



 **CHIRON**

JOURNAL OF THE UNIVERSITY OF MELBOURNE

MEDICAL SOCIETY VOL 4 NO 4 JUNE 2001

UMMS

UNIVERSITY OF MELBOURNE
MEDICAL SOCIETY

As at 1 May 2001

President

Professor Emeritus David Penington AC

Chairperson

Professor Richard Larkins

Deputy Chairperson

Professor Richard Wettenhall

Honorary Secretary

Dr Lorraine Baker

Honorary Treasurer

Dr Andrew Rothfield

Members

Dr Barbara Goss

Dr Thomas Kay

Dr David Westmore

Mr Michael Wilson

CHIRON

Editors

Ms Liz Brentnall

Dr Janet McCalman

Ms Linda Richardson

Editorial Board

Associate Professor Warwick Anderson

Professor Emeritus Richard Bennett

Professor Richard Larkins

Mr Darrell Mead

Ms Robin Orams

Professor Richard Wettenhall

Professor Neville Yeomans

Design and Typesetting

ArtWords Pty Ltd

Enquiries and Correspondence

University of Melbourne Medical Society

School of Medicine

The University of Melbourne

Victoria 3010

Australia

Telephone (+61 3) 8344 5888

Facsimile (+61 3) 9347 7084

Email: umms-medicine@unimelb.edu.au

Website:

<http://www.medfac.unimelb.edu.au/med>

/UMMS.asp

Contributions Welcome

ACKNOWLEDGMENT

UMMS thanks the
Medical Defence Association of Victoria for
its continuing sponsorship of *Chiron*

CHIRON

CHIRON THE CENTAUR, TEACHER OF MUSIC,
MEDICINE AND HUNTING

VOL 4 No 4

CONTENTS

JUNE 2001

- 1 • Editorial *Terry Nolan*
- DEAN'S LECTURE SERIES
- 2 • Seminar
Who Owns Your Body? . . . *Graham Brown, Agnes Bankier, Don Chalmers, Arthur Clark, Desirée du Sart, Fattel Levin, Lynn Gillam, Janet McCalman, Nancy Millis, Julian Savulescu, Paul Sheahan, Loane Skene*
- 8 • 36th Halford Oration
The Changing Face of Epidemiology *Fiona Stanley*
- SCHOOL OF MEDICINE
- 12 • From the Dean *Richard Larkins*
- 13 • Retirements
- 14 • Information Technology in the New Medical Curriculum *Peter Harris*
- 15 • Challenges in Koori Health *Ian Anderson*
- 16 • Austin Research Institute *Ian McKenzie*
- 19 • Cultural Diversity in the School of Medicine
International Student Support Program *Leslyanne Hawthorne*
An International Student's View *Sophie Samuel*
- 20 • The Developing MB BS Curriculum
The Intercalated BMedSc Degree *Susan Elliott*
Second Year of the New Curriculum *James Whitelaw*
- 22 • Peter G Jones Elective Essays
Strongpela Man, Sik Pikinini *Michael Ong*
Where East Meets West *Elif Ekinci*
- 25 • Graduates, Prizes and Awards
School of Medicine Graduates 2000
- 27 Prizes and Awards 2000
- 28 Dean's Honours List 2000
- 29 Final Year Top Student 2000
Excellence in Teaching Awards
- UNIVERSITY OF MELBOURNE MEDICAL SOCIETY
- 30 • Minutes of Annual General Meeting 2000
• Notice of Annual General Meeting 2001
- 31 • 1999 BMedSc Prize, 2000 Peter G Jones Elective Essay Prizes
- 32 • 2000 Reunions
- 34 • UMMS Congratulates
• UMMS Membership
- 35 • Obituaries
- 42 • Bequests and Memorial Gifts. *Warwick Anderson*
- 44 • 2000 UMMS Lecture
Millennial Challenges in Aboriginal Reconciliation. *Gustav Nossal*
- MAGAZINE
- 49 • Direct Blood Transfusion and the Julian Smith Pump. *James Guest*
Friends of the Medical History Museum
- 51 • Blood Supply in Wartime India. *Wilfred Agar*
- 53 • The St Vincent's Hospital Clinical School. *Bryan Egan*
- 56 • Introducing Mr Thake and Mr Jones. *Ann Brothers*
- 58 • Reviews

ACKNOWLEDGEMENTS

The Board thanks contributing UMMS members and Medical School staff and students. The views and opinions expressed in this Journal are those of the authors and not of the University of Melbourne Medical School or the University of Melbourne Medical Society.

Chiron is published annually by the University of Melbourne Medical Society.

Further copies of *Chiron* may be purchased from the UMMS office at \$10 each plus \$5 postage and handling in Australia.

ISSN 0814-3978

COPYRIGHT© THE UNIVERSITY OF MELBOURNE 2001

The University of Melbourne establishes Australia's first School of Population Health and a new Department of Public Health

BY PROFESSOR TERRY NOLAN

Foundation Professor and Head, School of Population Health and Department of Public Health



TERRY NOLAN

ON 1 FEBRUARY THIS YEAR, the University of Melbourne established Australia's first School of Population Health within the Faculty of Medicine, Dentistry and Health Sciences. Initially, the School of Population Health will be comprised of two departments—a newly established Department of Public Health, and the recently formed Department of Rural Health, based at Shepparton and headed by Professor David Simmons.

The new School is distinctive in Australia in that it joins social sciences and medical humanities with epidemiology, biostatistics and

biomedical sciences to focus on a population health approach to clinical medicine, molecular biology, mental health, rural health, indigenous health and health care services, as well as the traditional public health areas of communicable and chronic diseases. We see this approach as providing a bridge between new technology developments in genomics and proteomics and the population whose health we aim to protect and promote, through health services and social structures.

The School has a prime brief to help educate undergraduates, postgraduates, clinicians in all sectors of the health care industry, scientists, professionals and leaders in population health. Importantly, the School's vision is to inculcate a population health approach in all areas of health care and in the community where opportunities for disease and injury prevention exist (often through agencies and individuals outside the health system).

Based in the new Department of Public Health are: the Epidemiology and Biostatistics Unit, led by Associate Professor Steve Farish; the Program Evaluation Unit of the joint University of Melbourne and Monash University Centre for Health Program Evaluation, led by Associate Professor David Dunt; and the Centre for Genetic Epidemiology, led by Professor John Hopper, all of which have relocated from the former Department of General Practice and Public Health. With the Centre for Genetic Epidemiology, the Department brings under its roof several strategic national projects focusing on the role of genetic and environmental factors in the cause, course and outcome of diseases (including the US NIH-funded Australian Breast Cancer Family Study and the NHMRC Twin Registry).

The Key Centre for Women's Health in Society (a World Health Organisation collaborating centre for women's health) and the Centre for the Study of Health and Society also join the new Department. The latter is a joint Centre with the Faculty of Arts and incorporates the Johnstone-Need Medical History Unit and the VicHealth Koori Health Research and Community Development Unit, together with academic staff in the areas of anthropology, sociology and human ethics.

The Centre for International Mental Health, led by Associate Professor Harry Minas, currently within the Department of Psychiatry and located at St Vincent's Hospital, will also join the new Department of Public Health. Professor Kit Fairley, newly appointed Professor of Sexual Health and Director of the

Melbourne Sexual Health Centre, is establishing a Sexual Health Unit within the Department.

The School of Population Health will have a special relationship with the Australian International Health Institute under CEO-elect Peter Deutschmann in promoting research and training in international health. Through its Centres for International Mental Health and Women's Health and other affiliates within the University, the School has an important role to play in promoting health in Asia and in other regions where *Universitas 21* universities are active, and in collaboration with the World Health Organisation.

Within the University we plan to expand and develop collaborations with the Faculties of Arts, Education, Economics and Commerce, and Science, and the Office for Environmental Programs. The Centre for the Study of Health and Society has already proven to be a highly successful joint venture with the Faculty of Arts, and discussions are progressing to establish a similar alliance with the Faculty of Economics and Commerce through a possible new centre for the study of economics and strategy in health that will, amongst other things, initiate a program on macroeconomic and policy analysis of the health system.

Our activities will involve a network of groups within the University and in public health programs in Victoria, affiliated Health Care Networks, other universities, state and federal government departments and the private sector.

Substantial funding contributions from the Commonwealth Department of Health and Aged Care, and the Victorian Department of Human Services have aided the establishment of the School and its two departments.

A new home for the Department of Public Health, on the Parkville campus, will be identified shortly and it is hoped that six of the seven current units of the new Department will be co-located within the next several months. The Key Centre for Women's Health in Society will remain in its excellent new accommodation at the Royal Women's Hospital.

Cover Story

Front Cover Main Photo: Professor Emeritus Sir Gustav Nossal at the presentation of *Reconciliation: Australia's Challenge*, the final report of the Council for Aboriginal Reconciliation, in Parliament House, Canberra on 7 December 2000. The presentation took place against the backdrop of the *A Stitch in Time...for Reconciliation* banner, a joint project between the Council for Aboriginal Reconciliation and the Body Shop in which schools around Australia were invited to contribute and present their vision of reconciliation. The banner is now held by the National Museum of Australia. An edited transcript of Sir Gustav's 2000 UMMS Lecture *Millennial Challenges in Aboriginal Reconciliation* is published in this issue of *Chiron*, p44. Photograph: Irene Lorbergs/Council for Aboriginal Reconciliation.

Background and Back Cover: Benches from the old medical and pathology lecture theatres, some of which are on display in the current medical building. In the old lecture theatres students generally sat in the same numbered seats, and hence had the opportunity to indulge their creativity carving their name or initials in the bench.

S E M I N A R

21 July 2000

WHO OWNS YOUR BODY? AN ETHICS COMMITTEE IN ACTION

CONVENER

Professor Graham Brown

A hypothetical ethics committee meets to discuss two hypothetical research proposals, submitted by Professor Sam Berkovic (SB), Director, Comprehensive Epilepsy Program and Epilepsy Research Institute. The Committee has previously seen only a brief outline of the proposals. This is an abridged version of the Committee's discussions, derived from the Seminar.

MEMBERS OF THE ETHICS COMMITTEE

Professor Graham Brown (GB)

Professor of Medicine and Head of Department of Medicine, Royal Melbourne Hospital and Western Hospital, The University of Melbourne (chair).

Professor Don Chalmers (DC)

Faculty of Law, The University of Tasmania (lawyer).

Professor Arthur Clark AM (AC)

Honorary Senior Paediatrician, Royal Children's Hospital (doctor).

Rabbi Faitel Levin (FL)

Rabbi, Brighton Hebrew Congregation, Director of Studies, Melbourne Rabbinic Training Program (minister of religion).

Dr Lynn Gillam (LG)

Lecturer, Centre for the Study of Health and Society, The University of Melbourne; Research Fellow, Ethics Unit, Murdoch Children's Research Institute (ethicist).

Dr Janet McCalman (JMC)

Senior Lecturer and Deputy Director, Centre for the Study of Health and Society, The University of Melbourne (laywoman).

Professor Nancy Millis AC MBE (NM)

Chancellor, LaTrobe University (research expert).

Associate Professor Julian Savulescu (JS)

Director, Ethics Program, Murdoch Children's Research Institute, Royal Children's Hospital (ethicist).

Mr Paul Sheahan (PS)

Headmaster, Melbourne Grammar School (layman).

SPECIALIST COMMENTATORS

Associate Professor Agnes Bankier (AB)

Clinical Geneticist, Victorian Clinical Genetic Services; President, Human Genetics Society of Australia.

Dr Desirée du Sart (DduS)

Director, DNA Diagnostic Laboratory, Victorian Clinical Genetics Service.

Professor Loane Skene (LS)

Professor of Law and Director of Studies, Health and Medical Law, Faculty of Law; Adjunct Professor, Centre for the Study of Health and Society, The University of Melbourne.

First Hypothetical Research Proposal



SAM BERKOVIC

PROFESSOR SAM BERKOVIC proposes to prospectively study fifty people with temporal lobe epilepsy who attend the Austin and Repatriation Medical Centre for clinical care. His research team wishes to examine specimens from these people to look for the presence of a mutation in a new gene: the BT gene.

Recent animal research has shown that this mutation is associated with a strong tendency for animals to develop brain tumours in mid-

life. Very preliminary human research suggests that the mutation may also make a significant contribution to brain tumours in adult humans. As part of another research project, the team has noted that three out of three patients with temporal lobe epilepsy appear to have this mutation.

Professor Berkovic's team want to examine the frequency of the mutation, which they believe predisposes to brain tumours in their patients with temporal lobe epilepsy.

The team proposes not to seek specific consent from the patients, since they are undergoing a therapeutic procedure anyway, and is proposing to use blood samples which are obtained for a variety of clinical reasons during the patients' stay in hospital, and which are normally discarded. The team proposes that the following statement be included in the consent form:

As part of normal clinical care, blood and other specimens may be taken. After being removed and tested for clinical purposes these specimens are often of no further use and are discarded. It is our policy to allow researchers to use discarded tissue and other specimens for research. If you have any objection to your tissue or other specimens being used, please notify the consultant in charge.

The research team does not have the resources to provide counselling to patients about the implications of this research.

Summary of the Interview Between the Ethics Committee and Professor Berkovic

PROFESSOR BERKOVIC EXPLAINS that the patients involved in the study are all adults who are intellectually normal and able to give informed consent. Following this Committee's deliberations, the research proposal will also go through his own hospital's ethics committee. The study will take approximately two years to complete.

He notes that while the research team has previously undertaken genetic research, this research area will be new. A literature search has identified two reports in relatively obscure journals, which may not have been subjected to peer review, suggesting an association of the gene mutation with brain tumours in adults. The team wants to put this on a firmer scientific footing.

Some members of the Committee express concern about Professor Berkovic's proposed consent form, particularly his intention not to seek specific consent from the patients involved because of the stress he thinks it might cause. He believes that to discuss the possibility of discovery of an unknown mutation, of unknown significance, which has no treatment implications and which may be associated with brain cancer, would cause undue distress. When questioned about the processes for consent outlined in the new NHMRC National Statement on Ethical Conduct, he responds that guidelines are to be interpreted in the appropriate clinical setting, and in the circumstances of this project he believes it proper for this course to be followed.

Professor Berkovic is also questioned about whether the consent form is misleading as it indicates that specimens will be discarded when in fact they will be used for the research project. He reaffirms his belief that the consent form is appropriate, noting that it is the residue of specimens taken for routine tests that will be used and that patients will not have to undergo further tests.

When asked if he has considered not identifying the source of the samples, Professor Berkovic explains that while he has not specifically addressed this issue in the research design, his preference is to keep the information linked because: 'the more links that are broken between the subject and the actual specimen, the greater the chance for error and misinterpretation, and, in some cases, the opportunity to actually provide some benefit'.

When asked about his plans for follow-up, Professor Berkovic says that he feels it is premature to lay out a course for follow-up until he knows more about the results. If the research is positive, and parallel research elsewhere also shows a significant risk, patients could be tested to ensure they reap the benefits of the research. He would then attempt to contact patients to re-test them in a clinical setting, making them aware of the issues and guiding them clinically.

Professor Berkovic assures the Committee that he is careful to keep one hat on for clinical practice and another on when acting as a researcher: 'I'm careful to tell my patients what is, I believe, in their best interests for clinical treatment, and their choices, and then what I'm doing as a research project'.

Specialist Commentary—Dr Desirée du Sart

IF YOU CAN IMAGINE DNA as a strand made up of a collection of genes. Each gene is a unit providing a code directing which building blocks are to be used in the production of a specific protein. This protein will have a particular shape and unique properties that allow it to have a specific function within the body. A mutation is a change that has occurred within the gene code that affects the structure or properties of the specific protein produced by the gene. This change could result in the insertion of a new building block or



DESIRÉE DU SART

the removal of a building block within the protein structure, or it could be a change that directs the cell machinery to stop prematurely, creating an incomplete protein. The protein can therefore have a completely different function or not function at all, affecting normal processes within the body. This could then lead to a particular phenotype or disease in a patient carrying the mutation in the gene.

If you can imagine DNA as a strand made up of a collection of genes

Committee Discussion

GB: Dr du Sart, is a mutated gene necessarily passed on to future generations?

DduS: It will be passed on but whether it will cause the person harm depends on whether it's dominant or recessive. If it's recessive two copies are necessary for the effect to be seen.

GB: Dr McCalman, do you know enough about this project to be able to comment?

JMC: Is it only this gene that could be responsible? Maybe there would have to be mutations in other genes, in combination, which he's not even looking for. The research might be flawed because it's only looking for a single cause.

DduS: It really depends on what he's going to find. If he found that the BT mutation was in a high proportion of his patients, it's possible that that could act on its own, or it might be that this group of patients has something else in addition to give them the epilepsy phenotype.

GB: Rabbi Levin, how much do you think we can trust the scientist on this project and how much do you feel you need to know?

FL: I suppose that as with any profession one is primarily interested in verifying the scientist's honesty and verifying that the information is not distorted by specific interests. I think the more knowledge the Committee has the better, because just like random genes can suddenly exhibit mutations, probably random bits of knowledge can be very significant. If the scientists can brief us with a set of facts that inform the arena of ethical decision-making, I would be reasonably happy with that.

GB: Professor Millis, I was concerned when Professor Berkovic said he wasn't sure whether some of the quoted research had been subjected to the highest peer review. Would you have looked at the relevant literature? How far should the scientists on our Committee go in addressing this issue?

NM: You are always worried if something comes unrefereed, so the point the Rabbi is making is very real. The other thing that always worries a scientist is the precision of gene sequencing data. You need to be very precise on the quality of the way in which the test is performed. I think that's a very important point. It's very useful to have persons who are informed, certainly, and the better informed they are the more penetrating their questions can be. I'm all in favour of laypersons with intelligence and concern being on ethics committees.

GB: Professor Chalmers, how much should the non-scientists understand about the science and what depth of expertise should the Committee have about the science? Does the NHMRC help us with the guidelines?

