinations were forwarded to the RCVS but they declined the request. Personal approaches by eminent Fellows and further formal requests were unsuccessful until recognition was granted more than twenty years after the initial approach. The College is at time of writing still seeking recognition from a number of overseas national veterinary bodies involved in granting post-graduate qualifications and registration.

College Chapters

To cater for the increasing diversity of disciplines and species involved in modern veterinary science and to strengthen the commitment to continuing education, provision was made early for the establishment of Chapters of the College. There are now 18 Chapters catering for this diversity ranging in size and activity. The larger Chapters conduct independent Continuing Education events and many are regular contributors to the College Science Week.

College Awards

Early in its history the Council recognized the value of issuing awards particularly for younger veterinarians who had demonstrated a significant contribution in their field. The first of these in 1975 was the College Prize awarded in non-academic achievement and the second the Ian Clunies Ross Memorial for academic achievement. In conjunction with the former Bureau of Animal Health and the AVA,

the Kesteven Medal was established to recognize veterinary contribution to developing countries. The AVA and the College now award it jointly. Other awards include the College Oration, Training scholarships and the most commendable papers published in three Australasian journals. Honorary Fellowship has been granted to a limited number of persons, not necessarily veterinarians, who have rendered exceptional service to veterinary science. Dr TG Hungerford was the first person so recognised in 1971.

In conclusion, I pay tribute to Dr Geoff Robins, a former Chief Examiner and still the organizer of the College Science Week held in conjunction with the Oral examinations and the AGM. The College has been fortunate to have many outstanding contributors to its development over the last 26 years serving as elected officers, councillors, members of the Board of Examiners and for over twenty years the services of a dedicated and competent administrator in Mrs Elaine Lowe.

Changes in Veterinary Practice in a Dairying Area in the Past 50 Years.

Dr Jakob Malmo

Maffra Veterinary Centre, 10 Johnson Street, Maffra, Vic. 286

Over the last 50 years the dairy industry has undergone very major change and restructuring, and these changes are still proceeding at an apparently ever-increasing rate. To keep up with these changes, dairy cattle practice has had to change and adapt and will undoubtedly have to do so into the future.

Changes in the Australian dairy industry over the last 50 years are summarised in the following two tables.

Table 1. Number of farms and national annual milk production.

Year	Number of farms, Victoria	Number of farms, Australia	Annual National milk production (m. litres)
1950	82,479	27,975	5,630
1960	74,846	26,004	6,395
1970	46,460	19,803	7,551
1980	21,994	11,467	5,432
1990	15,396	8,840	6,263
2000	12,896	7,806	10,847
2005/06 (Est)	8,884	5,892	10,092

Table 2. Average herd size and average milk production per cow.

Year	Average herd size (milking cows)	Production/cow (litres/annum)
1950	18	1746
1960	24	1,959
1970	50	2,650
1980	91	2,848
1990	110	3,781
2000	160	4,859
2005/06 (Est)	224	5,034

As the previous tables illustrate:

- The number of dairy farms in Australia has decreased dramatically over the last 50 years (in 1950, there were over 82,000 dairy farms in Australia and it is estimated in 2005/06 there were fewer than 9000 dairy farms in production).
- Annual National milk production per annum has increased, with a major increase between 1990 and 2000 (from 6,263 m. litres in 1990 to 10,847 m. litres in 2000).
- The average dairy herd size has increased (from around 18 cows in 1952 to an estimated average herd size of 224 in 2005/06) substantially.
- The average milk production per cow has increased from an average of 1,746 litres per cow per year in 1950 to over 5000 litres per cow per year in 2005/06.

In terms of some overseas countries, this annual production per cow is still relatively low.

Changes in the dairy industry in the Macalister Irrigation Area over the last 50 years.

While these changes reflect what has been going on in the national Australian dairy industry, I can personally relate to many of the changes that have occurred in the Macalister Irrigation Area over the past 50 years.

