

*IN MEMORIAM***BEDE MORRIS, PhD, DVM
LYMPHOLOGIST EXTRAORDINAIRE
1927-1988**

The tragic death of Professor Bede Morris on July 2, 1988, in a motor accident while on study leave in Paris has deprived Australia of one of its most outstanding medical scientists. At the age of 61, he had built for himself an international reputation for his research on the lymphatic system, in particular on the role of the lymphocyte and the development of the immune system.

He began his research career in Sydney after graduating in Veterinary Science with First Class Honours and the University Medal in December 1951. As an undergraduate he was a

brilliant student, very enthusiastic in everything he undertook. After graduating he told his Dean, Professor Carne, that rather than practice veterinary medicine he would like to try his hand at research. I had recently returned to Australia from Oxford to take up the position of Director of the Kanematsu Memorial Institute at Sydney Hospital and was in the process of building up a team of young researchers interested in the functions of the lymphatic system. Professor Carne rang me to say that he had a brilliant young graduate who wanted to try his hand at research, but he warned me that Morris was at times a little unconventional. Next day Bede Morris rode his bicycle down to Sydney Hospital for an interview. My secretary showed into my office a smiling, alert young man, immaculately dressed in shorts, long socks and shirt--somewhat unusual in a teaching hospital at that time. However, after a pleasant interview I told him that I would give him some bench space and help him to get a start in research, but that I had no funds to pay him a stipend. That did not worry Morris in the least; he went off, quickly got himself a scholarship which was just enough to keep body and soul together, and early in January 1952 turned up to try his hand at research.

I showed him how to cannulate lymphatic vessels with glass cannulae at first, and then with polyethylene cannulae. He was soon collecting lymph from the thoracic duct, liver, intestinal, cervical, and leg ducts. It did not

take me long to realize that Morris had exceptional skills as an experimenter, whether it concerned the necessary animal operation or the setting up of equipment for various measurements, and that he showed outstanding dedication to his work. Although we were at first interested mainly in the proteins in lymph, we soon became interested in the lipoproteins when some of us in the Institute became involved in the etiology of atherosclerosis. Morris was soon investigating the lipoproteins in plasma and in lymph collected from various lymphatic vessels of normal, hypercholesteraemic, and hypertriglyceridaemic animals.

For four years we worked in close association at the Kanematsu Institute. In that time, it was not difficult to realize that I had an exceptional young medical scientist in my laboratory. His planning and his operational skill were so high that his experiments rarely failed. When he had a long experiment, he would come into the laboratory the night before, get things ready, lie on the floor to snatch a few hours sleep and when he awoke at 4 or 5 a.m. he would start his experiment. Such enthusiasm, such dedication to his experiments, I had never before, nor since, seen in a young man. Certainly he had a very outgoing personality, but here was a scientist with the promise of a brilliant career in research.

In 1956, he was awarded an Overseas Fellowship to work in Sir Howard Florey's laboratory in Oxford. Here he continued his studies on lipoproteins and chylomicrons, mainly with Dr. John French. It was at this time that Dr. J.L. Gowans was doing his classical experiments which led to the discovery of the recirculation of lymphocytes through nodes.

When he was due to return to Australia in 1958, I had moved to the John Curtin School of Medical Research at the Australian National University in Canberra. I was very fortunate in being able to persuade Morris to come to my Department of

Experimental Pathology. It was here in Canberra that his talents as a research worker really blossomed, first as an independent researcher in my department, and from 1970 as Professor and Head of the newly established Department of Immunology. Morris was able to adopt the merino sheep as his chosen animal of experimentation, for the facilities at the John Curtin School of Medical Research were excellent and gave us much greater scope than was available to us in Sydney. Morris had never been happy with experiments in which he collected lymph over short periods of time from anaesthetized animals. With polyethylene cannulae and the merino sheep as his model, he was able to collect lymph under normal physiological conditions over long periods of time, days, or weeks on end. I still have a slide of his in which he is shown on horseback rounding up a flock of 20 or more sheep. These were not ordinary sheep; each had a catheter in a lymphatic vessel dripping lymph into a bottle sutured to the surface of the body.