DC: I think there's always been a difficulty on ethics committees, where the researchers become terribly concerned that committees comprised of non-scientists are actually basing their decisions on misconceptions about the science. Principle

2.8 says we should be sufficiently informed, and we're all indebted to you, Chair, for having experts talk to us independently to try and make sure we understand not so much the science but the ethical issues that arise from that. But, do we usually have the therapy conducted while running a research project alongside, without fully informing the patients?

NM: Certainly, material collected from patients in hospitals is often used by scientists. Professor Berkovic felt it was better for the patients not to be informed because of the anxiety. But, generally speaking, consent is always the best way.

GB: Professor Savulescu, would you like to talk about conditions under which specific consent is not required?

JS: The National Statement says that consent could be waived, taking into account the following factors: the nature of any existing consent relating to the collection and storage of the sample; the justification for seeking waiver of consent; the proposed arrangements to protect privacy, including the extent to which it is possible to de-identify the sample; and the extent to which the proposed research poses a risk to the privacy or well-being of the individual. The most important point is whether the research proposal is an extension of, or closely related to, a previously approved research project. The last point is that if there is commercial involvement then that should be a strong reason to disclose that research is actually taking place.

Previously, ethics committees were appropriately very focused on explicit consent for all research. I think here we have a slight but very important alteration in that path, where the possibility of not obtaining consent under certain circumstances has been entertained by the NHMRC. There is considerable power given to ethics committees now to decide whether or not explicit consent has to be obtained.

What I'm concerned about in a project such as this is whether people could be seriously harmed as a result of consent not being obtained. I was encouraged by Professor Berkovic's strategy to inform patients of the results through the clinical route and of actually carrying out testing through a clinical genetic service after the research had been done, as a way of ensuring that they reap the benefits of the research. I would be more concerned if there wasn't some organised strategy to ensure that the people who had participated in the project actually reaped the benefits.

I was a little concerned that he wasn't interested in de-identifying the information. That is a more significant deviation from the principles in the National Statement, which generally encourage de-identification if consent isn't going to be obtained.

JMC: This does seem to be very preliminary research. It could well take a long time to determine whether there really is a link and I would feel better if the blood samples were de-identified. That way, if it's not got your name on it, it's not you any longer, it becomes part of a common property of biological capital of the human race on which it's legitimate to do research. But I would like to have the opportunity to choose to know whether I was going to be at risk and maybe have a test again later, if this turned out to be a valid predictor.

PS: I'm troubled by this consent issue. The consent form says: 'If you have any objection to your tissue being used, please notify the consultant in charge'. It troubles me that we're encouraging people to give permission by omission rather than by action.

DC: My worry is, still, that the new National Statement accepts that you can exclude consent in some limited circumstances. It shouldn't be the common place. Principle 16 talks about all the information in this new area of research that we ought to tell. I was perturbed when I heard that we hadn't actually thought through what happens with relatives, family, offspring—that we're just going off searching at this stage.

PS: I would be unhappy to have a consent form that allows Professor Berkovic to conduct whatever research the

institution chooses to do. I would like to see a limitation on that part of the consent form about what further research can be conducted.

FL: I wonder whether the paradigm of ownership and belonging is appropriate, and definitely whether it is sufficient, to deal with the matters at hand.

Human beings are both persons and objects. During the normal course of events we might say that the object is secondary, transparent, to the person. There's an interesting thought in the mystical tradition which points out that sickness does not occur only when one's finger or toe hurts, but also that when one no more than simply feels one's finger or toe, it is a sign that some malaise has set in.

In the case of a healthy person, discussing notions of ownership and belonging of a body would amount to a discussion of slavery. Unfortunately, once the body asserts itself through sickness, once a person has died and the person as such is no longer there, some may be tempted to say that all we have is an object. I would submit that this object still retains a special association with the humanity that once inhered in it—as evidenced by our recoil when homeless 'ownerless' bodies are callously abused for financial gain—precluding notions such as ownership to be the perfect paradigm.

I would further submit that when we're dealing with even minuscule amounts of human tissue, such as blood, and even once removed, detached from the human being, there would still remain something of this special quality that must always be at the forefront of our thinking, in terms of the questions we're dealing with today. The paradigms of ownership and belonging, I would submit, are not quite appropriate although they may be part of it.

GB: Professor Chalmers, what does the Law say about those samples in Professor Berkovic's freezer? Who owns the tissue?

There is no simple answer but we ought to be carefully following the legislation about procedure...

DC: As is so often the case with the Law, I'm delighted to tell you that it could be ownership; it could not. Until recently, the general view was that you did not have property in the body. In earlier times most people thought the body when it was dead should be discarded. We live in a very different era where we now have the capacity to know things, particularly with this research, which will not just inform the researcher but also the individuals and families involved. There are now efforts to commercially develop some genetic samples and it's becoming a very real question.

The Law recognises legal requirements for consent, but the National Statement is also saying that if we're dealing with people there are good ethical reasons why we should engage in a transparent way and let people know so they can make a consent. It is controversial because we have the idea of ownership.



LYNN GILLAM



NANCY MILLIS



JULIAN SAVULESCU



JANET McCALMAN

There is no simple answer but we ought to be carefully following the legislation about procedure, which requires consent, and the ethical issue of whether we should allow the Professor to carry on with this research project without consent.

AB: I am troubled by the lack of specific consent from the patients. In our genetic clinic practice we pay enormous detail to the fact that we consider patients to be autonomous. I think it is possible through appropriate genetic counselling to provide information without alarming people.

I would suggest that 'opting out' is inadequate and I would be very keen for patients to give specific informed consent.

AC: I would also be happier about the lack of consent if the data were de-identified. However, I don't think it's as simple as that. You commented that pathology laboratories use otherwise discarded samples to validate tests, to look at ranges of abnormalities. I have no problem with that being done without consent as it's de-linked and has no implications for the patient providing the sample. In this case, even if it's de-linked, it potentially has implications for the patient who gave the sample and I would find it necessary to get consent.

PS: I'd like to have a look at the consent form, too, because I think that it must be understandable, absolutely, by all of these patients, who presumably will not have technical knowledge. Some may well not come from an Anglo Saxon culture and understand English as well as others, for instance.

The Committee adjourns briefly and Rabbi Faitel Levin and Professor Agnes Bankier leave the Seminar before discussion of the second research proposal.

Second Hypothetical Research Proposal

PROFESSOR BERKOVIC PROPOSES to study stored brain tissue, taken during operations on patients, some of whom are deceased, some of whom are children and some of whom have an identified psychiatric disability. There is some hint that the frequency of the mutation may be further increased in this group of patients, some of whom it is known from independent assessments by psychiatrists are not competent to give consent for themselves. A feature of their illness is that they have a greatly increased potential for distress and misunderstanding that might arise from testing for genes, should the team attempt to seek consent.

Summary of the Interview Between the Committee and Professor Berkovic

PROFESSOR BERKOVIC ADVISES the Committee that the samples of brain tissue are currently identifiable and stored in the pathology department. At the time the samples were taken, patients had consented only to the operation itself. He also advises that there is no commercial interest in the project.

Concerns about the identity of the specimens and about patient consent are again raised. When questioned about his reasons for not obtaining specific consent, Professor Berkovic agrees that part of the reason is the limited budget, but he stresses that the overriding reasons are the difficulty in

obtaining true informed consent and the possibility of causing distress to the patients, or to the parents or guardians of the patients. Section 16.4 of the National Statement is noted, indicating that institutions or organisations wishing to conduct research on genetic information or material collected for non-research purposes should develop a general policy which informs patients that such material and information may be used for future research.

The Committee also queries whether Professor Berkovic's sequential selection of the tissue will bias the sample and he acknowledges that it could be useful to establish a separate set of controls.



LOANE SKENE

Specialist Commentary— Professor Loane Skene

I WOULD LIKE TO START with the issue of consent. Is it legally necessary to get consent in order to do these sorts of tests?

Usually, you have to get consent if you're actually touching somebody, like taking a sample, but that's not what is proposed. The tissue has already been taken for therapeutic purposes and Professor Berkovic wants to use it for his research. The human tissue legislation specifically exempts from its operation tissue taken for surgical or therapeutic purposes, and deals with the process to be followed when you're asking somebody to donate their tissue for scientific or therapeutic purposes. I don't see any legal need to obtain consent coming from any other area of the Law. So, although I think that the Committee has approached the task entirely properly in thinking of the interests of the patients, I question whether consent is a legal requirement.

The second point is, who owns the tissue? A recent case was decided which the judge described as the first time an application had been made to allow for testing of a tissue held by a laboratory. The plaintiff had to prove she was the natural daughter of somebody who had died in order to make an inheritance claim on his estate. It raised the issue of whether she was entitled to get access to that tissue for the purposes of doing this test. The court ruled that she could get access to the tissue if it was property, which raised the issue for the court of whether it was property.

...although I think that the Committee has approached the task entirely properly...I question whether consent is a legal requirement.

There was an Australian case in which it was found that if you did something to add value then that gave the tissue a pecuniary interest, which might enable it to be recognised as property. In this case, the decision was taken that this stored tissue was property. If the tissue is recognised as property, and we're wondering who has the legal authority to decide who



GRAHAM BROWN



FAITEL LEVIN



AGNES BANKIER



ARTHUR CLARK



PAUL SHEAHAN



DON CHALMERS

should have access to it to use it, it would seem that the place which has lawfully taken the tissue, in this case the laboratory holding these pathology samples, has the legal right to decide what should be done with it.

GB: You've said it's a confused area of the Law, but is there something different about the property? Let's say Professor Berkovic makes a diagnostic test from the tissue, which is useful clinically but is also of some financial value. Is there something different about who owns it?

LS: I think he owns it. Assuming he's taken it for the initial diagnostic purposes, I think he's legally entitled to use it for his research.

GB: But what are the ethical issues? We have been asked if this is different to commercial discoveries from plant DNA.

NM: As a bush lawyer I understand that if something is observed in nature, and you discover it in the sense that you have observed and identified it as a creature which you think to be novel, the mere discovery of it, if it is a naturally occurring event, is not in itself patentable. If, on the other hand, you take that observation and you develop from that a kit, which enables you to apply that test, you have done something to it and therefore it is a novel creature which in that sense is patentable.

LS: That's exactly right.

AC: Could I remind you that this is an ethics committee and that ethics committees are not about the Law. They are about trying to make moral decisions.

GB: But does possible future financial gain influence the decisions related to consent? In the knowledge that if ownership of data or development from it leads to a product and there is financial gain that probably belongs to X, should this influence the ethical decision?

AC: Yes, clearly it should.

GB: Well, therefore we need to understand the Law, don't we?

AC: I didn't say we don't need to understand it, I just said you don't have to take any notice of it necessarily.

JS: Loane (LS), were you suggesting that if Sam (SB), in the first project, came to his patients and said: 'We need to do this temporal lobectomy and as a part of this we're going to take some blood. Do you consent to have a temporal lobectomy because you need it, because you have epilepsy?' and all the while he knows he's going to use this blood for research purposes but never tells the person, that somehow the patient is giving properly informed consent?

LS: I'm saying there are two issues. One of them is informing the patient before he or she undertakes a procedure that involves touching the patient for the purpose of removing the tissue. In order to give a legal consent the patient has to understand in broad terms the nature of what is proposed. His secret motive is not relevant in Law. What is relevant is that the patient understands that she's putting out her arm and that the blood is being taken for the purposes of these therapeutic tests.

Could I remind you that this is an ethics committee and that ethics committees are not about the Law.

GB: So, if we take Professor Clark's (AC) point that we need to know the Law, but the ethical issues are on a different plane, what are the ethical issues arising from taking this tissue? Dr Gillam (LG), what would the general community feel about whether tests can be done on such stored tissue?

LG: We do have some preliminary information from a survey, which is in its initial phases. People who were associated with or were members of ethics committees in some way were asked: 'Suppose your tissue has been stored, and there was no initial consent for the tissue to be used subsequently for research, would you want to be contacted before any research was done on that tissue?' In general, 29 per cent said, 'Yes, if was for

medical research'. If it was about their disease specifically, and that's the category of research project we're looking at today, it increased to 40 per cent. If the results might be commercialised, about half wanted to know.

We can infer from this that there would be a significant proportion of people whose tissue Professor Berkovic is going to use who would probably want to be contacted, and we also need to use other groups.

We also asked 'What if you couldn't be contacted?' About a third said, 'If you can't contact me, you're not allowed to use it'. A smaller number accepted that a general attempt made to contact people would be okay. Another third said, 'If you tried unsuccessfully to contact me, you can go ahead and use it'. I offer this as some evidence of what people actually might want.

PS: If you're going to create what might be a commercial enterprise out of it, then I think the patients who are the subject of this research project should know.

The very nature of research is that you don't know whether it's going to have an application.

NM: The very nature of research is that you don't know whether it's going to have an application. If you are to be constrained that you can't commercialise then you could be doing a disservice to the research, the research community and the general community.

PS: No, my point is that if it's going to be commercialised then you do need to go back to the original donors before you commercialise it.

NM: This might present you with an enormous problem—people have moved all over the world now, hundreds of them that you might need to contact before you could make such a useful kit.

GB: But if there is to be a financial gain it would be an outcome of something that Professor Berkovic (SB) had done with the stored tissue, and therefore who owns it is a problem.

LS: I'm not saying the Law should be our sole guide. I think it's unfortunate that everybody's ascribing these bad motives. Don't you think that what he is looking for might have profound benefits, not only for this group of people but for other people as well, and we should be doing what we can to support his research?

GB: Yes, Dr Gillam (LG), in your survey, were people strongly motivated by the good that should be done?

LG: Some of the data I haven't presented here suggested, in general, people support medical research and want to see it go ahead, but that's not our only concern. Under the NHMRC guidelines our main concern is to protect the interests of the participants ahead of scientific knowledge.

JMC: As an historian, I'm beginning to get worried about what this means for research in general. We could think of this as research material. People like me use an enormous amount of material. We ask no consent of descendants, we use things, which clearly under the Law are private property—letters, possessions, pictures, memories—and we do this with impunity. God help us if we had to face ethics committees of this rigor. The whole enterprise would come to a halt.

I also think that this exciting new genetic informed world is opening up a new concept of collective ownership. If I'm following genealogical interests I know there's bits of me that go back for a hundred generations, that thousands of people in the world are connected to me genetically. Part of my biological inheritance is a shared inheritance and if my identity is detached from that genetic material, it then becomes part of a collective biological capital of the human race.

We're trying to establish that the research result is for the good of people. I'm wondering whether we could rethink this, as one does in a Gift relationship. I would say that he is entitled to use this material as research material provided it is again de-identified, and if it remains important that it stays identified

whether there's not some way that knowledge could be placed in some databank, which is accessible only after application to an ethics committee. Once the material leaves your name it isn't yours, it belongs to us all.

DC: The National Statement says that that's just one of the things that should be taken into consideration. Professor Berkovic in fact said there is no intention to take commercial interest in this research at this stage. I'd like to go back and look at the actual project itself. We're taking some stored samples, which were taken without consent, and now we're wanting to proceed without consent. I think that's the really important issue. The National Statement does have some provisions to avoid taking consent, but I'm still to be convinced that we can't go and take consent from the parents or from the guardians, because I'm not convinced that it will cause distress.

PS: I need to be convinced further on the business of ownership. To say that the minute the tissue is separated from you, that you lose it, that it is no longer part of you, I don't subscribe to that at all.

JS: I just want to stress one point. Every day that you delay lifesaving research unnecessarily, you're responsible for the people who die as a result of that research not being done. I think that's a very important cost to be considered. It's important to recognise that today much research brings significant benefit to people. That shouldn't cause us to give up the need to protect the interests of participants, but I think the essential question you have to ask as an ethics committee member when you decide not to approve research is, how are people going to be harmed by participating in the research? It's not clear to me how a deceased person would be harmed if their tissue was used for potentially important research.

We need to ask: 'Will somebody be harmed by the research going ahead without consent?'. The psychological distress might be one circumstance where consent isn't sought. I think that's very limited justification. What we will see in the future is a rapid explosion of research on large numbers of people. The real issue is whether it's going to be impracticable or impossible to obtain consent from everyone. My belief is that we have a public interest in research and if the research isn't possible by obtaining consent there may be reasons or options that are ethically consistent with that research still going ahead.

LG: Mr Chairman, we have to take the proposal in the way it was presented, and that was the proposal to not seek consent on the basis that it would be too distressing. It seems to me that this would not be sufficiently distressing to make consent unnecessary. We don't know from Professor Berkovic whether he thinks it's too impracticable, too costly or too time consuming to do that, and in the absence of any argument along those lines I think that we should require the consent be sought.

Committee's Decision Summary

AC: It's important research. I believe it should be done but I don't accept the reasons that are given for not obtaining consent. The fact that some of the patients are children and some have psychiatric disability can be dealt with by seeking other people who can consent. As regards the people who are deceased, if there was not immediate access to close relatives I would actually exempt them on the grounds that I don't think they are going to suffer from the research. With all the others I would require consent.

JMC: I'd agree. I think the research should go ahead, provided consent is gained from the people who are competent to give that consent autonomously and from the guardians of the children. Those who are deceased, provided there are no descendants who may be affected, could be done without consent.

LG: I agree. Consent is required and the only exception I would make is if Professor Berkovic could convince us that it would completely destroy the validity and possibility of him doing the research. I wouldn't accept the argument that he



doesn't have enough money to do it.

JS: My inclination is to approve the research provided the samples are de-identified, but I want to hear more about why consent shouldn't be obtained in this situation.

PS: I agree with Professor Clark's (AC) conditions.

DC: The National Statement is very clear that especially in vulnerable circumstances we should be even more careful to ensure that those individuals are respected. We must have the consent and provided we have that then we can let the research proceed.

DduS: I probably agree with Dr Savulescu (JS), that is, to proceed with de-identification of samples.