I can drive down roads where there may have been 12 to 15 dairy farms 45 years ago and there may now be only 2 dairy farms covering the same area. These two farms will almost certainly be milking more cows than the total milked on the 12 to 15 farms of 45 years ago. But the number of families supported by the farming

enterprises will be much fewer than the earlier times. This is a reflection of a major rationalisation that has occurred in the Australian dairy industry over the past 50 years.

I have seen a very substantial increase in average herd size. When I commenced practice in Maffra, I estimate that the average herd size might have been around 30 cows with 150 cows being regarded as a large herd. The average herd size is now over 220 cows and increasing rapidly –many of our herds are now over 600 milking cows.

There have been major changes in the type of milking sheds in use. Large investments in capital have been made to improve the number of cows milked per labour unit. Before I graduated, I remember my father showing me the first of the new herringbone sheds in the area. Many of the larger farms now use rotary milking parlours that in some cases incorporate fairly sophisticated technology such as automatic teat-cup removal, automatic identification and drafting systems and computerised individual animal feeding systems. A robotic dairy in the area may indicate the path for the future.

In line with the national trend, there have been substantial increases in per cow production. This increased level of production is not simply a result of improved breeding. There have been major changes in the way cattle are fed. In a drought in our area in the early 70s, many farms started using cereal grain as a source of feed because we calculated that this was the most cost-effective way of buying in energy to feed our animals. Since that time, levels of supplementary feeding have increased on many farms and in some cases the energy supplied by way of supplementary feed to the herd is now greater than that provided by pasture.

Increasing intensification in the industry has resulted in many farms having a markedly increased stocking rate (up to 3.5 to 4 cows per hectare) and a greatly increased number of cows managed per on-farm labour unit.

As is common with many other forms of agriculture, there has been a gradual decrease in the dairy farmers' terms of trade – the so-called "cost-price" means that farmers will look closely at all of the farm's major inputs to determine whether or not they are cost effective. This certainly includes a close examination of all animal health inputs.

We are having increasing competition for land use in what was primarily dairy industry country. Over the last few years there have been an increasing number of dairy farms taken over by vegetable growers and some dairy farms have been broken up and sold as life style blocks.

Changes in the provision of veterinary services to the dairy industry.

The number of veterinarians in country practice has increased substantially since I came into practice. I became the third veterinarian in a practice that grew to 11 veterinarians. When I commenced practice in Maffra, any small animal work undertaken was done after large animal work was completed – often ending with midnight small animal routine surgery. Now close to half of our practice income is from the small animal side of our practice. But in this discussion I shall limit myself to discussing changes in dairy cattle practice.

When I first entered veterinary practice, the vast majority of the cases that I attended were individual animal cattle cases. When a farmer's herd consists of 30 cows, individual animal attention is very important to them, and they have the labour and need to provide it. The herd manager on today's larger farms now handles many of the cases we treated 50 years ago routinely.

Following are some broad generalisations about current dairy cattle practice, and comparing it with practice some 50 years ago:

- Most farmers do more of their own routine veterinary work – most farmers will now treat cases of hypocalcaemia with intravenous calcium, are quite capable of assisting most cows with dystocia, treat many of their own lame cows and many of their sick cows. As farms get larger, this tendency to self-sufficiency with many individual animal conditions increases. The net result of this is that a veterinary practice often gets less individual animal work from one 600 cow farm than it does from 4 - 150 cow farms.
- As a corollary to this, many of the problems are presented to the veterinarian on these larger farms are more complex and more difficult – if you are called to a dystocia that the farm workers cannot manage, it may well be difficult. The farm workers may have previously treated the sick cows that are presented to us, or are sick animals where they cannot arrive at any form of diagnosis. In some cases they may represent part of an ongoing problem.
- With larger herds, investigation of herd problems can be challenging – investigating mastitis problems requires an in-depth investigation, often working with a number of members of the farm staff. Nutritional problems where animals are being fed a combination of pasture, concentrates, additives and possibly by-products sorely test one's knowledge in the area of nutrition.