The sheep model of lymph collection was ideal for long-term studies on the migration of lymphocytes throughout the body and the changes that follow the introduction of an antigen when an immune response develops. Such experiments often needed much attention, almost 24 hours a day, but it was always a delight to Morris to come into the laboratory at all hours of the night and at all hours at weekends to make sure his experiments were working. Nothing was ever too much trouble for him; the only thing that mattered was the success of the experiments, from which he derived such pleasure.

These early experiments with the trafficking of cells during the development of an immune response naturally led to experiments on organ transplantation in which he developed a model by transplanting the kidney into the neck of a sheep enabling him to collect both lymph and urine from the trans-

planted organ. By this time, he had colleagues working on many projects relating to the structure and function of the lymphatic system.

In 1968, I persuaded him to accompany me to the Second International Congress of Lymphology held in the Fontainebleau Hotel at Miami Beach. To attend an international congress with Morris was an experience of a lifetime. We shared a very large room and we invited an ex-colleague of ours, David Garlick, who was attending the congress but had nowhere to stay, to join us as there was plenty of room for a third bed. At this congress, for reasons I still do not understand, Morris gave 8 papers and I gave 5 on the work we were doing in Canberra. Between us we had hundreds of slides and every night until the late hours, the bench in our room would be littered with slides as we made final decisions on which ones to use for the next day's papers. Then halfway through the congress, we had a day of rest. Morris decided to walk into Miami City from the Fontainebleau at Miami Beach. His route took him across a bridge on which pedestrians were not allowed. Cars were speeding in both directions as he clung to the side of the bridge, and when he was halfway across the Police Patrol picked him up. When he was about to be taken to the lock-up, he began to worry, not because he would be incarcerated, but because he would be unable to present the remainder of his papers. Fortunately, he was able to talk himself out of this predicament and he returned to the Fontainebleau, not on foot, but in a Police car.

Morris' experiments on cell migration in immunity led to his beautiful experiments on the fetus in which he studied the development of the immune system as the fetus develops *in utero*. He followed these experiments with the successful transplantation of fertilized ova into the uterus of cattle, a forerunner to the human *in vitro* fertilization program in Australia.

During his career in Canberra, Morris nurtured a large number of PhD students, Postdoctoral, and Visiting Fellows, all attracted by his pioneering studies on the functions of the lymphatic system in the merino sheep. These scientists came not only from other parts of Australia but also from many other countries around the world. He did not suffer fools gladly and demanded from these colleagues the same rigorous standards to which he, himself, adhered.

During his career Morris often held strong views on many subjects, in veterinary fields as well as in those areas of human medicine in which he was involved. For example, he was opposed to human organ transplantation which he regarded as a form of cannibalism, and he strongly opposed, on ethical and moral grounds, the use of human fetuses for experimental purposes. He also held strong views on research in universities, strongly opposing the policies of governments which demand more relevance to practical issues in research which might lead to a cash benefit.

Besides his work in the laboratory, he also owned a Charolais Stud of which he was proud. But above all, he was a family man deeply devoted to his wife, Margaret (who was injured in the accident), his five children and his three grandchildren. As a host in his home or as an after-dinner speaker at conferences, he was a delightful raconteur with a wide range of stories to suit every occasion. When he was in one of his most impish moods, he would glance towards me with a smile and a twinkle in his eyes to see whether the "old boy" approved or was shocked.

Morris enjoyed life to the full whether in the laboratory, or his farm, with his family, or on social occasions. It has been one of my great pleasures over many years to watch the development of the brilliant career of a man whom I had the privilege of introducing to research--a career that has been

tragically cut short by a road accident. I am sure that all lymphologists will be saddened by the thought that Bede Morris will no longer be demonstrating his exquisite experiments on the lymphatic system of the sheep.

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Bede's seminal contributions in this young discipline [of lymphology] have changed the course of investigations worldwide bearing on the physiology of the microcirculation, the "pumping" action of lymphatic vessels, migrant streams of immunocompetent cells, mechanisms of immunologic tolerance and transplant rejection, and most recently the ontogeny of the fetal immune system. His research efforts have not only influenced the direction of these fields by providing fresh concepts and innovative techniques but their full implications in human medicine, animal husbandry, and biotechnology have yet to be realized on an international level. His conceptual advances and technical contributions have spawned preeminent satellite laboratories throughout the world patterned after his own, and many young and older investigators have drawn strength and inspiration to persevere in uncharted territory because of his leadership, encouragement, and critical intellect.