NM: Mine is like Clark's (AC) position except that I don't like the scientific design too much, but that's not what ethics committees are about.

LS: I take Professor Savulescu's (JS) position too. I think it should be done and that the results should be de-identified. One shouldn't under-estimate the difficulty of obtaining consent from third parties.

We use the Law, we use the guidelines, but in the end we have to look at the ethical issues raised by each project.

GB: It's clear that, as so often happens, ethics committee members reach different conclusions. There will always be difference of opinion—that's the very nature of ethics.

We use the Law, we use the guidelines, but in the end we have to look at the ethical issues raised by each project. Many different issues have been raised concerning ownership, where there is a difference between the legal interpretation of ownership of removed tissue and rights to the tissue, and who owns the discoveries arising from the research. Commercial gain from the research may influence the requirement for consent. We need to know how much the subject should be told and what the relatives should be told, and whether de-identification of samples may simplify procedures.

The obligation on the researcher to inform participants is very important indeed.

Professor Savulescu reminded us that committees should not forget the potential good from the research to be balanced against the potential consequences of that knowledge, for the individual and the community. Delay in finding a cure is obviously a concern.

You may be interested to know how the audience voted. Discussion of the first proposal changed acceptance from about 35 per cent to 50 per cent, whereas discussion of the second proposal caused a similar trend in the opposite direction—towards rejection of the proposal as presented.

Readers are reminded that this was a hypothetical scenario. The BT gene does not exist, and there is no link between epilepsy and brain tumour genes. Epilepsy was chosen for this hypothetical to illustrate how an ethics committee deals with complex issues.

Transcripts of the full series of Dean's Lectures are available at <http://www.medfac.unimelb.edu.au/med/deanLect.asp>.

36TH HALFORD ORATION

8 August 2000

The Changing Face of Epidemiology

BY PROFESSOR FIONA STANLEY AC

DIRECTOR, TVW TELETHON INSTITUTE FOR CHILD HEALTH RESEARCH



FIONA STANLEY

I FEEL IMMENSELY privileged to be giving this Oration as we move into an extremely challenging era in health and medical research. This gives me an opportunity to share with you my career in epidemiology, which mirrors what has happened over the last thirty years, to critically review the limitations of the risk factor paradigm in modern epidemiology, and to suggest ways in which I think epidemiology can continue to make a major contribution to elucidating the causes and preventions of disease.

The study of epidemiology is really observing and investigating life and death—the study of disease in total populations. It is the science of public health and, if used appropriately, can improve the health of the whole community.

Epidemiology is used to monitor the occurrence and natural history of diseases, to investigate their aetiologies and to evaluate interventions aimed at reducing their impact. Epidemiology underpins studies of clinical conditions, it has contributed enormously to clinical research, especially via the conduct of randomised controlled trials (RCT), and it is the backbone of health services research.

My interest in epidemiology started because I became dissatisfied with clinical medicine. I had a part-time position with the Aboriginal Advancement Council in East Perth, running its paediatric clinic, when one little boy's history challenged my traditional thinking about clinical paediatrics. He came in several times to Princess Margaret Hospital for Children, always extremely sick, dehydrated and thin from a combination of gastroenteritis and pneumonia. Each time we would perform medical miracles on him—or so the headlines of one newspaper article said—and then he would be discharged back to his western desert camp, only to come in again. On his last admission, he died. I thought to myself that there had to be a better way to practice medicine: finding out the causes of diseases and trying to prevent them.

I thought to myself that there had to be a better way to practice medicine...

I turned down a position at the Royal Children's Hospital in Melbourne and went to London, but without any real idea of what I wanted to do. Luckily I found myself in Jerry Morris's unit in social medicine, at the London School of Hygiene and Tropical Medicine, first as a scientific officer and then as a MSc student.

Jerry Morris was the father of modern epidemiology in the United Kingdom. He was a most outstanding intellect who gathered around him a group of giants in the field, now 'household' names, who taught us epidemiology, biostatistics and health economics.

The social medicine unit was set up to study chronic disease. Until the mid-twentieth century epidemiology had been dominated by infectious disease epidemiologists. Jerry and his colleagues on both sides of the Atlantic became fascinated by the rise in coronary heart disease, peptic ulcer and cancer as the twentieth century progressed. These modern non-infectious diseases demanded different approaches to those epidemics of gastroenteritis, tuberculosis, rheumatic fever etc., which by the 1950s had decreased in incidence.

The era of individual risk factor epidemiology, of multifactorial aetiology and eventually of linear and multivariate modelling had arrived. At last I was amongst those who were passionate about seeking causes and using the information to improve public health.

For my thesis I collected data on all low birth-weight babies in the southeast Thames region of London. Abe Adelstein and Josephine Weatherall showed me the power of population databases for the study of epidemiology. From the group in Oxford, which included Michael Hobbs from Perth, I learnt how helpful record linkage could be. A year at the National Institutes of Health followed where I met the great epidemiological thinkers in North America.

Back in Australia, I was keen to lay the foundations for perinatal and paediatric epidemiology using total population data in Western Australia (WA). I did not question the modern risk factor paradigm and threw myself into establishing the Maternal and Child Health Research Data Base (MCHRDB), with the aims of:

- describing the incidence and prevalence of the most important perinatal and paediatric conditions and their burden;
- using the database to sample cases and controls or cohorts to study the causes of these common burdensome problems; and
- evaluating the impact and effectiveness of public health and clinical interventions.

By the late 1970s obstetric and neonatal care had become much more intensive and there was considerable concern about their impact in terms of outcomes. Was neonatal intensive care keeping very low birth-weight babies alive to be handicapped? Did the use of electronic foetal monitoring and caesarean section result in reduced rates of cerebral palsy (CP)?

The MCHRDB is a combination of linked vital statistical data and special registers of disease, which we had established by early 1980. It has become one of the best record-linked perinatal databases nationally and probably internationally.

The 1980s saw us developing a team to research the causes of pre-term births, of major birth defects, cerebral palsies, infant and child mortality as well as describing the high levels of poor outcomes in Indigenous mothers and their babies, and in young teenage mothers etc. Inspired by the chronic disease approach, we employed biostatisticians to help us elucidate the independent effects of risk factors for disease without thinking carefully about the likely causal pathways. However, out of this research came contributions to the prevention of neural tube defects by folate, new findings that the likely causes of cerebral palsies commenced antenatally, and that social factors were important in almost everything, but particularly in pre-term birth and low birth-weight.

Using our population database we identified pre-term birth and low birth-weight, perinatal brain damage and birth defects as the major burdens in maternal and child health in the early 1980s. They were of such obvious importance that they guided our aetiological research over the next ten years. We unquestioningly used the chronic disease risk factor paradigm in our analyses. We used case-control, cohort or RCT methodology to identify independent risk factors for disease.

Univariate analyses dictated which variables should be included in our multivariate models and Bradford-Hill's postulates were sought to confirm that our independent factors were likely to be causal. How these risk factors arose, how they interacted or were influenced by social, ecological or other pathways did not seem to enter our thinking.

For example, in our study of all low birth-weight Aboriginal babies in WA, these factors were found to be independently associated with pre-term birth and low birth-weight. Keen to utilise these findings to improve public health we planned, in consultation with Aboriginal women in the eastern goldfields, a model antenatal and postnatal intervention program. The Ngunytji Tjitji Pirni Study ('Healthy Mothers, Healthy Children') aimed to implement an effective maternal and child health program for Aboriginal families in the area and ascertain the impact of the program on:

- child admissions to hospital 0-2 years
- pregnancy outcomes (birth-weight)
- healthy behaviours
- parental attitudes
- parental satisfaction and community response

Here we encountered a very different social and cultural paradigm; sexually transmitted diseases did not end up being the major focus.

In the neural tube defects (NTD)-folate story, we were more thoughtful about causal paradigms. Nearly fifty years of descriptive and analytical epidemiology had identified the occurrence of these defects as:

- strongly related to social class
- geographically variable
- temporally variable
- having some familial pattern but not obviously genetic

After considerable debate about the possible social and geographic causal pathways, something connected with poor maternal nutrition seemed worth pursuing as an hypothesis. By 1981, vitamins were the hot contenders—so we and others honed in on folate. The results of our case-control study are shown. Many studies in the 1980s and 1990s confirmed folate as the most important protective factor for NTD.

Armed with this evidence, we commenced the public health campaign in WA, which reduced the incidence of NTD, and used the database to evaluate its impact. Carol Bower is now conducting another case control study to investigate how and

why the program was effective, what other pathways may be influenced by folate and what factors are associated with the NTD still occurring.

Research is now progressing to elucidate how folate might work in those possibly at risk genetically—the gene-environment interaction is important in this complex birth defect and we must remember it is likely that there is more than one cause of the neural tube failing to close.

In attempting to answer the question of whether electronic foetal monitoring and caesarean section had reduced the rate of handicap in children, we observed the rate of CP in cohorts of children born over the time in which the use of these increased. The number of cases of obstetric litigation for CP had soared, as had the cost of obstetrics—it was in crisis. Our analysis showed that, if anything, CP had not fallen but had risen over this period. These findings challenged our simplistic thinking about the causes of perinatal brain damage. One of the reasons for the increase in CP was, of course, related to whether neonatal intensive care had increased the proportion of low birth-weight babies with disabilities.

During all this time, why weren't we thinking about different causal pathways involving pre-term birth... We were still stuck in our single risk factor paradigm!

Using CP data from WA, the proportion of <1500g infants classified as CP in these cohorts was shown to have risen from around 20 per 1000 to around 70 per 1000 by the early 1990s. And the more recent survivors with CP appeared more severely disabled than those who survived in the 1970s. This trend is now reversing.

The increase in the very pre-term infants with CP started us thinking—were these children born with undamaged brains then developed CP because of complications caused by being born too early? Or had they been damaged antenatally and kept alive by this new technology? Or were both scenarios contributing? Obviously these were very important questions, the answers to which would have considerable implications for neonatal intensive care.

During all this time, why weren't we thinking about different causal pathways involving pre-term birth, some of which might have been more likely to cause brain pathology than others? We were still stuck in our single risk factor paradigm!

Thus, by the middle of the 1980s I had become increasingly dissatisfied, this time with epidemiology. My sense was that, by itself, epidemiology was unable to solve the true causal pathways to complex diseases that challenged us in health and medical research. The complex interactions between genetic risk and intra-uterine and external environments with physical, biological and social factors demanded more sophisticated research thinking and a more multidisciplinary research environment. The risk factor paradigm did not seem the best approach, particularly in seeking information to underpin population interventions to improve child health.

Out of this sense of complexity, the idea of the Institute for Child Health Research (ICHR) was born—a place where molecular biologists, cell biologists, clinical scientists, psychosocial researchers, epidemiologists and biostatisticians could work together to describe the burden of disease, to elucidate true complex causal pathways and to encourage and evaluate evidence-based public health and clinical practice using data and research. The ultimate aim of the Institute was to make a difference, to influence the public health.

Risk of cases of isolated NTD with intake in early pregnancy of free and total folate

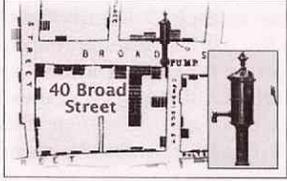
Quartiles of Folate Intake (ug/day)	# of subjects		Crude OR (95% CI)	Adjusted OR (95% CI)
	Cases	Controls		
Free Folate				
8-79	29	31a	1.00	1.00
80-115	20	36	0.54 (0.25-1.17)	0.94 (0.38-2.31)
115-180	15	39	0.40 (0.18-0.91)	0.34 (0.13-0.90)
180-1678	11	44	0.25 (0.10-0.61)	0.16 (0.06-0.49)
X ² for trend			12.04 (P<0.001)	13.52 (P<0.001)
Total Folate				
20-178	25	39	1.00	1.00
178-240	20	32	0.97 (0.46-2.08)	0.94 (0.38-2.31)
240-350	17	42	0.64 (0.30-1.36)	0.61 (0.25-1.47)
350-1787	13	37	0.54 (0.24-1.02)	0.38 (0.14-1.02)
X ² for trend			3.18 (P=0.07)	4.97 (P=0.03)a

Bower and Stanley 1991

Towards a New Paradigm in Epidemiology

In the early nineteenth century, beliefs concentrated on environments as the most important causes of disease. Sanitary reforms resulted in enormous social and hygienic improvements in health.

The discovery of transmission of disease led to the germ theory and infectious disease epidemiology, pioneered by the likes of John Snow who, by removing the handle of the Broad St pump in London, stopped an epidemic of cholera. Infectious disease epidemiology dominated the late nineteenth and first half of the twentieth centuries. It concentrated on the causative organism and its environment, with relative neglect of the individual risk. Interventions to interrupt transmission were very successful and remain so.



BY REMOVING THE HANDLE OF THE BROAD ST PUMP IN LONDON, JOHN SNOW STOPPED AN EPIDEMIC OF CHOLERA

As the rate of infectious diseases fell, the chronic disease, single risk factor paradigm caught hold. Individuals and their characteristics were the focus of epidemiological study. Interventions aimed at controlling risk factors in individuals have had limited success. Whilst there have been considerable advances, we have been too narrow in our thinking. Many are starting to question the modern risk factor paradigm.

A paper by McKinlay and Marceau, in humorous fashion, accuses epidemiologists of being preoccupied with:

1. the tail of the distribution
2. the tail end of causality
3. the endless pursuit of our own tails!

We are intervening too late and we are attacking the wrong culprits.

We have concentrated too much on the later factors rather than earlier ones that may encompass the beginning of the causal pathway; we have ignored the social and ecological contexts in which risk factors arise.

The idea of pursuing risk factors that are markers or early signs of the disease and relating them to epiphenomena of the disease is a useless and unproductive activity. We are intervening too late and we are attacking the wrong culprits.

A recent issue of the *New England Journal of Medicine* had a major article, reported in the media thus:

...results from the continuing Nurses Health Study reported in the *New England Journal of Medicine* last month, found that a combination of low alcohol consumption, not smoking, having a healthy diet and exercising for half an hour a day significantly reduced the risk of heart attack and stroke. Moderate consumption of alcohol was defined as 5g per day...

How can we be so precise in our advice? The complex pathways to both risk factor behaviour and ischaemic heart disease in nurses or anyone else are likely to be heterogeneous and not solved so simply. To continue in this vein with oversimplistic and sometimes inaccurate health promotion advice will result in us losing credibility with an increasingly cynical public.

Thinking in pathways opens up numerous complex causal possibilities and identifies earlier rather than later risk factors, which may result in more effective and cheaper preventive strategies. The closer you are to the outcome, the less likely it is you can prevent the problem, as it is more likely you already have it! Even within the infection pre-term birth pathway, it is likely that several pathways are operating to influence white matter damage in the very pre-term infant.

Proper consideration of pathways will prevent us getting things badly wrong, as we did with birth asphyxia and cerebral palsy. Ten to fifteen years ago most would have thought this route to brain damage was the most common. Many parents and lawyers still do. Obstetricians, without data to back up their statements, promised perfection if they were allowed to use electronic foetal monitoring and caesarean section. The data did not support their claims.

Whilst we still cannot measure birth asphyxia (BA), many antecedents can give rise to signs during delivery and early afterwards which can be suggestive of BA. Most of these are not intra-partum nor BA. And the very small numbers that are catastrophic intra-uterine events are rarely listed as causes of CP—the children either survive intact or die.

We hypothesised that many children with CP who had these intrapartum problems reported would have antenatal situations causing the problems and the CP. We confirmed this in a study of newborn encephalopathy—only a small percentage had intrapartum factors only and most had causal pathways that commenced earlier in development.

Instead of a simplistic single risk factor approach to CP, we need to stop searching for the Holy Grail in epidemiological studies and start to understand that the pathways are complex and numerous!

The Future

We now have the tools to extend our capacity to investigate true causal pathways. The power of our computers and information systems means our ability to manage databases is increased enormously. The mapping of the human genome and the use of new biomarkers and molecular techniques mean that we can really study the genetic/environmental interactions of common complex diseases in total populations. This demands a different set of analytical tools.

The new paradigms are useful because earlier interventions may be more powerful than later solutions and they open up more preventive opportunities. The new tools in biomedical and social sciences will help epidemiologists elucidate pathways; cross-disciplinary research will be the way forward. RCTs will be important to test interventions in pathways and we will need our population databases more than ever before—to evaluate the impact of preventive strategies and to participate in genetic epidemiology.

Such a database coupled with the new tools available will enable us to study the aetiological pathways to the complex diseases of today, using careful methods and working closely with colleagues. If we ignore these new paradigms, we may not capitalise on the promises of this new knowledge. The process is well advanced in Australia, particularly in Tasmania (Terry Dwyer et al.) and in Melbourne (John Hopper et al.), with collaboration between genetic and epidemiological researchers studying complex disorders such as cancer and psychiatric illnesses. Future success will come from bringing social, environmental and genetic epidemiologists together with molecular and developmental biologists. A new era of health and medical research approaches.

In conclusion, I turn to a quote about George Britton Halford, whose name is honoured by this Oration. Not only was he an outstanding research physiologist and the first dean of a medical school in Australia, he also allowed women into medicine in the 1890s, against considerable opposition. He encouraged those before us to build solidly so that we might attain greater heights. We salute those epidemiologists and others who have laid the ground for us to continue on our journey to improve public health.

...let us not forget that the intellectual pioneers of Australia played their part...with true courage and resolution...with wide vision of the outcome of their efforts, undeterred by apathy or ridicule, building solidly so that their successors might attain greater heights and with less effort...Halford was such a pioneer...