- Farm labour is often a limiting factor on many larger farms. In many cases we are dealing with, at least in the first instance, a farm worker who has only a limited knowledge of the herd and the farm management system rather than dealing with the farm manager or owner.
- Again, because labour is a limiting factor on larger farms, they want whole herd procedures (such as whole herd pregnancy testing) undertaken as quickly and efficiently as possible, with the veterinarian arriving at the appointed time, not late because another emergency has arisen. Pregnancy testing an 800 to 1000 cow herd presents a greater physical challenge than testing 4 - 200 cow farms.
- Fortunately for people like me who work only with cattle, many of our clients continue to require a high-quality individual animal service. But all of our clients require that we are capable of undertaking a thorough disease investigation when problems arise – be it a mastitis outbreak, a problem of reduced reproductive performance, a problem with reduced productivity or one of sudden deaths. Our profession must be able to continue to investigate such outbreaks, make (where possible) an accurate diagnosis and help implement control programs that quickly overcome the farmer's problem.

Conclusion

Over the last 50 years the dairy industry has been through a period of major restructuring and veterinary services have had to change to meet the changing demands of this different dairy industry.

I certainly feel privileged to have been able to work in the dairy industry during this period of change, and in a period that the late Otto Radostits referred to as "The golden age of veterinary medicine".

I am sure that the years ahead will provide new challenges and new opportunities for the provision of services to a continually changing and dynamic dairy industry.

Further Reading

Australian Dairy Industry in Focus 2006 Dairy Australia 2006

Special Article – The Victorian Dairy Industry The Victorian Yearbook, 1998 (ABS Cat No. 1310.2).

FRONTIER VETERINARY SCIENCE

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The article by Douglas Lockwood in the "Age" newspaper turned a fascination with the Northern Territory into a decision for me to go.

There had been Government vacancies earlier in the year, so I phoned. "Positions filled, but come on up anyway as a practitioner is sorely needed."

The Holden station sedan had my Grandmother's kitchen table on the roof rack, inside two cages filled with basic drugs, instruments and books; camping gear, food and clothing and very importantly, my German Shepherd, Kim.

At Darwin I set up camp at the recognised accommodation, Mendil Beach sand dunes. Then Bruce Paine, with a new Government three bedroom house insisted I live with he and Sue. Soon I moved to a room with an Italian family in central Darwin.

Animal Industries Branch occupied an ex-Navy Building off Smith Street, and as owners wanting assistance with their animals plagued the Government vets I was offered the tearoom.

October 7, 1964 I started practice. One of the first jobs was to anaesthetise the Boxer dog belonging to the Secretary for Health, to enable the removal of hundreds of ticks embedded in its ears which were already swollen and tender from previous infestations.

Ticks in central Darwin were as bad or worse then as vets today still see in Aboriginal Communities. Add to that hookworm and in most cases heartworm, and you can readily accept that there were plenty of anemia cases, and conditions arising as a result of compromised health.

Heartworm was the prevailing condition and there was soon a line of people morning and evening. The accepted treatment - i/v sodium caparsolate twice daily for two days. Expect 7% deaths, and invariably some dogs would either struggle or had veins previously affected from extravasation, so there would be leakage into the vein with consequent corrosive effects. I soon learnt to inject several ml of water for injection behind the caparsolate dose.

I did many post mortems, and the AIB laboratory was always helpful in doing histology for the more interesting cases.

A great advantage was library access. I would never have afforded the American journals of Small Animal practice then, but was able to read them all. It was easier

to correspond with the USA than contact south. The librarians would get reprints of every item published on *Dirofilaria immitis*, and I spent much time broadening my knowledge.

When I read in a May & Baker bulletin about Japanese research advising that daily administration of diethylcarbamazine citrate would prevent heartworm infection I could not believe that no one seemed to be taking notice. I started as many of my clients as possible on the new regime. Access to the tablets was not easy. The only product was a jar of 25 produced to combat the *Wuchereria bancrofti* parasite. May & Baker refused to produce tablets for canine use.