Marlys H. Witte, M.D.
ISL Secretary-General

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[Letter to Bede's many friends and colleagues at the Department of Immunology] My respect and admiration of this man have no bounds (I cry now...). He just exemplified the man I wished to be--so true, so strong, so fond of what he loved. And he gave so much to me. So much inspiration, so much enthusiasm, so much wonder for the world that was and what we could imagine. Bede was the ultimate dreamer. He saw things as they could be, not simply as they were. He laughed so hard, perhaps out of vigor, or amusement, but more because the vagaries and ironies of life intrigued him so; and he delighted in the paradoxical, the unusual, and what others would write off as "chaos". Bede tried to make sense of the chaos, and I think derived his greatest admiration for nature from its most profound mysteries. I

recall Bede now, sitting at a table in the John Curtin social room on a Friday afternoon (so many fond memories for me of these times) and he was commenting on his arriving at age 60. Something to the effect of "60's not so bad, but I don't know about this dying thing..." Bede stated. It just exemplified his profound amazement at what life was, his profound enjoyment of it as it was for him, and his ultimate fear which was the finality of his thoughts and projects (which now we must carry on in some way as he would have dreamed and wanted).

As you must all feel in some way, I am indebted to Bede Morris. He gave a tall, ungainly medical student from Arizona one of the best years of his life--a year that was as typical of Bede as perhaps any...and a year that was undoubtedly the best of my life as well.

Preserve his letters, his books, his favorite (favourite) photos. They are what we shall draw inspiration from in the future. For there is one thing for sure...he could dream up ideas faster than a whole department could see them through, faster than we ourselves could sometimes envision them. He made everything ordinary, spectacular.

[Letter to a medical school classmate] As you might expect, the thoughts of him are heavy on my mind. I can think of no other person who had such a profound and dramatic impact on my life in recent years. He of all people I emulated and enjoyed. A truly brilliant and passionately opinioned mind. One who attempted everything and mastered many. Articulate, humorous, and a leader beyond compare. He inspired us with his own enthusiasm and raw energy. An originator of ideas, a passionate pursuer of knowledge, a critic of boundless and often "poo-pooed" skepticism--he was (and will be) often proved right. I was also in admiration of his own self-humility and sense of profound guardianship for the things, people and places (including Australia) which he loved. He was boldly confident, proud of his accomplishments, but a man who eschewed vacant compliments and honorary moneys (for lectures, etc.). He did what he did, for the sheer love of it, nothing else...and believed deeply that the only true reason to pursue science was for the love of it. Not for fame, money, or dogmatic buttressing of preconceived ideas. Bede will be sorely missed and long remembered. The timeliness of my year spent down under now seems so poignant and so irreplaceable.

Michael Dugan, M.D.
Bede's 1986 Student Fellow

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[From the Australian National University Reporter, Ann. Report] He loved to do an experiment and he always did it painstakingly with the critical eye of a perfectionist. While recent years saw him less at the bench, he was often in the operating theatre and in the Animal House, where his surgical skill, combined with a special indefinable affinity for the animal and the experiment could make the impossible work and a disaster become a triumph.

There is so much more that could be said about this man of so many parts, the sage, the aestheticist, the recipient of international awards, the gardener, the farmer, the veterinarian, the oenophile with knowledge and palate and cellar envied by all, but always and perhaps most important was the family man. Bede constantly praised his good fortune in having married Margaret and fathered Simon, Sally, Jennifer, Scott, and Danielle. He was overjoyed with the arrival of his first three grandchildren, Benjamin, Stephanie, and Hannah. We who were privileged to enjoy the camaraderie of working long hours with him, and to participate in his thrill when seeing effort rewarded, appreciate and share their terrible loss and extend to them our deepest sympathy.

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[From The Age (Melbourne)] "Bede Morris was widely known for his work on the physiology of the immune system and, together with Dr. Joe Hall, started one whole branch of immunology. He was a true and courageous iconoclast who defended his unconventional viewpoints with courage and integrity. He was in many ways a barb under the saddle, with definite unconventional viewpoints, but always someone worth listening to," said Sir Gustav Nossal, Director of the Walter and Eliza Hall Institute.

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