WA Osborne, 1928, in the first Halford Oration

DEAN'S LECTURE SERIES
SEMINAR

**Ethics of International Research and
Clinical Practice**

Friday 27 July 2001, 2.00-5.00pm

Sunderland Lecture Theatre, Ground Floor,
Medical Building

Although many organisations adhere to the same guidelines of ethical practice in clinical medicine or medical research, the decision-making process can lead to different outcomes in different environments. The seminar will focus on international research practices in different countries and include a local Australian perspective on the need for recognition of Australia as a multicultural society in making decisions on ethics. Clinical practice and standards vary in many countries and the issues relating to availability of resources and standard of clinical care will be explored.

Convener

Professor Graham Brown: James Stewart Professor of Medicine & Head of Department of Medicine, Royal Melbourne Hospital, The University of Melbourne

Program

A defence of Chinese eugenics legislation

Associate Professor Julian Savulescu: Director, Ethics Program, Murdoch Children's Research Institute, Royal Children's Hospital; Centre for the Study of Health & Society, The University of Melbourne

The case against Chinese eugenics legislation

Associate Professor Agnes Bankier: Medical Geneticist; Murdoch Children's Research Institute; President, Human Genetics Society of Australia

A local perspective—Tolerance and public policy in a multicultural society

Professor Tony Coady: ARC Senior Research Fellow and Deputy Director (and Head of the Melbourne division) of the Centre for Applied Philosophy and Public Ethics, Faculty of Arts, the University of Melbourne

DNA data banks—Iceland and Tonga

Professor Loane Skene: Professor of Law and Director of Studies, Health and Medical Law, Faculty of Law; Adjunct Professor, Centre for the Study of Health and Society, The University of Melbourne

Discussion and afternoon tea

Case study—Coping with divergent opinions between ethics committees: An HIV experience in Malawi

Dr James Beeson: Research Fellow, Department of Medicine Royal Melbourne Hospital, The University of Melbourne

The application of ethical standards for medical research of industrialised countries to developing countries

Ms Bebe Loff: Senior Lecturer, Department of Epidemiology and Preventive Medicine, Monash Medical School

Out of Africa

Medical student on sixth year elective

Audience discussion

**2000/2001 ROBERT L SIMPSON
MEMORIAL PRIZES**

After the death in 1994 of Dr Robert Lyndon Simpson (MB BS 1977), a memorial fund was established by his friends and colleagues to support the education of undergraduate and postgraduate medical students, particularly in the field of public health, and occasional memorial lectures. The memorial fund has supported numerous students undertaking elective attachments in public health.

Prizes for 2000/2001 were granted to: Jessica Kneebone who spent her elective at the Bethesda Hospital in South Africa; Sant-Rayn Singh Pasricha who travelled to the Madras Medical Mission and the Institute of Cardiovascular Diseases in India and to the University of Malaya Hospital in Malaysia; and Andrew Weickhardt, who spent his elective at the Tumutumu Hospital in Kenya.

**2001 MELVILLE HUGHES
SCHOLARSHIP**

The 2001 Melville Hughes Scholarship has been awarded to Dr James King (MB BS 1995), who is undertaking his PhD degree in the Department of Surgery at the Royal Melbourne Hospital. The award was presented to Dr King in March for his research project entitled, 'The role of tumour suppressor genes in the development and neoplastic growth of CNS tumours'. This valuable scholarship is funded by a bequest from an anonymous benefactor and is named after Melville Hughes (MB BS 1915), who died in the First World War, and his sister Florence Hughes, who died in 1962. Pictured are, from left, Mr Lance Dimsey, trustee of the Melville Hughes Trust, Dr James King, and Professor Richard Larkins, Dean of the Faculty of Medicine, Dentistry and Health Sciences, at the presentation of the Scholarship.



FROM THE DEAN

BY PROFESSOR RICHARD LARKINS

DEAN, FACULTY OF MEDICINE, DENTISTRY AND HEALTH SCIENCES, HEAD, SCHOOL OF MEDICINE



RICHARD LARKINS

IT MAY SEEM A cliché, but 2000 was another incredibly busy year for the School of Medicine. Highlights included the successful completion of the second year of the new curriculum and the admission, in July, of our first cohort of graduates to the course. These students with their varied backgrounds and greater experience and maturity have added a new dimension to the course. They interact well with the undergraduate entry cohort, who are benefiting from the graduates' experience and knowledge from their previous

studies. The problem-based learning format has encouraged the effective sharing of knowledge and experience.

Preparations were also completed for the Advanced Medical Science year in which the undergraduate entry students choose, from a broad range of projects, an area they would like to study in depth. All projects must comprise a significant proportion of research. We were delighted to find that virtually all students were able to be accommodated in their project of first choice. It was also pleasing that the projects selected were evenly distributed between basic biomedical research, clinically related science and humanities related to medicine. [See Associate Professor Susan Elliott's article on p20 of this issue of *Chiron*.]

Developing and mounting the new curriculum has entailed an enormous effort by many people, but it is enormously rewarding to see the extent to which the new educational approaches have been embraced by the students and how the enthusiasm has transmitted itself to the staff. There is still much

work to be done, but by the time the new curriculum is completed we will have a 'state-of-the-art' course. Our medical graduates will be well prepared to cope with the changing demands of medical practice and the lifetime of learning which is necessary in this era of rapidly expanding medical knowledge, revolutionary electronic communications and data management, and rapidly evolving social and political environments.

The Commonwealth Government is placing a great emphasis on initiatives to improve the accessibility and standards of health care for rural and Indigenous Australians. As part of this emphasis, it has funded a network of university departments of rural health. The Faculty's Department of Rural Health in Shepparton, under the strong leadership of Professor David Simmons, has been referred to in previous editions of *Chiron*. In 2000 the Department of Health and Aged Care called for expressions of interest in the development of rural clinical schools. The intention is that such schools should be the primary site of education in the clinical years of the course for a proportion of medical students. Unlike the majority of the students who are based in the city and rotate to rural hospitals and general practices, these students would be based in the country and rotate to the city for a small part of their course, to get experience they cannot easily access in the country. Although the details are still to be developed, our expression of interest has resulted in the announcement that the University of Melbourne will host one of the new rural clinical schools. It will be centred in Shepparton in conjunction with the University Department of Rural Health, with major nodes in Ballarat and Wangaratta, and branches at Bendigo, Warrnambool, Horsham, Benalla, Echuca and surrounding areas. It will also work closely with the Divisions of General Practice. This is an exciting initiative, which will help to address some of the medical workforce problems affecting rural Australia and will provide exciting and innovative approaches for our students.

THANK YOU FOR YOUR SUPPORT

Thank you to UMMS members for your financial support to areas of special need in the School of Medicine. In 2000, alumni donated almost \$55 000 through UMMS membership and through the University Annual Appeal. This income is supporting projects in rural health training, clinical training, medical research, student prizes and student financial aid.

Your donations contribute to important teaching, student and research initiatives. In 2001 the School of Medicine needs support for the following key areas:

- Clinical skills equipment for resource centres based at clinical sites. These resource centres will give medical students the opportunity to learn core examination skills in a supervised non-threatening environment, increasing their confidence and skill when approaching real-life patients.
- New research in the School in areas including epilepsy, cancer, osteoporosis, neurodegenerative disease, schizophrenia, diabetes and arthritis.
- Medical student prizes to encourage and assist our most talented students. These include the UMMS Bachelor of Medical Science Prize and the Peter G Jones Elective Essay Prize.
- Assistance for medical students in financial distress who without such support would be unable to complete their course.



FIFTH YEAR MEDICAL STUDENTS AND TUTOR AT ROYAL CHILDREN'S HOSPITAL EMERGENCY DEPARTMENT. Photo Michael Silver

Your continued interest in the School of Medicine is very much appreciated. The School and the UMMS Committee thank you for your generous support.

If you would like more information about donations or bequests to the University, please contact Ms Robin Orams, telephone (+61 3) 8344 5888; email robinjo@unimelb.edu.au; mail c/- UMMS Office, School of Medicine, The University of Melbourne, VICTORIA 3010, AUSTRALIA. Alumni in the USA, Mexico and the UK please see p43 of this issue of *Chiron*.

RETIREMENTS

Professor Kenneth John Hardy AO

KEN HARDY GRADUATED MB BS from The University of Melbourne in 1958. After early clinical training at the Royal Melbourne Hospital, he undertook postgraduate training in London, Hong Kong and in Boston, whence he was recruited in 1968 to the newly formed University Department of Surgery at the Austin Hospital. He became a Foundation Member of the University Department of Surgery at the Repatriation General Hospital, Heidelberg, in 1971, being promoted to First Assistant (Associate Professor).

He succeeded Howard Eddey as Professor and Chairman at the Austin in 1975, a position he held until his retirement at the end of 2000. The Department quickly became dynamic, recruiting such outstanding academics as Fletcher, Shulkes, Jones and Buxton, and the emphasis on surgical science became a model for other departments throughout Australia.

Ken Hardy is the only person to have twice been awarded the Sir Alan Newton Prize by the Royal Australasian College of Surgeons. His other awards include a Franco-Australian Fellowship in 1984 for study in France and the Advance Australia Award for Medicine in 1989. He was made an Officer in the General Division of the Order of Australia in 1995, and an Honorary Member of the Lyon Surgical Society in 1992.

An enthusiastic teacher, he was voted best teacher in the clinical school on numerous occasions, and taught medical students in more than ten countries. His research interests have been in surgical physiology and foetal development in relation to the liver, gastro-intestinal peptides and adrenal steroids.

He has been Associate Dean (Clinical) in the School of Medicine, Associate at the Howard Florey Institute, and held a University appointment as Chairman of the Board of Examiners in Final Year Surgery for fifteen years. He has also been a specialist surgeon at the Peter MacCallum, Fairfield Infectious Diseases, and Royal Children's hospitals.

By any criterion, Ken Hardy has had an outstanding international surgical career. He has authored over 300 original articles, supervised post-doctoral students, held competitive grants for over twenty years, and been an invited surgeon in over sixty hospitals in more than forty cities in twenty countries.

Within the Austin Hospital he held the position Chairman of the Division of Surgery from 1976, and was responsible for many innovations: introducing liver transplantation to Victoria and laparoscopic cholecystectomy to Australia; the building of the spinal rehabilitation unit at Royal Talbot; the foundation of the Austin Research Institute; and creating the University of Melbourne's surgical liver and pancreas group. He was surgeon to the Collingwood Football Club when they were a top side in the 1970s, and was subsequently Medical Commissioner for the Australian Football League, being responsible for the anti-doping code and education concerning drugs in sport.

Ken Hardy's career has been one of achievement, notable for his contributions to the discipline of surgery for the University of Melbourne, and served with distinction as Professor of Surgery.

Professor William Hugh Sawyer

BILL SAWYER OBTAINED his first degree (BAGSc) at the University of Melbourne in 1961, before moving to the University of Minnesota (MSc 1963) and then to the ANU for his PhD (1966). He then took an SRC Postdoctoral Fellowship at the Lister Institute of Preventative Medicine in the UK.

In 1973 his focus turned to the field of membrane biophysics and the development of advanced fluorescence-based photophysical techniques. In 1980 he was awarded the David Syme Research Prize for the synthesis of a family of fluorescent membrane probes designed to report the depth to which membrane-active drugs, peptides and proteins penetrate the membrane surface. More recently Bill has developed techniques of phosphorescence anisotropy and fluorescent foot-printing to study membrane dynamics and protein-DNA interactions.

In 1968 Bill took up a lectureship in the Department of Biochemistry, proceeding through the levels of Senior Lecturer (1973-83), Reader (1983-91) and Professor (Personal Chair, 1991-2000). He was Chairman of Department during 1983-86, a time of vigorous growth and change in the Department, and was responsible for the establishment of new high technology resources for protein chemistry and state-of-the-art DNA sequencing within the Department.

In 1990 he was awarded an A G Whitlam Scholarship in Intellectual Property Law and in 1991 he became the first staff member of this University to take a Graduate Diploma in Intellectual Property Law. This interest led to membership of the University Patents Committee and Intellectual Property Committee, and to his being appointed as a non-executive director of Rothschild Bioscience Managers Limited, a venture capital trust for promotion of innovation in science and technology.

Bill has been a dedicated teacher of undergraduate and postgraduate students. He was the first staff member at this University to introduce computer-based exercises into undergraduate science teaching. His seminal paper in 1974 (McDougall, Sawyer and Cieselski *A computer-based simulation exercise in biochemistry*) showed the potential of this new technology for enriching the learning experience of students studying biochemistry, and he has continued to be an enthusiastic advocate for innovation in the use of computers in undergraduate teaching.

Bill has been very active over the years in promoting the field of biophysics and has organised numerous scientific conferences and workshops. Among the numerous services to his profession and the community should be recorded his roles as President-Elect, President and Past President of the Australian Society of Biophysics, the Australian Society for Biochemistry and Molecular Biology, and the Federation of Asian & Oceanian Biochemists & Biologists. He has also contributed to four substantial submissions to Government on matters concerning funding of research in higher education and research training.

During this distinguished scientific career Bill published more than 150 research papers. Attesting to the fact that his output has not diminished with approaching retirement, seven of these papers were published in 2000. Bill's colleagues in the Department of Biochemistry and Molecular Biology are delighted that after his retirement he will continue his long and very distinguished association with them as a Professorial Fellow, with the title of Professor.

INFORMATION TECHNOLOGY IN THE NEW MEDICAL CURRICULUM

BY PROFESSOR PETER HARRIS

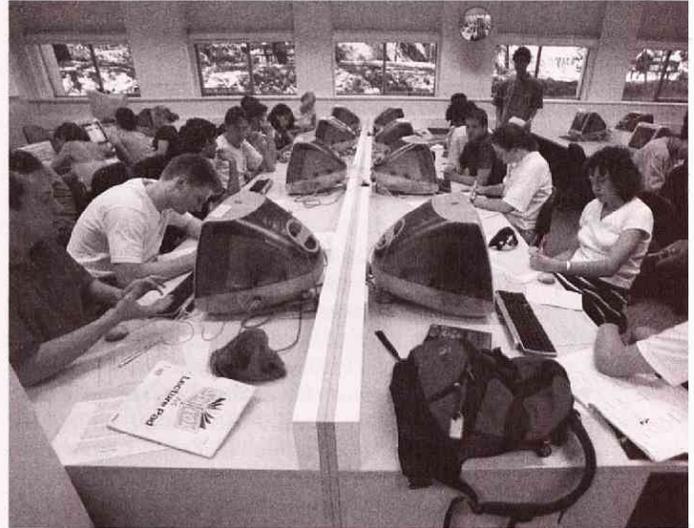
THE PROFOUND AND increasing influence of information technology (IT) on our daily lives is obvious to us all, particularly those of us involved in the education of medical students. However, it is not so clear how the benefits of this technology can be measured and its educational value assessed.

One of the principles underlying the design of the new curriculum was the move to a more student-centred approach to medical education, seen most obviously by the introduction of problem-based learning (PBL) with its accompanying tutorials. Although in this structure technology pervades all modes of teaching, it is important to recognise that it is seen as complementary to the more traditional lectures, face-to-face tutorials and practical classes, rather than as a replacement. In the increased amount of time available for self-directed learning, students are recommended to various resources, including computer-aided learning packages, textbooks and web-sites. An example 'problem of the week' can be seen on the Faculty web-site at: <http://www.medfac.unimelb.edu.au/med/examplePOW/trigger.html>.

It is particularly in the self-directed learning sessions that educational technology has begun to modify the learning process. The technology provides a communication network through email, bulletin boards and the various discussion groups available on the intranet (TopClass). Staff and students now have more varied and effective ways to contact each other and to follow academic, administrative or social issues at times and places that suit their study habits. Communication between students, and between staff and students, will become increasingly important in the later years of the course during placements in the various clinical schools and in rural and community health practices.

The photograph above shows a group of students engaged in self-directed learning involving computer-based programs but it is important to note that they are clearly interacting with each other and using notes, texts and discussion to enrich their learning experience. The Faculty has put substantial effort into the development and delivery of computer-aided learning programs and some fifty to sixty staff are now involved with the production of these packages. In general we have concentrated on programs that use the multimedia capabilities of computers and combine text, graphics, audio and video to engage students in interactive, challenging exercises rather than simply presenting sections of text. A useful test for whether a topic might benefit from this type of multimedia treatment is to ask lecturers and students which concepts are most difficult to understand even after using textbooks or attending lectures. In these cases, simulations, self-paced exploration, construction of models and interactive question formats can be built into a program to help learning and retention of concepts. At present, some eighty projects are in progress on subjects covering the interests of most departments. These projects can be explored on the Biomedical Multimedia Unit (BMU) web-site at: <http://www.medfac.unimelb.edu.au/bmu/projects.asp>.

However, self-directed learning presents its own set of challenges, not the least of which is the partial withdrawal of the weekly structure provided by a packed timetable. Students leaving a PBL tutorial will have a set of 'learning issues' based on the problem of the week, but may not have a clear plan for how they will spend the next few days finding resources that address those issues. The Faculty IT Unit and the BMU have begun to explore tools to aid student management of learning and one such tool, the Personal Learning Planner, was trialled successfully last year with several groups of students. The process has three phases—Search, Plan and Reflect—which



SELF-DIRECTED LEARNING IN THE STUDENT COMPUTER RESOURCE ROOM
Photo Michael Silver

allow students to use the learning issues derived from the PBL session to generate a set of keywords that retrieve relevant resources (texts, articles, computer programs, web-sites etc.) from a database. These resources can then be arranged and grouped according to a mental concept-map and linked with the learning issues in a 'drag-and-drop' workspace on a computer screen. The Reflection phase will allow students (and staff if given access) to review their progress towards goals and assess the value of various resources for particular learning topics.

A major challenge for the Faculty, and indeed for the growing industry surrounding electronic delivery of education, is the need to assess the effectiveness of the approaches and of the materials themselves. How can IT-delivered programs and collaborative learning experiences best be integrated with other modes of teaching and learning, all of which are essential components of a medical student's education and training? How effective are these approaches when compared with the more traditional methods? Do the new technologies provide any cost-benefits and how can they be measured? The answers to these questions will not be available for some time and in some cases the research will take several years. Our approach has been to develop a program of evaluation and assessment that includes the design of computer-based materials, student perceptions of the programs, the effectiveness of integration of multimedia with other modes of teaching and, eventually, the impact of learning technology on the training of doctors.