My husband sourced dec from South America and we asked Dick Boon of Parnell Laboratories to manufacture the tablets. Filaricide was soon marketed in Darwin. There was a need for education so that people did not use them when their dog already had heartworm, as anaphylaxis could result. At the 1972 Veterinary Conference in Brisbane I contradicted a statement that it didn't. I had been asked to comment on a paper presented and published in the Australian Veterinary Journal. If one knew the life cycle, it was obviously flawed.

My review of the literature was refused publication as it was not original material. I had corresponded with Dr Jackson in USA who wrote many papers on heartworm. When he advised me he was coming to Australia to speak at a Parasitology Conference I contacted Tom Hungerford at the Post Graduate Foundation and suggested a Veterinary Heartworm session. I met William Jackson, who told me I was probably the first practitioner anywhere to use dec as in America the USDA regulations had delayed usage of the drug.

Involvement with the educative side of veterinary care was instituted early as the Australian Broadcasting Commission (ABC) involved me in the country programs on a weekly basis; the NT News wanted copy, and a young female vet was news at the time. I favoured providing written articles to them, and the canine, and later, feline clubs' newsletters.

Hookworm in 1964 was treated with carbon tetrachloride capsules, but where it was endemic as in the Top End, the message of control was most important. I advised owners to stop washing down with disinfectants, but instead to dry out and sometimes blowtorch the cement floors.

An injectable called Ancylosol then became the product of choice. Despite the yellow stain and the comparatively high cost, the immediate improvement in a lethargic animal, or improving the performance of a racing Greyhound made it worthwhile. Shortly after, the introduction of tablets with much improved outcomes and less side effects than the capsules started the march of increasingly effective medications for control of intestinal worms.

Tick control continued to be a huge problem and the only wash available had little effect. Bayer had introduced Asuntol as a horse wash, and we decided to try it for dogs. It helped that there was no restrictive legislation in the Territory and that the positive result ensured no one was going to question the homegrown repackaging which Ron did in his workshop. It was so successful that Bayer then offered to print the labels to enhance the presentation.

Fleas were less of a problem than they were in the south, and less so than the present Top End position- whether by contrast or reality.

Parasitology was a favourite interest of mine, surely due to the excellent presentation from Professor Sprent at University of Queensland, and I routinely carried out faecal examinations on all patients for many years. Clients were interested to view under the microscope, the parasite eggs; demodex mites, microfilaria, or whatever the particular investigation revealed.

Consequently I can state with conviction that whipworm wasn't seen in Darwin until the importation of dogs occurred from Melbourne and environs. We were isolated in the NT in that it was a long way to travel to Darwin by road, and there were initially few dogs imported by air.

Another instance of this isolation was the regular outbreak of distemper in dogs. Vaccination wasn't routinely practiced in many places, and the wave of distemper followed the visit of the showmen and entourage as it travelled up The Track each July.

Professor Sprent briefly visited Darwin as he had difficulty accepting that pigs in the NT did not carry ascaroides. Pigs had not been imported from south then and kidney worm *Stephanuris edentatus* was the common parasite found at post mortem.

Horse husbandry was most primitive and the track at Fannie Bay racecourse very rough. The most common problem was "bumpers," abrasions on the fetlocks, which I've not seen before or since. Nutritional advice and treating colic and lameness were the usual problems.

Alice Springs people requested I go there, and so I developed a regular visit until 1970. I advertised in the Veterinary Journal trying to get someone to start practice there. Katherine Tennant Creek and Gove were additional for varying times- for Gove over twenty years.

The AIB vets were keen to offload the part time position of Veterinary Officer at the Vestey's Abattoir at the 10 mile, so in 1965 I became OIC Export Establishment 447.

There was instant opposition to my position and I was warned not to walk along

the passage over which the carcasses traveled to the chillers, in case one should accidentally drop on me. Good advice anyway. The book of rules was the standard to achieve and I set out to do just that.