The next stage of curriculum development will engage staff and students in more extensive clinical teaching and will need learning technology to be provided in many hospitals and clinics around Victoria. At its last planning meeting Faculty recognised a number of needs: improved IT networks (especially bandwidth); staff development and training in educational technology and the use of multimedia in teaching; provision of computers for students and staff at off-campus sites; and improved integration of IT where access to both University and hospital networks is required. These issues will occupy the Faculty IT Unit and BMU during the coming years and I hope that many of you will see some benefits from these efforts.

Peter Harris is Professor of Physiology and Assistant Dean (Information Technology and Multimedia), Faculty of Medicine, Dentistry and Health Sciences

CHALLENGES IN KOORI HEALTH

VicHealth Koori Health Research and Community Development Unit

BY ASSOCIATE PROFESSOR IAN ANDERSON

ABORIGINAL HEALTH IS possibly the most significant challenge facing the Australian health care system today. Aboriginal health policy increasingly recognises that the quality of health care provision is a critical feature of any strategy designed to improve Indigenous health outcomes. With its focus on research and education, academic work has the potential to play a key role in reforming Aboriginal health policy and practice. However, Australian medical schools have not substantially taken up this opportunity until quite recently.

In June 1999 the Chair of the Co-Operative Research Centre in Aboriginal and Tropical Health, Dr Lowitja O'Donoghue, launched a new program in the Faculty—the VicHealth Koori Health Research and Community Development Unit. Based within the Centre for the Study of Health and Society, the Unit aims to make a strategic contribution to Aboriginal health policy and practice. In essence, it is an integrated health services research and community development program, funded jointly by the Victorian Health Promotion Foundation and the Commonwealth Department of Health and Aged Care.

If the Unit is to achieve its aims, it must build effective partnerships with Victoria's Koori (Aboriginal) communities, to ensure that its research and teaching are appropriately focused. Such partnerships underlie effective communication with the Koori community stakeholders who are ultimately responsible for implementing reform in the delivery of health services. A partnership approach is equally important in the development of research and teaching practices that actively encourage and support Aboriginal participation.

One of the Unit's key partner organisations is the Victorian Aboriginal Community Controlled Health Organisation (VACCHO), the State's peak community body for Aboriginal health, which provides links with a network of community co-operatives and Aboriginal health services across Victoria. This partnership with Victorian Koori communities has been further strengthened through the development of a Unit Advisory Committee with a majority Aboriginal membership and which includes stakeholders in Koori health and higher education.

In setting up the Unit, one of our key aims was to link community development with research activities and teaching, partly for historical reasons. For example, in the past, poor communication and poor working relationships between research academics and Aboriginal communities undermined the quality of research outcomes, created antagonism in researched communities, and lessened the possibilities of research findings having an influence on the delivery of health services and the development of Aboriginal health policy. By taking a community development focus within our programs, we aim to implement the Unit's academic work in such a way that will maximise Aboriginal participation and will strengthen Aboriginal people's capacity to effectively contribute to teaching, research and evaluation.

Activities developed within the Unit's Community Development Program include workshops to facilitate discussion within Victoria's Aboriginal community about key issues in research practice, such as ethics, and the use of tools such as protocols in developing effective research collaborations. We are now producing reports based on these workshops for the Koori community. The reports will also be made available to a wider community audience. A research newsletter, *Talkin Strong*, was launched last year as another means of keeping the community informed about our activities and about Koori health research.

We have also attempted to build community development principles into our other activities. At the heart of the Unit's research work is a commitment to undertaking, collaborating in and supporting research that directly benefits the Koori community. Under the Advisory Committee's guidance, the Unit is working to identify better ways of determining what research



L-R: MS LYN MCINNES (CHAIR OF VACCHO), ASSOCIATE PROFESSOR IAN ANDERSON AND DR LOWITJA O'DONOGHUE AT THE OPENING OF THE VICHEALTH KOORI HEALTH RESEARCH AND COMMUNITY DEVELOPMENT UNIT

gets done and better ways of linking research with improvements in health care practices and policy reform.

The Advisory Committee has developed a three-year strategic plan to help the Unit maintain a broad focus on the research priorities identified by Koori communities, health practitioners and policy-makers. The plan was developed with contributions from VACCHO and key policy bodies in Aboriginal health (including the Koori Health Unit in the Victorian Department of Health and Human Services, and the Office for Aboriginal and Torres Strait Islander Health Services in the Commonwealth Department of Health and Aged Care). People experienced in Koori health research also contributed to the plan, which includes the following main goals for 2000-02:

- to develop a research program that enhances the understanding of Koori health and health care and leads to constructive policy debate and improved outcomes for Koori health in Victoria;
- to develop and promote effective strategies for the transfer of research findings to Victorian Koori health practitioners and communities;
- to further develop the capacity of Victorian Koori health practitioners and communities to participate in relevant research and evaluation activities;
- to develop a national and international academic profile based on excellence in research and evaluation practice; and
- to promote quality learning in Koori health, policy and research practice.

The strategic plan also incorporates a three-year research component, which has the following priority themes:

- the history of Koori health and health care, policy and research;
- the social, cultural, historical and political factors that impact on the development of best practice in Koori health research and evaluation;
- the social and cultural experience of Koori well-being and health care from the point of view of Koori people and their health care providers;
- the economic factors that impact on the provision of health care to Koori people and their use of health care services; and
- evaluating Koori primary health care and related health promotion programs.

The Unit is now two years old. It has been an exciting period during which we have seen the development of the Unit's program and its partnerships with Aboriginal communities. The Unit has also been able to contribute to the development of the new undergraduate curriculum in medicine, in collaboration with the Department of Rural Health and the Department of General Practice and Public Health. We now look forward to consolidating the vision of the Unit over the next few years.

Ian Anderson is Acting Director of the Centre for the Study of Health and Society

AUSTIN RESEARCH INSTITUTE

BY PROFESSOR IAN MCKENZIE

DIRECTOR, AUSTIN RESEARCH INSTITUTE

Recent History

THIS YEAR MARKS THE tenth anniversary of the opening of the Austin Research Institute (ARI). The Institute was established largely due to the foresight of Colin Johnston and Ken Hardy, then Professors of Medicine and Surgery at the Austin Hospital, and Harry Hearn and John Connell, President and Vice President of the Austin Hospital.

At that time, the Austin Hospital was one of Australia's leading academic/tertiary teaching hospitals. However, unlike the Royal Melbourne, the Alfred, Prince

Henry's and St Vincent's hospitals, the Austin lacked its 'own' research institute. This proved a driving force and on 25 November 1991, the Institute was officially opened in the Kronheimer Building, in the grounds of the Austin Hospital. Its first patrons were Sir Edward 'Weary' Dunlop and Nobby Clark with myself as its founding director.

The Kronheimer building had originally been opened in 1905 by Malcolm Fraser's grandmother, following a donation of \$5700 from the Kronheimer family to the Austin Hospital: the foundation stone is still visible. The building was first used as a tuberculosis facility for men and then as a general medical ward run by Jonathan Streeton, with a focus on respiratory diseases.

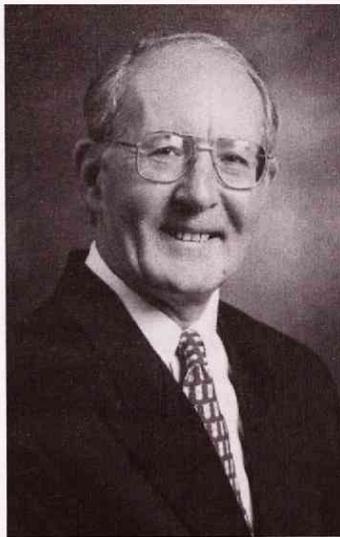
In the 1970s, the Harold Stokes Building was erected in the grounds of the Austin, with government funding obtained under the proviso that the Kronheimer Building be demolished. However, the Hospital never quite got around to the demolition and the Kronheimer is now the home of the ARI.

The Institute has done well in the Kronheimer. It is now a company limited by guarantee (similar to most other medical research institutes) and is governed by a board. Nobby Clark is the President (former Presidents were Harry Hearn and Mr Justice Northrop). There is a staff of 100, who function with funding from an NHMRC Program Grant, and also benefit from commercial funding. The ARI also, uniquely, has its own Patent Attorney (Dr Susan Wong) and Clinical Trials Co-ordinator.

The Institute recently established a new company, Arthron Pty Ltd, which will obtain funds to enable studies on the effects of drugs in inhibiting the binding of Fc receptor complexes.

There are eight research units, each with a head, postdoctoral fellows, technical staff and students. The units have transgenic facilities and the latest biotechnological equipment. While most work is done at the ARI, there are extensive collaborations in crystallography, large animal transgenic work and other studies with different research groups in Victoria and Australia. Clinical trials are carried out in Melbourne, Queensland and Greece.

The Institute focuses on generating practical outcomes of its research by working innovatively and linking laboratory research with clinical trials, and has rapidly moved into the biotechnology era. A recent endeavour is the Victoria Institute of Biotechnology, which extends the drug discovery program with Victoria University at Werribee, using the facilities of



IAN MCKENZIE

fermentation (to produce protein) and NMR for drug design and discovery, and aims to take human discoveries into animals and animal studies into humans. The veterinary facilities available at the Victorian Institute of Animal Science, Australian Animal Health Laboratories at Geelong, and the Centre for Animal Biotechnology (University of Melbourne Veterinary School) will be used for collaborative studies with a vaccine program in veterinary disease, xenotransplantation and other studies.

Research History

The research conducted at the ARI began in 1974, when I returned to Australia to take up a position in the Department of Medicine at the Austin Hospital. I had been in America for a number of years, in the Department of Surgery at the Massachusetts General Hospital in Boston, doing transplantation research with Paul Russell and Henry Winn and with an extended appointment at the Jackson Laboratory, Bar Harbor Maine, working with George Snell on immunogenetics.

The Research Centre for Cancer and Transplantation, based in the Department of Pathology at the University of Melbourne, was one of ten centres of excellence set up by Prime Minister Malcolm Fraser in 1980, and one of Australia's two medical centres of excellence. The Centre moved to the ARI upon the Institute's establishment.

Initial research directions were in immunogenetics, in particular the study of lymphocyte cell surface antigens in the mouse, and in transplantation. The laboratory, together with that of Boyse and Old in New York, described most of the lymphocyte antigens in the mouse and indicated the extensive polymorphism (variability) of lymphocytes, setting the scene for the subsequent description of the human CD antigens.

Lymphocyte Antigens

In 1964, Jacques Miller and Graham Mitchell, at the Walter and Eliza Hall Institute, had defined T and B cells from functional studies, but there were no markers for these, although a few years earlier Arnold Reif had described Thy-1 as a marker of T cells and Martin Raff had described cell surface immunoglobulin (Ig) as a marker of B cells. Boyse and Old described Ly-1, 2, 3 and 5, and George Snell and I had described Ly-4 ($\beta 2$ microglobulin) and then Ly-6 and Ly-7 from the Austin Hospital. I was soon joined by two PhD students, Hogarth and Potter, and our lymphocyte antigen work led to the description of Ly-9 and Ly-11 to 15.

The monoclonal antibody era was then upon us and, mainly from the work of Hogarth at the Austin, antibodies were made to define the preceding loci and then to describe for the first time: Ly-17, 23, 24 (also known as Pgp-1 and now CD44); Ly-25, 26, 27, 28, 29. In all, fifteen new loci were described in the mouse by antibodies. The Austin team was also the first to describe some human antigens with monoclonal antibodies including CD2, CD5, CD7, CD16, CD17, CD46, CD48 and CD99.

Many of these antigens have continued to be the focus of research at the ARI. For example, Hogarth's work with the description of Ly-17 (which was later identified as a polymorphism of an Fc receptor) led to functional studies on Fc receptor, the initial isolation of murine and human genes, and subsequently the first crystallisation of Fc receptors for IgG, which resulted in solving the three dimensional protein structure. This now forms the basis for the design of new anti-inflammatory drugs that inhibit immune complex binding.



MEMBERS OF THE AUSTIN RESEARCH INSTITUTE TEAM

Transplantation

Transplantation work at the Austin involved the description of the function of the major transplantation barrier—MHC-H-2 and Ia, i.e. Class I and Class II molecules in the mouse, with major technical assistance provided by Margaret Henning, who carried out thousands of skin grafts. The ARI conducted three studies of particular importance.

Firstly, although forgotten now, Doherty and Zinkernagel's demonstration in 1974-75 of Class I presentation was fiercely argued—were these observations due to Class I molecules or associated molecules encoded by linked genes? Work at the Institute demonstrated that a single mutation simultaneously altered a histocompatibility locus (H-2) and antigen presentation showed clearly that the Doherty and Zinkernagel phenomenon was due to a single Class I H-2 molecule.

Secondly, a number of immunological phenomena were linked—the mixed lymphocyte reaction (MLR), Ia antibodies, rapid graft rejection (H-2I) and immune response (Ir) genes—were these four separate loci or were they the same? Work with USA colleagues (Henry Kohn and Roger Melvold) describing the bm12 mutant, where all these functions were simultaneously altered (Class II mutation), demonstrated they were all the one phenomenon, and the named Ia genes, LAD, H2I and IA were essentially abandoned as they were the same.

Thirdly, work with Bruce Loveland (then a PhD student) demonstrated that skin graft rejection was not primarily due to the presence of cytotoxic T cells (which was the popular belief at the time), but involved Ly-1⁺ (CD4) lymphocytes and resembled a DTH reaction rather than a killer T cell reaction. Following this the pendulum swung from 'only' CD8⁺ to 'only' DTH type cells—indeed the truth is that both mechanisms are involved in graft rejection—depending on the antigenic makeup of the graft as to which mechanism predominates.

With the monoclonal antibody revolution, work turned to the production of monoclonal antibodies, particularly for lymphocyte antigens in the human and mouse, but also in cancer cells, where we naively thought monoclonal antibodies to cancers could lead to the eradication of the cancer.

Work of the ARI Research Units

Structure/Function Fc Receptor (Mark Hogarth)

Fc receptors bind antibodies of different classes, particularly after they have bound antigen to form immune complexes. They are involved in clearing immune complexes from the body and also in signalling to both turn on and turn off immune responses. Hogarth's laboratory is one of the leading laboratories in the world, having been the first to define an Fc receptor with a monoclonal antibody (Ly-17) in the mouse, and the first to clone both the mouse and human receptors for IgG. Recent work has culminated in the crystallisation of the Fc receptor for IgG, the solving of its three dimensional structure (with Peter Colman and colleagues at the BRI) and the design of drugs based on this to inhibit inflammation caused by immune complexes. These drugs are active in experimental models of idiopathic thrombocytopenic purpura and rheumatoid arthritis and will soon be in clinical trials. The laboratory is currently doing similar studies on the high affinity IgG, and the IgE Fc receptor—involved in allergy—and on the receptor for IgA, which is important in mucosal immunity and in IgA nephropathy.

Xenotransplantation (Mauro Sandrin, Ian McKenzie and Bruce Loveland)

This unit has a long history of contributing to transplantation research. In 1969, with Sir Peter Morris and John Stacker, we demonstrated that humans had cytotoxic antibodies to sheep and pig cells which were responsible for the acute rejection of vascularised organs such as kidney, heart, liver and lung. The shortage of human donors for allotransplantation and advances in genetic engineering have led to studies on the use of pig organs for potential transplantation to humans (xenotransplantation) and this laboratory is one of the world leaders in this area. The antibodies which cause rejection within minutes (hyperacute rejection—HAR) have been shown to react predominantly with the sugar Galactose α (1,3) Galactose. While deleting the gene encoding the transferase would remove the Gal antigen and avoid HAR, it is currently not possible to do this in pigs. Sandrin, Loveland and colleagues have devised several alternative strategies to overcome HAR:

- destroying the Galactose α (1,3) Galactose with transgenic expression of the galactosidase enzyme;
- competing the galactosyltransferase with another glycosyltransferase situated in the Golgi apparatus; and
- development of transgenic pigs expressing complement binding protein CD46 which removes complement from the system and avoids hyperacute rejection.

As well as these studies there is also an active program to transplant pig islets to mice—hopefully then to larger animals and then, possibly, to humans. In these cases the Gal antigen does not seem to be as important as for kidney transplants and other strategies are being designed to prolong the life of pig islets in humans.

Lymphocyte/Dendritic cell antigens (Mauro Sandrin, Mark Wright, Ian McKenzie)

Several different groups are studying these antigens, continuing studies set in place in the 1970s. Recently a ligand of the Ly-6 family (involved in T cell activation) has been defined (Sandrin and colleagues) and will define the function of these elusive molecules. To date no convincing homologues have been found in humans for the T cell activating determinants (Ly-6A). Mark Wright, who recently joined the ARI from the Walter Eliza Hall Institute, is defining the cell surface antigens of dendritic cells, particularly in the mouse, with several new molecules that have recently been defined (called FIRE and CIRE).

Cancer Diagnosis and Therapy with Antibodies (Geoff Pietersz, Pei-xiang Xing)

For many years this laboratory has been producing monoclonal antibodies to different cancers, particularly the MUC1 antigen, which is found in large amounts in tumours of breast, lung, pancreas and ovary, and in lesser amounts in prostate and colon cancers. The group defined peptide epitopes of the antibodies and has made a number of anti-peptide antibodies. The antibodies have been successfully used to 'image' breast cancer deposits in lymph nodes using radiolabelled antibodies. Such antibodies do not appear to be of great therapeutic effect at present, however, some have been used for the diagnosis of breast cancer—particularly for

monitoring for recurrence of breast cancer—and several kits are being sold commercially for this purpose. Antibodies which inhibit the growth of colon cancer cells are currently under production and, if successful in preclinical studies in mice, will soon be used in clinical trials in the next two years with our colleagues at the Austin Hospital (Paul Mitchell).

Cancer Therapy—Cellular Immunity (Vasso Apostolopoulos, Bruce Loveland, Magda Plebanski, Geoff Pietersz)

A new method of immunising was devised at the ARI by targeting the mannose receptor of antigen presenting cells using oxidised mannan, which gave rise to impressive cellular immunity in mice—indeed, a Th1 response resulting in eradication of tumours. However, when this was tested in monkeys and humans antibodies predominantly occurred rather than cellular immunity, probably due to cross-reaction of natural antibodies with the MUC1 cancer antigen in the immunogen. New ways are being devised to selectively transfer antigens into the cytoplasm of cells to induce cellular immunity, and dendritic cells are currently being targeted *ex vivo* as a potential vaccine for cancers expressing the MUC1 and other antigens. An entirely new method of immunising using small particles is also being applied in cancer. Cancer in mice can be cured by this approach and clinical studies will start in this area within the next two years.

Vaccines for Infectious Diseases (Magda Plebanski)

We have been fortunate to recruit Magda Plebanski, from Oxford in the UK, to work in our recently established Infectious Diseases Laboratory. Magda had already been involved in the design of several vaccines for malaria, which are currently in clinical trial. She has devised a new method of immunising and can produce spectacular immunity in mice, including protection from malaria. It now remains to broaden the species focusing on veterinary and human disease to induce cellular immunity, particularly in tuberculosis. The malarial studies are extending and could well be in clinical trial within four years. In addition, collaborative studies with Professor Christina Cheers in the Microbiology Department at Melbourne University have demonstrated superior IgA responses—by using the mannan antigen described above.

Highlights of the ARI

1991

Opening of ARI by Nobby Clark and Sir Edward Dunlop.
Professor Ian McKenzie elected President of the Transplantation Society of Australia and New Zealand.
Cloning CD48, CD99, Ly-9, ThB.

1992

Professor Mark Hogarth awarded the Gottschalk Medal.

1993

Cloning pig α 1,3galactosyltransferase, the major antigen involved in pig-to-human transplantation.
Clinical trials of cancer vaccine commence in Australia (Melbourne, Queensland) and Greece.

1995-96

Dr Mark Smyth awarded the Gottschalk Medal.
Competitive inhibition of pig α 1,3galactosyltransferase with another glycosyltransferase to reduce 'Gal' expression.

1997

Professor Mauro Sandrin awarded the Glaxo Wellcome Medal.
Dr Vasso Apostolopoulos awarded the Young Victorian of the Year and Premier's Medical Research Award.

1998

CD46 transgenic pig produced.

1999

Professor Ian McKenzie elected President-elect of the International Association of Xenotransplantation.
Professor Mauro Sandrin elected President of the Transplantation Society of Australia and New Zealand.
FcR crystallised and structure solved.

2000

Associate Professor Magda Plebanski awarded the Howard Hughes Fellowship for her work in infectious disease.
Pig-to-baboon kidney transplants.
New drugs for rheumatoid arthritis and idiopathic thrombocytopenia purpura designed.

CULTURAL DIVERSITY IN THE SCHOOL OF MEDICINE

International Student Support Program

BY LESLEYANNE HAWTHORNE

THE FACULTY OF Medicine, Dentistry and Health Sciences is an extraordinarily culturally diverse site. By the late 1990s, the School of Medicine was training around a quarter of all international students electing to study undergraduate medicine in Australia.

Despite this level of international student enrolment, it is important to recognise that much larger proportions of non-English speaking background (NESB) medical students at the University of Melbourne are *overseas-born permanent residents*—primarily from Malaysia and Hong Kong, but also including substantial numbers from relatively disadvantaged socio-economic groups (the Vietnamese being the prime example).

By 1996, 35 per cent of all undergraduate medical students enrolled at the University of Melbourne were first generation migrants and refugees, the vast majority of NESB origin. Given that these students derive from identical countries to fee-paying international students, there is often a gross overestimate of the number of international students actually enrolled within the School.

This enrolment pattern directly reflects the academic success achieved by relatively 'recent' migrant and refugee groups in Australia—most notably those of Asian and East European origin.

Despite their disproportionate year twelve success, it is important to note that many medical students of NESB origin find they encounter substantial difficulty in clinical teaching settings, in part due to the comparative recency of their arrival. In 1997 the Faculty's cultural diversity audit uncovered compelling evidence of linguistic and culturally-based disadvantage. Yet effective English and cross-cultural skills were

described by one academic informant as 'the absolute foundation of appropriate medical care' in clinical settings. Their lack could risk a serious decline in grades, while significantly straining the tolerance of academics, clinicians and patients. Within clinical teaching sites this problem was reportedly often compounded by marked student accents, an inability to understand Australian patient speech, idioms and communicative norms, and a perceived incapacity to respond in 'culturally appropriate' ways to selected patient emotional states and/or health situations. Barriers such as these could heighten the risk of a negative response from staff and patients, including (in the case of the latter) the potential incidence of racism. For permanent resident students they could also ultimately lead to restricted Australian employment options.

Within this context, the Faculty has developed and continues to offer a unique concurrent support program, designed to assist all overseas-born students grappling with linguistic and cross-cultural transition. This program is delivered by five academic staff, including two in the clinical teaching sites.

Once a student is identified as being at risk their academic performance is first researched and their needs analysed. Support provided to the student is targeted to critical academic transition points (such as point of entry, before exams, or the start of clinical or specialist rotations), is located at the student's actual learning sites and is individually designed to address that student's particular needs (e.g. poor pronunciation, inadequate writing or oral presentation skills).

Lesleyanne Hawthorne is Senior Lecturer, Internationalisation and Cultural Diversity in Education

An International Student's View

BY SOPHIE SAMUEL

ARRIVING AT TULLAMARINE airport as a new international medical student at the University of Melbourne brought a series of emotions very different from those with which I had left Singapore eight hours earlier. From the excited anticipation and idealistic dreams of embarking on medical education and overseas study, arrival in Australia made me feel overwhelmed, alone and nervous.

Such a sense of confrontation can lead you to fall back on stereotypes and all the weird and wonderful things I was told about Australia back home: kangaroos bounding down Bourke St Mall, the White Australia Policy and the national obsession with sport and beer. After four years in Australia, my view of Australia and Australians has developed since those early days, and making Australian friends was the first step in that process.

Confronting issues of cultural difference has been a major challenge for me. Many such differences are more complex and less visible than my early stereotypes. For instance, many international students would not dream of addressing an older person, let alone a lecturer, by their given name and no-one at home in Singapore would ever boast about 'getting plastered over the weekend'. Managing my own responses to these differences was a feature of my earliest days in the School of Medicine.

Not that everything I experienced was bad! Melbourne is an amazing city: all the great features of city life, but not a concrete jungle. Coming from an equatorial tropical city, seeing the change of seasons for the first time is something that will stay with me forever.

I am really enjoying my medical studies. The course is interesting and many lecturers are genuinely interested in the progress of students. I have an opportunity to mix with a diverse group of interesting people and have as my subject of study that most fascinating object—the human body. One area I'd like to see developed within the curriculum is that of valuing non-Western traditions of medicine. This would pave the way for an independent evaluation of therapies and an honest and rational look at holistic patient care.

Being in a faculty with such a high international student enrolment can highlight a lack of cultural awareness in both international and local students. International students can tend to clump together in country or culture-based social or learning groups. I sometimes wonder why some students come to Australia to study but don't seem interested in meeting local students. On the other hand, many local students don't attempt to cross cultural boundaries—many do not have (or take the time to acquire) the knowledge and skills necessary to do so. I may know where Albury is, but how many of my Australian peers know where Penang or Kuching is?

So, overall, how do I evaluate my time in the School of Medicine? It was difficult at first, but I am glad I took the risk of getting to know both international and local students, and think through the issues of cultural difference I encountered. The risk has certainly paid off!

Sophie Samuel is currently in her fifth year of the MB BS course

THE DEVELOPING MB BS CURRICULUM

The Intercalated BMedSc Degree—A Research Opportunity for Medical Students

BY ASSOCIATE PROFESSOR SUSAN ELLIOTT

'At the end of the undergraduate course the student will have acquired a knowledge and understanding of the sciences basic to medicine, and the discovery of how knowledge is acquired, an understanding of research methods and an ability to evaluate evidence.'

'Tomorrow's Doctors', UK General Medical Council, 1993

A UNIQUE FEATURE OF the new medical course at Melbourne is the intercalated research degree: the Bachelor of Medical Science (BMedSc), for all undergraduate-entry students. The BMedSc is awarded following the successful completion of the first five semesters of the medical course, and a year of research or combined research and coursework in a field related to medicine. For many years high achieving students have had the opportunity to take leave from their medical studies to undertake a BMedSc. Now, all undergraduate-entry students will have the experience of exploring in depth a topic related to medicine.

The integrated research degree was introduced to meet a major objective of the new course: to equip our students with skills in the acquisition, evaluation and application of evidence. The final research year of the degree also allows students to explore, in greater depth than is possible in the body of the curriculum, an area of relevance to medicine and to broaden their experience of health care by the opportunity to learn in off-campus settings. This year not only allows students to learn the theory behind evidence and research, but to experience it first hand and appreciate its difficulties and limitations. It also provides an opportunity for students to interact with researchers and better appreciate their role in the advancement of medicine.

The students may choose from more than 100 topics of study. (To view the complete range, please visit the website <http://www.medfac.unimelb.edu.au/ams>) The possibilities include basic laboratory research in any of the biological science disciplines, medical history, medical ethics, Koori health and adolescent health. The students also get to choose between a wide range of locations for their study. They may study in one of the Faculty's departments or allied institutes, or at other centres of excellence interstate or overseas.

In order to ensure that all students are adequately equipped to analyse their research data, each student must undertake research methods training. They may choose between three coursework subjects to receive this training: Intermediate Epidemiology and Biostatistics (for quantitative research methods), Qualitative Health Research (for qualitative research methods), and Advanced Techniques for Laboratory Based Research. These subjects are scheduled to occur in a two-week block at the start of their year of study.

The BMedSc degree may be used as an exit degree for those few students who decide that they don't want to continue with the rest of the medical course.

The degree has been received enthusiastically by the first cohort of students who have begun their research this year. About one third are undertaking basic bench research, one third clinical research and the final third are studying social sciences. We look forward to reporting on their progress in the degree next year.

Sue Elliott is Director of the Faculty Education Unit in the Faculty of Medicine, Dentistry and Health Sciences

Second Year of the New Curriculum

A Student's View

BY JAMES WHITELAW

BEING AMONG THE first to take part in a new medical course has proven a mixed bag. On the one hand, we are probably the most closely monitored and heavily funded bunch of med students in the history of the University. However, the fact that everyone is doing things for the first time—subject coordinators and lecturers included—has meant that improvisation, luck and psychic ability have become surprisingly important. Furthermore, the very nature of a course focused around problem-based learning (PBL) is such that the students cannot be informed in advance of what areas will be covered. As a result, it can at times feel like driving very fast through a heavy fog, with no brakes and broken headlights.

Probably the most obvious change in second year was that we were no longer the only year attempting the new course. We had been spoilt in first year, enjoying a monopoly on resources, and we grumbled like jealous firstborns in indignation as we were forced to share our tutorial rooms and computer labs with the newcomers.

The two major subjects of second year were Cardio-Respiratory and Locomotor Systems (CRL), and Control Systems, Growth and Development (CSGD): essentially a combination of neuroscience and endocrinology.

CRL proved fairly popular, perhaps due to the emphasis placed upon principles and the relative lack of rote learning required. Five weeks were devoted to the cardiovascular system and five weeks to the respiratory system: physiology followed by pathology. For many then, the last month spent on locomotor systems seemed unrelated, though a slightly unfavorable reaction is hardly surprising considering the mass of anatomical knowledge we were expected to digest in this period.

CSGD was hard. This was always going to be the case, however, as we covered the notoriously difficult subject of neuroscience. Endocrinology and reproduction proved relatively straightforward for most students, many of whom found neuroscience daunting, particularly neuroanatomy.

Our second year saw major yet natural developments in the PBL aspect of the course. The overall depth and difficulty of the cases increased: more data to analyse and more information needed to solve the problem. The PBL exams also required far more sophisticated answers than before, which came as an unwelcome shock to most people in the third semester PBL exam.

Another critical aspect of the new course is the degree of patient contact and hospital experience that we students have at an early stage. We had developed skills in basic patient communication in first year, principally the development of rapport with patients, however, with second year came an increased emphasis upon focused and directed questioning—vital tools in diagnosis. Various medical examination techniques were also taught, including cardiovascular, respiratory, neurological and joint examinations. Learning these techniques in conjunction with the underlying physiology and pathology

served to highlight the mechanisms underlying clinical symptoms.

A greater emphasis was placed upon exams during second year. It became clear, however, (at least to some) that too much material was being crammed into the one major exam at the end of each semester. Many students found it difficult to simultaneously study lung pathology and foot anatomy.

Overall, the second year of the new curriculum was well received. Integrating such a wide variety of knowledge into a system-based course is an ambitious project but, for the most part, this process was seamless. Rarely did anything we learn seem irrelevant or out-of-place. Furthermore, the course material and resources were better organised than in first year, suggesting that in years to come this course will continue to develop as a comprehensive yet intuitive medical education.

James Whitelaw is currently in his third year of the MB BS course.

Rural Vocational Mentoring Program



DR GRAEME JONES DISCUSSING TRACTOR SAFETY ON A FARM WITH MEDICAL STUDENTS Photo Michael Silver

A new mentoring program has been developed this year at the School of Medicine by Dr Ruth McNair, supported by the University of Melbourne Student Support Committee and the Rural Undergraduate Steering Committee. Recent research indicates that one of the most important factors for choosing a career in rural practice was the positive experiences at formative times during a medical practitioner's early career¹. This year the School of Medicine is introducing a pilot vocational mentoring program which aims to facilitate positive experiences of the rural environment, providing students with a comprehensive perspective on life as a rural practitioner and enhancing the rural emphasis of the medical curriculum.

Volunteer students and rural doctors will be paired and then expected to maintain regular contact for the duration of the student's course. Prospective mentors need to have good interpersonal and communication skills and either have or be willing to acquire appropriate experience or knowledge in mentoring. They will benefit from closer links with the University and develop an understanding of the new medical curriculum as a result.

The program is open to students in the second year of the MB BS course who will be eligible to practice in Australia after graduation. Under the Targeted Access Program at least twenty rural students are enrolled each year, however students from any background may apply.

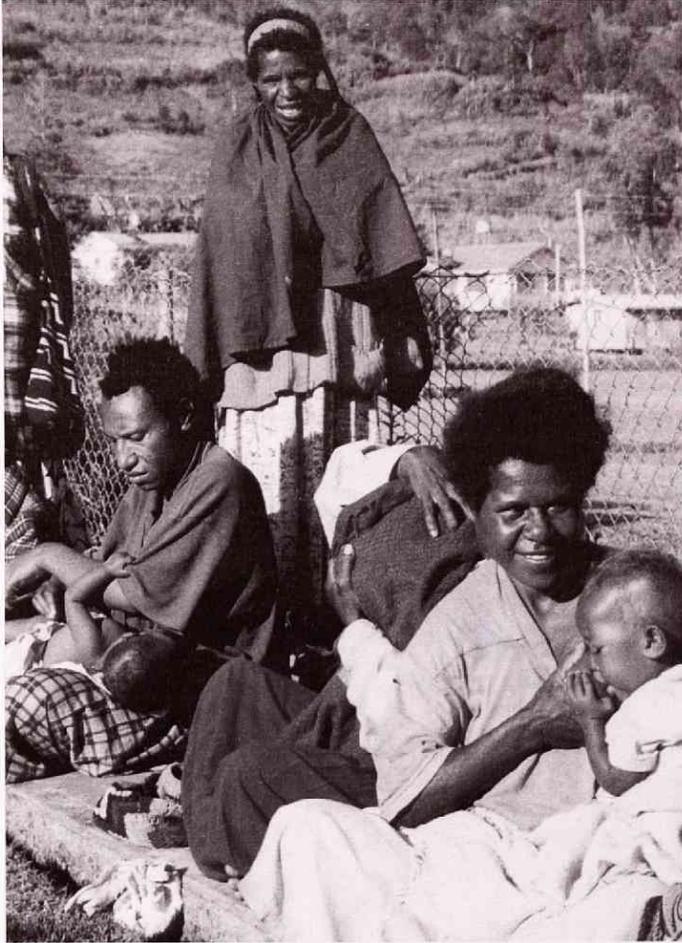
Mentors and students are currently being sought for this exciting new program. If you are interested in participating, either as a mentor or as a student, please contact Liz Everist, Coordinator—Vocational Mentoring Program, Department of General Practice, The University of Melbourne, 200 Berkley Street, Parkville, Vic, 3010; or telephone: (03) 8344 4534, or email: l.everist@unimelb.edu.au. For further information about student support at the School of Medicine, contact Dr Ruth McNair, Academic Mentor, telephone (03) 8344 6077, or email: r.mcnair@unimelb.edu.au.

¹ Australian Medical Workforce Advisory Committee (1998), Influences on Participation in the Australian Medical Workforce, AMWAC Report 1998.4, Sydney p61.

PETER G JONES ELECTIVE ESSAYS

Strongpela Man, Sik Pikinini (Strong Man, Sick Child)

BY MICHAEL ONG



MOTHERS AND BABIES AT SOPAS

'My father was shot by the white police. He jumped into the deep water, making the river a stream of blood. He took a rope and tied it around his leg to stop the bleeding, and then headed for the bush. We were all afraid. The second time the white men came I put on my traditional fighting dress and went to meet the white men. I told the women, "Don't cry". The white men fed me a plate of food and gave me a place to sleep. They buried the bodies of the dead and took me back to my place. I was appointed village magistrate and chief of both tribes. I acted as the voice of my people to the white men... They gave us new things like salt, sugar and matches. Now we have Western clothes, we no longer live in long houses, we are learning to speak English and we believe in the Lord Jesus. We are learning your ways—we are not primitive like we used to be...'