Along the way, I learnt that the antemortem was best carried out with a quiet approach and sitting on the yard fence at daylight. There were a couple of great stockmen employed and they were good teachers about handling cattle. Apart from cattle from Vestey's stations we received a lot that had never previously been handled, had been run down with vehicles, and were either very wild or sulky. These animals were being captured because of the call for meat for the American hamburger trade. Consequently some of these bulls were as old as 16 years give or take- they could only be accessed late in the Dry after the country had dried out sufficiently to support vehicles.

Whilst the Americans demanded high standards and we were subjected to inspections, the process enabled a lot of cattlemen to make money, and cleaned up a lot of otherwise poor quality cattle.

I established a good working partnership with the meat works manager, George Welsh. There was a nucleus of real expertise on both the kill floor and the boning room. Others would be whoever walked up the roadway that morning. Sometimes I would stand near the office with George hoping we got a good crew for the day. Some of the blokes camped across from the works in the long grass and turned up worse for wear and wearing only boots and shorts, bathers or whatever. As they got laundered smocks, caps etc at work, clothing was not an essential.

Some of the tasks were less than desirable- running the hasher, or work in the mill making blood and bone, salting hides. The turnover for positions over the season was 8 to 1, and considering there was an annual return core of workers for the kill floor and the boning room some of the people didn't last long.

The boning room was like a big unruly rough family with boners (skilled men), a trimmer or two, and packers- mostly women. The talk was robust and ribald I knew, but the worst was suspended whenever I arrived to inspect, even after we all settled into a good working relationship. For this respect I was grateful, as I would have found the unexpurgated version difficult.

It wasn't all getting the workers to adhere to hygiene standards. As well I requested separate facilities for the women who worked in the boning room – something they at first resisted but then appreciated. The number of toilets had to be increased and I acquired the assistance of a union delegate.

Initially I inspected the holds of ships prior to the loading of export meat. Most of

the ships were from the Knutsen line originating from Norway. On one memorable occasion the ship was German, and my arrival was shouted about as “the fleisch inspector is here.” It was unlike the precision and protocol of the Bakke ships that employed Chinese labour and very precise Norwegian officers. By this time I spoke knowledgeably about scuppers and often inspected alongside one of the captain/engineers also engaged to inspect for mechanical/quarantine reasons, and from whom I picked up technical pointers. There was never a problem in cleanliness for any of the Bakke ships, and a minor one only for a German one. The first time I supervised I stayed for all the time during which export meat was loaded. Ignorant of the rules about Wharf hierarchy, when I saw some ripped cartons I immediately requested the chap ordering the sling operation to hold that load whilst they were removed. I was indulged that time, but was advised of the proper chain of command to have cartons brought back from the hold.

When the Export Prawning Industry was first mooted there was inspections of existing Japanese fishing vessels. The short length of the bunks was notable, and these ships had already seen a lot of service so much rust was evident. Compliance to export standard was a lengthy and costly exercise carried out in Perth. The operation was successful and rapidly developed. Vessels were built specifically for Prawning and were in contrast attractive, spacious and practical. The landbased operation moved to purpose built premises along from Dinah Beach- now the site of a residential development aptly named Tipperary Waters. As the senior Commonwealth Officer for the Federal Department I had been given other additional duties, such as reporting on the buffalo establishments and the Katherine Abattoir. Afterwards there was a Chief Meat Inspector appointed. The role at 447 remained until 1971 when the USDA decided that there had to be a full time Veterinary Officer. By that time, having worked through the previous year, pregnant and not well, it was timely to exit.

determining qualification for Membership of the College, and Fellowship of the College. The articles have been amended from time to time. A major change was made in 1989 to limit the size of Council to seven including six elected Councillors, two to be elected each year for three year terms, to limit the number of consecutive terms to three and to permit the College in G.

REGISTER OF VETERINARY SURGEONS.