I HAD BEEN INVITED to stay as an honoured guest in a remote highlands village for a few days, being treated to the most selfless hospitality—sharing food, shelter and stories. And now I sat in amazement as this proud Chimbu man stood before me, relating in his own tongue his story of the first white contact with this village only six decades before: a tale of tragedy, a tale

of courage in the face of adversity, and also a tale of traditional first aid! At that moment I realised the extraordinary changes this man had experienced—upheavals in cultural practices, religion and society. It was with a tinge of regret that I began to understand the irreversibility of these ongoing changes and their impact on the lives of my new friends and the nation of Papua New Guinea (PNG) as a whole.

My decision to head to the New Guinea highlands for my elective placement was not made lightly. I saw it as a destination of great personal challenge and as an opportunity to contribute my basic but valuable medical skills. I was keen to compare the rural and indigenous health issues with those I had experienced while doing a BMedSc in the Northern Territory in 1998. I was also intrigued by the remoteness of the highlands and the cultural peculiarities of a developing country about which most Australians have only a superficial understanding, despite its close proximity to our shores. At the same time I was wary of the media reports coming out of the country: the rascal gangs, Bougainville troubles, widespread corruption, murder and rape. So it was with some trepidation that I stepped onto the tarmac and made my way to the shed-like structure with the rather generous title of Mt Hagen International Airport (its 'international' status achieved courtesy of a weekly connection to Cairns).

My first elective placement was at Goroka, formerly the administrative centre of the highlands but now more famous for its fabulous aromatic coffee than good governance. My initial intention was to spend some time at the Goroka Hospital operating theatre, hoping to get my itching medical student fingers (gloved!) onto neglected wounds in need of debriding and suturing. A peculiar sound, however, drew me to the paediatric ward. Was it the sound of a spluttering diesel mini-van in the street outside? Or perhaps the sound of the highlands women feverishly weaving their multi-coloured string billums? Upon arriving at the ward and being greeted enthusiastically by Austin & Repatriation Medical Centre alumnus and expatriate paediatrician, Trevor Duke, I was informed that the sound belonged to a dozen gasping infants in respiratory distress. My unfamiliarity with this sound could be explained by my fifth-year paediatrics experiences, in which all my attempts to make my way to the sickly children in the Royal Children's Hospital Intensive Care Unit were thwarted by marauding hordes of kids with Attention Deficit Disorder. Over the next six weeks, however, as I learnt more about child health in PNG, I was to develop into a useful part of the paediatric team: managing patients on twice-daily ward rounds, admitting the long queue of emergency cases that arrived at the ward every morning and doing basic procedures.

Trevor Duke's great dedication to the health of PNG highlands children has developed in response to the appalling state of child health in the country—statistics reflect absolutely no improvement in mortality over the last twenty years. This places PNG in the rather dubious company of Burma, Niger and Zambia. Most major diseases afflicting children in PNG are of infectious aetiology: pneumonia, TB, meningitis, measles, neonatal sepsis and malaria. Comprehensive vaccine programs that could potentially reduce infant mortality rates by more than 50 per cent remain a dream, stalled by inappropriately directed government funding and the frustrating inertia of Melanesian bureaucracy,



MICHAEL WITH AN ELDERLY
ENGAN WOMAN

which obstructs so many facets of PNG progress.

My second placement was at the isolated Sopas Adventist Hospital in Enga Province. Sopas provides an acute medical service to the people of the area and, with limited supplies, it also treats people from other parts of the highlands who are drawn by its reputation for having higher standards of nursing care than the regional government-run hospitals.

A ring of cyclone fencing demarcates the boundaries of the mission compound from

the surrounding land, the ownership of which has been disputed by the three local tribes for most of the past decade. Those elder men possessing the authority to call a truce between the tribes have all been killed in the fighting. Consequently, angry young men with memories too short to remember the basis of their dispute continue to roam the hills, armed with bush-knives and rifles.

With only two doctors working at Sopas, I found many ways to put my skills to good use. Mornings were spent assisting the surgeon in theatre—mainly emergency trauma and caesarean sections. We worked with great purpose reattaching half-severed limbs and debriding gunshot wounds, giving the rehabilitated patient his best opportunity to maim another poor soul in a similar manner. While the physician was away on leave, I was also thrust into the role of paediatrician and physician, cementing those paediatric fundamentals I had learnt at Goroka. The nursing staff instructed me on the concept of 'empirical therapy': ensuring that drowsy, febrile patients with suspected typhoid/malaria/meningitis/pneumonia received the time-honoured cocktail of chloramphenicol, quinine and amoxicillin. These patients either died or completely recovered within a week, leaving me none the wiser as to the true cause of their illness. At night, my otherwise restful sleep would be

interrupted by a late night phone call from the ward, 'Doctor, please come. The patient has arrested...' I would leap into my clothes and run up to the ward, only to arrive in time to inform wailing family members of the sad news. At times it was frustrating to be patching up holes while preventable injuries and diseases continued to occur.

Future public health problems for PNG relate to the effects of urbanisation, with law and order the most pressing current problem. While visiting a rural aid post, I was fortunate to meet the Federal Minister for Police (the rumour mill suggested that his job qualifications included a prior conviction for murder!). I was also disturbed by the attitude of the population to domestic violence. It remains difficult for me to reconcile my views when confronted by a culture in which many men treat their pigs better than their wives. One man assured me he was a 'merciful man' because he had been careful to slice his wife gently across her forehead, rather than wielding his two-foot-long bush-knife with a more damaging chopping motion. But domestic violence is not a one-way street—one junior doctor's tale of his own wife stabbing him during his morning paediatrics ward round was enough to ensure I kept well clear of the local women!

HIV is another topic that has gripped the PNG media. There are fears that HIV may spread to the predominantly rural population through the itinerants and unemployed youth of the major towns (up to 50 per cent of the Port Moresby general medical ward may be HIV positive). General understanding of HIV is poor—there are reports of villagers throwing trussed-up, HIV-positive family members over waterfalls. The challenge for future public health policy lies in educating an increasingly fractured society that is still coming to terms with altered social mores and the teachings of expatriate missionaries.

On returning to Australia, I no longer take for granted the personal freedoms we enjoy. I hope that in the future some of the junior doctors I met may also have a chance to visit Australia. I confess that I miss the colour, the clamour and the spontaneity of the highlands. I have learnt much from the unmatched hospitality of my New Guinean friends and regret that these aspects of PNG life do not receive the same press as the headline-stealing crime problems. Their great capacity for warmth and humour will ensure that PNG has every opportunity to develop into a harmonious Pacific nation.

Where East Meets West

BY ELIF EKINCI

THE PEOPLE OF Turkey are tremendously diverse, but all have some very Turkish characteristics in common: they drink tea, they are very sociable and they are passionate about their culture. The country is also very heterogeneous in its landscape, ranging from the dense, green forests of the Black Sea coastline, to the dry and arid southeast region, with its occasional caravanserais and the hip and touristy Aegean coastland.

I knew Turkey as the country in which I spent most of my childhood. I had returned every couple of years, but had never been there long enough to appreciate what it must be like to live there as an adult. I also wanted to see my ageing grandfather so I decided to spend my elective in Ankara, the capital of Turkey, and organised to go to Hacettepe Hospital, which I had visited when sick as a child.

The primary health care system as we know it is non-existent in Turkey, especially for people living in rural areas.



ELIF (RIGHT) WITH OTHER MEMBERS OF THE HOSPITAL'S STAFF

Kadriye, a fifty-five-year-old lady, was admitted for a large bowel obstruction caused by a rectal carcinoma. She had been experiencing problems defecating for over a year and had often passed blood. She lived in the Urfa, a town in the southeast of Turkey that has experienced much of the conflict between the Turks and the Kurds over the last twenty years. When I asked her why she hadn't seen any doctors, she shrugged her shoulders and said: 'No doctor wants to work in that region... The nearest doctor is an ancient man in another town four hours away. All that time, I thought I had haemorrhoids...'

The hospital had a number of organisational problems, particularly a lack of communication between the different departments. Kadriye was in hospital waiting for preoperative radiotherapy and two weeks went past without any definitive plans developing for starting radiotherapy. She had grown up in central rural Turkey and told me an interesting story about herself. She said: 'I was at the hammam (the Turkish bath) with my older sisters and my future mother-in-law saw me there for the first time. I was only seventeen then. The next week she brought her son and they came to ask for my hand in marriage. I didn't like the look of him and I didn't fall in love, but my parents married me off to him. We had three children. My husband is an army general. I grew to like him over the years. My children have grown up now. My daughters are teachers and my son is going to be an engineer. He is coming to visit me tomorrow. He is very handsome. You should see him; maybe I can come and ask for you to marry my son.' When I asked her if she was being serious, she said, 'Yes, I really think it is a good idea. I have been thinking about this ever since we met.' I made it very clear to her that there was to be no such thing, although she persisted and pleaded.

I grew up in Ankara, where arranged marriages are a thing of the past. However, just as the health status of rural Turkey has not changed in many years, neither have the social attitudes in some parts of the country. I was rather glad when my surgical rotation was over so I didn't have to see Kadriye with her son.

The doctors at Hacettepe were passionate about their jobs and really went out of their way for their patients. There are many social, economic and political problems in Turkey and life is very unstable, particularly after the earthquakes that hit a large part of the productive northwest in 1999, killing at least 20 000 people. Despite the political instability and the depressing conditions following the earthquake, the doctors have remained cheerful, positive and friendly to their patients.

I was also looking after Leyla, a female patient the same age as myself, and got to know her well during the week I was there. Diagnosed with acute myelocytic leukaemia (AML), she had been in hospital for over four months. Leyla was a fine arts student, studying the history of the Kilim (handwoven Turkish rugs) in Rize, on the Black Sea coast. She told me much about herself—about growing up and the games she had played as a child—which brought back many memories of my own childhood.

During my week with Leyla, her condition became much worse. She had constant rigors and developed cardiac failure from hyperdynamic circulation and anaemia, but what struck



ENJOYING HERSELF WITH MEMBERS OF HER EXTENDED FAMILY, ELIF (WEARING GLASSES) IS SEATED IN FRONT OF HER GRANDFATHER

me most was that she was never told she had very little time left to live. Her mother knew her daughter was soon going to die, but couldn't tell her because it would 'devastate her too much'. On the eve of the Ramadan break, I said goodbye to them. It was the last time I saw them and Leyla died the next night.

It was snowing when I left the hospital, the imam was singing the Ezan, calling all Muslims for prayer, and I was very sad about Leyla. I assume she must have kept hoping up until she died that the nightmare would soon be over. Later I thought, 'What if that had been me in there? Wouldn't I have wanted to know?'

I recognised there were fundamental differences in the way Leyla and I had lived our lives. In Turkey, individual rights don't seem to matter as much. The general attitude is: it is not your right to live, you are lucky to be alive; you can't just live the life that suits you, you would be too selfish if you did that. When it comes to matters of health, doctors are there to make decisions on your behalf. Many patients don't know or don't understand their diagnosis. Even if they want to know, their relatives try to protect them from knowing what is wrong, especially if they are diagnosed with cancer.

Overall, my elective was fantastic. I enjoyed learning more about the Turkish language and culture, remembering parts of my childhood and visiting my old house and the streets I played in as a child. I spent time with my relatives and met the new members of my extended family—the husbands and wives and the gorgeous children—as well as my elderly grandfather.

Professionally, I really enjoyed being part of a different health system. My elective gave me the opportunity to reflect upon the importance of educating patients about their condition and their options for treatment, and about making decisions with patient involvement. I came back to Australia grateful for the experience and eager to learn more in my new country.

GRADUATES, PRIZES AND AWARDS

School of Medicine Graduates 2000

Bachelor of Medicine (1862) and Bachelor of Surgery (1879)

Eseta Susana Akers, Marino Alexopoulos, Ahmed Ghazi Alwan, Brooke Calliopi Velda Anderson, Himali Lakmini Thanuja Athuraliya, Mark Edwin Badcock, John Richard Reiss Beer, Fiona Elizabeth Benson, Fiona Marguarite Best, Debra Maree Blackmore, Edith Bodnar, Sybil Jean Borthwick, Darren Scott Boulton, Sarah Elizabeth Bowen, James Alexander Boyd, Andrew Reuben Braun, Carolyn Mary Breadon, Sarah Katrina Brennand, Michelle Josephine Butler, Nicholas David Lewis Calver, Shyh Jye Franklyn Chai, Carol Chaivachirasak, Fiona Yih-Ling Chan, Ken Ka Cheong Chan, Cathy Chang, Elena Chernova, Arthur Yin Sau Cheung, Grace Li Ling Chew, Andrew Chiew Meng Chia, Ty-Ron Ching, Yi Chiong, Shereen Ch'Ng Suyin, Terence Woon How Chong, Jason Choo Chon Jun, Pei-Yu Chu, Eric Kang Yuen Chung, Anthony David Clough, Matthew William Coghlan, Benjamin Luke Constance, Jonathan James Cook, Ben Delaney, Thuy Trong Dinh, Sophie Edwina Donnison, Zdenek Dubrava, Philip Ellard Dundee, Elif Ekinci, Timothy Ross Elliott, Rosemary Victoria Field, Kristina Louise Flego, Christina Soo Ling Foley, Fung-Yee Foo, Michael Chung Hua Fung, Siau-w Chin Susan Fung, Johan Gani, Edward Mark Giles, Emily Felicity Girdwood, Remy Joshua Glowinski, Huay-ye Goh, Robert Gotmaker, Karen Hsueh-Ling Gwee, Mustafa Mutlu Haksoz, Alexandra Stephane Henry, Claire Catherine Hindmarsh, Frank Shih-Ping Hong, Kylie Catherine Horne, Andrew Yanqi Huang, David Ip, Benjamin Matthew Jacobson, Kokum Sankya Jayasinghe, Brindha Jeremiah, Natalie Anne Johnston, Por Han Kang, Kirk Keh Huat Kee, Christian Benjamin Kenfield, Samuel James Kennedy, Richard James Keuneman, Charles Chul-Han Kim, Jen Moore Kok, Christine Kotsios, Teck-Hong Kuik, Celia Shin-Ling Kuo, Nani Indriati Kuswanto, Lam Choong Weng, David Hiu-Fung Lam, Simon Kin Loong Lam, James Puong Tai Lau, Matthew Lau Sie Kuei, Michael Tat-Sing Law, Joseph Chung-Shek Lee, Yee Lin Lee, Yee Wah Lee, Fenny Leong, Matthew Hon Yew Leong, Avi See-Yan Leung, Lim Chin Wei, Ching Sung Lim,

Shueh-Wei Lim, Jennifer Ya-Ying Lin, Lee Fong Ling, David Thomas Tylden Love, Keith Lu, Kevin Stewart Lui, Vivek Malipatil, Steven Marasovic, Monique Narelle Mason, Adam Geofferey Masters, Sarah Louise McClusky, Rebecca Edgeworth McIntyre, Ben Andrew Mckenzie, Alistair Russell Miller, Biswadev Mitra, Michelle Peh-lin Mok, Sara Kate Moodie, Amir Nekoe Naeiene, Bradley Phillip Newell, Choong Kwang Mark Ng, Steven Yik-Ping Ng, Lisa Nguyen, Sarah Nguyen, Thanh Tan Nguyen, Niroj Lalendra Michael Obeyesekere, Jason Weng-Chuang Oh, Chee Kheong Ooi, Chee Yee Ooi, Shu-Haur Ooi, Ponnaren Pak, Janthorn Pakdeethai, Deena Mary Parbhoo, Mark Adam Petris, Vincent Phua Chee Ee, Sekhar Cyril Pillai, Rebecca Bronwyn Quake, Joyce Yin-Leng Quan, Matthew William Roberts, Nicole Claire Robins-Browne, Rohit Sawhney, Benjamin Paul Sheridan, Martin Allan Short, Simon Martin Smith, Soong Yoke Lim, Luke Alleine Spencer, Kymble Martin Spriggs, David Benjamin York Syme, Michael Tan, Yung Khan Tan, Duy Minh Thai, Georgina Elizabeth Thomas, Lara Joanne Tickell, Ting Sing Shing, Adrian Robert Tramountana, Bryan Ming-Siong Wai, Salena May Ward, Peter Ross Watson, Benjamin Ping-Chou Carson Wei, Audi Belmondo Widjaja, Limin Wijaya, Amy May Wong, Anne Swee Wong, Eugene Seng Leong Wong, Jyi-Lin Wong, Michael Mun-Keong Wong, Phillip Wong, Renee Chi-Chin Wong, Yek Choo Yin, Alison Tsing-Wan Yeung, Michelle Karen Yong, Kevin Young, Xavier Kwok-Fai Yu, Farhat Zarei

Bachelor of Medicine and Bachelor of Surgery with Honours (1997)

Wai Pheng Alicia Au, Logan Dennis Bittinger, Gaby Blecher, Christie Emma Bolch, Carol Pei Wei Chong, Amy Claire Cohn, Belinda Kate Dakic, Jonathan David Darby, Michael James Desmond, Heather Marion Francis, Helen Michelle Garrott, Kerryn Ruth Gijsbers, Tamarra Lynne Greaves, Peng-Yun Angela Huang, Samuel Christopher Hume, Susan Ilic, Celia Mabel Kemp, Caroline Alice King, Dominic Fook Ann Lee, Randal Leung, Beng Liam Lim, Yun Fan Lu, Lachlan Robert McIntyre, Campbell James McKellar, Samuel Irwin Norden,