NAME AND ADDRESS.	QUALIFICATION	GRADUATED.	
		DATE.	COLLEGE.
NEW SOUTH WALES.			
Day, Sydney	M.B.C.V.S.	—	—
Durham, Samuel, Stock Inspector, N.S.W.	M.B.C.V.S.	Dec. 16, 1873	London
Green, T., Sydney	M.B.C.V.S.	Apr. 26, 1881	Edin. (New)
Hayden, Paul W.	M.B.C.V.S.	Apr. 8, 1846	London
Scott, Wm., Castlerough-st. Sydney	M.B.C.V.S.	July 27, 1888	Edin. (New)
Stanley, Edward, Government Veterinarian, Sydney	M.B.C.V.S.	May 3, 1862	London
Stewart, John, M.L.C., Sydney ..	M.B.C.V.S.	Aug. 8, 1832	Glasgow
Tattersall, Percy B., Sydney ..	M.B.C.V.S.	Dec. 1, 1865	London
QUEENSLAND.			
Barnes, A. W., Hospital Hill, Gympie	M.B.C.V.S.	Jan. 23, 1885	Edin. (Dick's)
Calvert, C. A., Rockhampton ..	M.B.C.V.S.	May 4, 1861	London
Hay, Adam	M.B.C.V.S.	Apr. 18, 1870	Glasgow
Irving, James, Government Veterinarian, Brisbane ..	M.B.C.V.S.	Apr. 19, 1870	Edin. (Dick's)
McGuire, W. W.	M.B.C.V.S.	Apr. 16, 1875	Edin. (Dick's)
Standen, James, Brisbane ..	M.B.C.V.S.	Dec. 17, 1873	London
SOUTH AUSTRALIA.			
Bickford, Alfred, Adelaide ..	M.B.C.V.S.	Apr. 29, 1859	London
Horton, J. W., Adelaide ..	M.B.C.V.S.	May 1, 1862	Edin. (Dick's)
TASMANIA.			
Meek, Ben. O., Launceston ..	M.B.C.V.S.	Apr. 24, 1885	Edin. (Dick's)
Park, Archibald, Hobart ..	M.B.C.V.S.	Apr. 16, 1872	Glasgow
NEW ZEALAND.			
Hill, Thomas, Christchurch ..	M.B.C.V.S.	May 1, 1856	London
Marquis, Neil, Dunedin ..	M.B.C.V.S.	Apr. 22, 1876	Glasgow
Michie, T., Wellington ..	M.B.C.V.S.	—	—
McClean, John F.	M.B.C.V.S.	Dec. 22, 1887	London

[There may possibly be a few inaccuracies and omissions in the Register. Our readers would greatly oblige by acquainting us of any such, in order that they may be rectified.—*Eds. A. P. & L. S. J.*]

Clinical Instruction.

THE PRINCIPAL AND Mr. CAMERON.

Special Chemical Department.

PROF. A. HENRICK JACKSON, B.Sc., F.C.S., Ac., undertakes the analysis of all samples sent to the College for examination. Soils analysed; manures tested for phosphates, &c.; waters analysed and reported upon; substances examined for poisons; ores assayed; all classes of analytical work done by him at moderate fees.

Amateur Classes for Stock-owners' Sons.

AMATEUR STUDENTS may join at any time for one or more terms, and have the benefit of attending all lectures, demonstrations, clinics, &c., held during the term. For Amateur Students a special course of lectures will be given on the diagnosis and treatment of diseases met with amongst station stock. Amateur Class Certificates are given to those Students who pass an examination by the teaching staff on practical veterinary subjects.

Hospital and Practice Record.

	1888.	1889.
Hospital Patients	606	584
Visits	554	564
Consultations	850	828
Operations	240	372
Horses examined for soundness	75	56

At the recent examination all the students presented passed; the marks including four "very good" and three "good."

SPECIALLY PREPARED AND CULTIVATED PLEURO-LYMPH SUPPLIED.

PROSPECTUS ON APPLICATION.



The coat of arms designed by Rowell for the Missouri Veterinary College.