Christine Joyce O'Neill, Eugene Justin Shyong-Kyon Ong, Katherine Adele Scott, Mark Andrew Steven, Valerie Sung, Shiin-Yun Yvonne Tan, Sze Chih Tan, Andrew Wei-Ming Teh, Timothy David Walker, Cameron Robert Wolfe, Natalie Yang, Eppie Mildred Yiu

Bachelor of Medical Science (1967)

Kylie Catherine Horne

COMBINED COURSES

Bachelor of Medicine and Bachelor of Surgery and Bachelor of Medical Science

Marcus Say-Kien Foo, Michael Wei-Jeg Hii, Michael Alfred Ong, Alan Huy Pham, Merryn Lillian Redenbach, Peter Todd Santos, Stephen Edward Thwaites

Bachelor of Medicine and Bachelor of Surgery with Honours and Bachelor of Medical Science

Linda Julie Bingham, Jason William Galanos, Sue Yen Michelle Goh

Bachelor of Medicine and Bachelor of Surgery and Bachelor of Arts

Carolyn Mary Breadon

Bachelor of Medicine and Bachelor of Surgery and Bachelor of Arts (Degree with Honours)

Emma Kowal (History)

Bachelor of Medicine and Bachelor of Surgery and Bachelor of Music with Honours

Jane Elizabeth Brown

MASTERS DEGREES

Master of Clinical Audiology (2000)

Leonie Maree Fewster, Alexander Gournalik, Danielle Maree Hartland, Eric Henry Hodgens, Lisa Thy Hue, Mary-Ann Law, Caroline Jane Ling, Emma Louise May, Lisa Gaye McCormick, Katrina Frances McInnes, Nicholas Joseph Modrovich, Michelle Dominique Moreira, Fiona Jane Power, Linda Catherine Reeves, Michelle Szelezynger, Sylvia Tari, Geraldine Marina Todd

Master of Health Sciences (1997)*Infant and Parent Mental Health*

Mary Frances Brown, Mary Robinson,
Pauline Carol Sampson

Master of Medicine (1983)

Alan Frederick Bredahl

Palliative Medicine

Peter Martin

Paediatrics

Jaya Krishnan Govindan, Thinh Xuan
Ho, Nirmala Kandasamy,
Xiaoquin Liu

Psychiatry

Enrico Cementon, Paul Maurice Collier,
Vlado Edward Gojak, Grant Adrian
Lester, Fathimath Nashida, Jennifer
Jayne Torr

Master of Public Health (1997)

Laura Maria Dana Baltutis, Daphne Bate

Epidemiology

Resa de Jesus, Jie Li, Peter Douglas
Ritchie, Mary Vasiliadis,
Pham The Vinh

Epidemiology and Biostatistics

Alison Frances Amos, Adrian James
Cameron, Michael Bryan Creati, Iain
Kilpatrick Robertson, Trang Vu

Health Program Evaluation and Health Economics

Theresia Ronny Andayani, Andrew
Noyes Boyden, Bernadette Therese De
Graaff, Patrice Joy Higgins, Prarthna
Janarthanan, Stefanus Lawuyan, Tracy
Lyn McNeair, Andre Masumbuko Nzunzu
Renzaho, Rosa Lea Schattner, Bernard
Tomas, Kitty Kit Fong Wong

Master of Surgery (1885)

David Leigh Bird, David Elwin De La
Harpe, Rizwan Ahmad Mian,
James Tatoulis

Master of Women's Health (1995)

Gabrielle Mary Buick, Patricia Laura
Hannigan

DOCTORATES

Doctor of Philosophy (1948)*Anatomy and Cell Biology*

Kathleen Janis Burman, Maria Inawati
Nataatmadja

Biochemistry and Molecular Biology

Michael Frederick Bailey, Ping Fu, Peter
Maroudas, Scot James Matkovich, Chun-
Ming Benjamin Peng, Richele Kim
Rasmussen, Ling Zhao

General Practice and Public Health

Debbie Carie Yarmo

Medical Biology

David Raymond Aldridge, Aphrodite
Freda Barbayannis, David John Curtis,
George Hausmann, Karin Marie Innes,
Anne Margaret Johnston, Andrew
William Mckenzie, Kim Newton, Clare
Louise Scott, Helen Elizabeth Thomas,
Kenneth Daniel Winkel

Medicine

Russell Bertram Auwardt, Peter Alan
Barber, Tanya Burazin, Bridget Emily
Busuttill, Yotin Chinvarun, David Robert
Clouston, Jonathan Gustave Arrott
Dartnell, Clive Sherwin D'Santos,
Michelle Gina de Silva, Helen Margaret
Dewey, Nicole Kim Farina, Sharon Linda
Grant, Yung Van Ho, Nicole Joy
Horwood, Olga Kanitsaki, Sharon Lee
Keeling, Tee Fern Khong, Yan-Qing Li,
Thomas Luft, Paul Robert McCrory,
Julie Frances McManus, Stuart James
Mudge, Kim Newton, Stella Lore
O'Connell, Neil Owens, John-Phillip
Parisot, Eugenia Pedagogos, Katherine
Piazis, Stephen John Read, Doreen
Sarsero-Covelli, Nurjati Chairani Siregar,
Paul Baden Sparks, Barbara Michelle
Shute-Alderman, Chau Phuc-Ngan Tran,
Nicholas John Wilson, Richard Lewis
Young, Sherif Youssef

Microbiology and Immunology

Vicki Athanasopoulos, Cindy Maree
Baulch-Bown, Xianlan Cui, Caroline Jane
Hughes Dale, Damien Robert Drew,
Jacinta Louise Farn, Travis Heath Grant,
John Stenos, Zareen Yameen

Obstetrics and Gynaecology

Debra Ann Gook

Ophthalmology

Liubov Robman

Otolaryngology

Christie Huang, Karyn Louise Galvin,
Julia Zoe Sarant

Paediatrics

Martin Bruce Delatycki, Josephine
Maree Forbes, Emily Venetta Howman,
Paul Joseph Lockhart, Francesca Angela
Mercuri, Kumaran Narayanan, Susan Jill
Ramus, Huseyin Mustafa, Iswari
Setianingsih, Michael Basil Theophilos

Pathology

David Robert Clouston, Jeannie Ann
Javni, Paul Joseph Neeson, Catherine
Mary Sicurella, Peck Szee Tan, Victor
John Turnbull

Pharmacology

Grant Raymond Drummond, Justin
Raymond Hamilton, Lee Naylor, Doreen
Sarsero-Covelli, Orapin Wongsawatkul

Physiology

Damien James Angus, Justine Amanda
Ellis, Angela Margaret Reilly, Renato
Salemi, Zhanli Yin

Surgery

Cameron Johnstone, Diana Adele
Lepore, Mark Rohan Patrick,
Anjali Tikoo

Women's Health

Heather Jean Rowe Murray

Doctor of Medicine (1862)

David Stuart Armstrong, Russell Lindsay
Basser, Julie Elissa Bines, Mark James
Cook, Peter Anderson Dargaville, Peter
Gibbs, Robert Norman Gibson, Paul
John Gow, Terence John O'Brien, John
Henry Olver, David Norman O'Neal,
Ching Swee Ong, John Daniel O'Sullivan,
Alistair George Royse, Colin Forbes
Royse, John Alastair Storrs

ADMISSION TO AN
HONORARY DEGREE**Honorary Doctor of Medicine**

Colin Ivor Johnston AO

DIPLOMAS GRANTED

Graduate Diploma in Adolescent Health and Welfare

Kathryn Louise Allen, Clare Anne
Barrett, Deborah Anne Blackley,
Miffanwy Margeret Bowen, Patricia Ruth
Broom, Ian James Cooper, Anne Therese
Crowe, Gregory Ronald Davies, Katrina
Grace Davies, Janet Anne Di Pilla,
Sharon Lesley Dixon, Timothy Edwards,
Nicole Leanne Fisher, Peter John
Fotheringham, Rosanna Chiarina
Ganassin, Kenna Louise George, Sharon
Joy Gillett, Barbara Robyn Evan Glover,
Renee Leslie Grapentin, Kate Grayham,
Meaghan Louise Holmes, Judith Anne
Humberstone, Margaret Jewell, John
Anthony Kalka, Andrea Krelle, Gerard

Michael Lambourne, Nerys Wynne Lewis, Rhonda Jane Lewon, Leonie Elizabeth Lockwood, Sandra Rosalind McCrum, Dianne McFall, Karen Anne Meyer, Katalin Michael, Christine Elizabeth Neate, Stuart James Nicolson, Frances Christine O'Brien, Alison Louise Obst, Christine Paraskeva, Teena Pavlatos, Susanne Louise Prosser, Heather Margaret Ramp, Terence James Reilly, Clare Elizabeth Renton, Samantha Michelle Riddle, Helen Rimington, Anne Maree Robertson, Penelope Dawn Shannon, Richard Allen Simms, Sarah Francesca Robinson-Wells, Peter Francis Rubira, Claire Maree Russell, Erin Mary Shale, Iva Angela Steinke, Susan Monica Stevens, Tracee Tromp, Sally Anne Trumble, Suzanne Margaret Warner, Andrew Clive Robert Watson, Margot Hope Annette Westhorpe, Narelle Sue Wickham, Narelle Joan Wilkins, Diane Holly Wright

Graduate Diploma in Audiological Science

Dianne Louise Bell, Leonie Michelle Black, Jacqueline Lee Cook, Rebecca Farrell, Suzanne Edith Ferris, Asheesh Gupta, David Michael Johns, Rebecca Devorah Levin, Mary Mpouzmpas, Tracy Neistat, Ioannis Nikolarakos, Voula Panayiotis, Katarzyna Grazyna Pawlik, Dominic Peter Power, Craig Malcolm Thompson, Rebekah Sophia Vaiopoulos, Nancy Vlachokyriakos, Alexandra May Weatherby, Sarah Brooke Young

Graduate Diploma in Child Health

Dianne Maree Basser, Rita Mary Beninati, Tandy Elizabeth Hastings-Ison, Elaine Margaret Inniss, Suzi Lightfoot-Brown, Sheena Mary McKendrick, Wendy Mendes, Gabriella Angela Peroni,

Angela Therese Storer, Leonie Mary Symes

Graduate Diploma in Drug Evaluation and Pharmaceutical Sciences

Giulio Barrese, John Joseph Bower, Helen Firfilionis, John Basil Kurek, Nadia La Greca, Chandramouli Radhakrishnan, Katharine Madeleine Terkuile

Graduate Diploma in Epidemiology and Biostatistics

Sarah Margaret Agius, Kelly Marie Allen, Diane Barbis, Rebecca Louise Barnes, Elisa Maree Becker, Christopher Milne Bolton, Laima Brazionis, Dianne Elizabeth Brown, Graeme Campbell Brown, Andrew Donald Cochrane, Ashley Scott Richard Fletcher, Raeleen Marie Fletcher, Harriet Hiscock, Sam Korn, Ruth Helen Leibowitz, Timothy Charles Lightfoot, Paul Robert McCrory, David James McGaw, Anne Catherine Murphy, Vincent John Murphy, Aston Yiu Leung Wan, Dean Christopher White, Craig Williams

Graduate Diploma in Genetic Counselling

Angela Gai Arnold, Janis Boyd, Joanne Michelle Burke, Fiona Louise Cooke, Elizabeth Jane Cooper, Jacinta Marie Devitt, Rebecca Jane Doherty, Amanda Jane Hale, Anna Henry, Janet Margaret Hodgson, Sandra Lee Timbrell, Sandra Kathaleen van Leith

Graduate Diploma in Mental Health Sciences

Child, Adolescent and Family Mental Health
Anthony Daniel Freeman, Jeanette Eileen Pine, Deborah Stoneman, Nicole Marie Tokatlian

Clinical Hypnosis

Sharon Mary Anderson, Margaret Anne Garde, Gideon Menashe Korman

Cognitive Behavioural Therapy

Diane Helen Abbott, Yvonne Marcelle Schroder

Community Mental Health

Megan Lawrence Davis, Sue Hamilton Durham, Leanne Gretgrix, Anh-Thu Nguyen, John Gregory Wollin

Infant and Parent Mental Health

Janice Twentyman

Transcultural Mental Health

Tuong Quang Nguyen, Natalie Storti

Young People's Mental Health

Derek Brownhill, Allan Gilbert Colthart, Ruth Margaret Connor, Eva Pauline Goes, Vicki Marie Green, Patricia Mary Hunter, Kim Karathanasis, Annie Lucy McHugh, Lisa Margaret Pappin, Amanda Savle, Judi Lyn Smith

Graduate Diploma in Women's Health

Margaret Teresa Harris

Postgraduate Diploma in Palliative Medicine

Richard I'Anson Alexander, Helen Elvina Beveridge, Mark Boughey, Adrian Dabscheck, Michelle Lesley Gold, Ian Douglas Grant, Deidre Anne McAlpine, Catherine Linda Miller, Peter Stuart Moore, Robin Richard Moreton, Ann Frances Mullins, Wendy Ochtman, Susan Margaret Robertson, Kathleen Rosley, Jennifer Joy Schlager, Andrew Scott Macgregor Skeels, James Andrew Thomson

Prizes and Awards 2000

FINAL YEAR

The Alfred Edward Rowden White Prize in Clinical Obstetrics
Yun Fan Chris Lu

AOA (Vic) Orthopaedic Prize
Samuel Christopher Hume

Australian Medical Association Prize
Michelle Sue Yen Goh

Beaney Scholarship in Surgery
Michelle Sue Yen Goh

Clara Myers Prize in Surgical Paediatrics
Chee Yee Keith Ooi

Edgar & Mabel Coles Prize in Obstetrics
Celia Mabel Kemp

E H Embley Prize in Anaesthetics
Mark Andrew Steven

Howard E Williams Prize in Paediatrics
Eppie Mildred Yiu

Keith Levi Memorial Scholarship in Medicine
Michelle Sue Yen Goh

Jamieson Prize in Clinical Medicine
Michael James Desmond

John Cade Memorial Medal in Clinical Psychiatry
Kerryn Ruth Gijsbers

The Novartis Prize
Michelle Sue Yen Goh

The Pharmacia and Upjohn Award in Clinical Pharmacology and Therapeutics
Jyi-Lin Wong

Prize in Clinical Gynaecology
Michelle Sue Yen Goh

Proxime Accessit Prize in Surgery
Michael Tat-Sing Law

The RACGP Prize in Community Medicine
Sophie Edwina Donnison

Robert Gartly Healy Prize in Medicine
Jason William Galanos

Robert Gartly Healy Prize in Obstetrics
Sze Chih Jason Tan

Robert Gartly Healy Prize in Surgery
Michelle Sue Yen Goh

Rowden White Prize
Michelle Sue Yen Goh

Sir Albert Coates Prize in Infectious Diseases
Michelle Sue Yen Goh

Smith and Nephew Prize in Surgery
Emily Felicity Girdwood

FIFTH YEAR

General Practice and Community Medicine Prize
Johnny Stuart Halliday

Crawford Mollison Prize in Forensic Medicine
Jessica Alice Kneebone

The Fulton Scholarship
Jillian Tomlinson

The Kate Campbell Prize in Neo-Natal Paediatrics
Amy Zigrida Gray

The Max Kohane Prize
Peter Graham Kelley

Ian Johnston Prize in Reproductive Medicine/Biology
Michael Terk-Chuen Mok

The Vernon Collins Prize in Paediatrics
Amy Zigrida Gray

The John Adey Prize in Psychiatry
Amy Zigrida Gray

Child Growth and Development Study Prize
Paul Richard Northway

FOURTH YEAR

The Harold Attwood Prize in Pathology
Bruce Campbell

Geriatric Medicine Prize
Lloyd Roberts

Manu Thomas Prize
Amy Crosthwaite

Robert Yee Prize
Remi Kowalski

THIRD YEAR

Boots Prize
Tse-Chieh Teh

Glaxo Prize in Microbiology
Piers Blombery

Walter and Eliza Hall Exhibition
Paul Paddle

FIRST AND SECOND YEAR

The implementation of the new curriculum has meant that prizes for first and second year students have yet to be confirmed. Full announcement of the 2000 and 2001 prizes for students undertaking the new curriculum will be announced in the next issue of *Chiron*.

Dean's Honours List 2000

FIRST YEAR

Victoria Cox
Cameron Fairbrother
Andrew Hardley
Andrew Harrison
Angus Husband
Joseph Isac
Lucy Modra
Om Narayan
Katherine Nelson
Ching Hui Ng
Kirsten Scott
Stephanie Tang
Agnieszka Warchalowski

SECOND YEAR

Melanie Chen
Adam Cichowitz
Harriet Gee
Emma Goeman
Thai Phuoc Hong
Katherine Mendra
Shereen Oon
Ie-We Sim
Christina Wong
Bernadette Young

THIRD YEAR

Ju Pin Ang
Laurel Bennett
Piers Blombery
Anne Dawson
Andris Ellims
Alexander Incani
Naseem Mirbagheri
Meena Mittal
Paul Paddle
Gaurie Palnitkar
Tse-Chieh Teh

FOURTH YEAR

Bruce Charles Vivian Campbell
Arun Chandhu
Katherine Y H Chen
Amy Ashton Crosthwaite
Melissa Rae Garbutt
Jonathan Rael Golshevsky
Ingrid Ruth Horner
Jessica Anne Howell
Remi Roch Kowalski
Gene-Siew Ngjan
Yee Jen Tai
Wai Yin Tam
Fiona K Wilde

FIFTH YEAR

Naomi Siobhan Anderson
Amy Zigrida Gray
Johnny Stuart Halliday
Neil Israelsohn
Jessica Alice Kneebone
Maree Elizabeth Micallef
Sant-Rayn Singh Pasricha
Gabriel Lee Snyder
Jillian Kaye Tomlinson
Carley Barbara Vuillermin
Andrew James Weickhardt

SIXTH YEAR

Wai Pheng Alicia Au
Michael James Desmond
Heather Marion Francis
Jason William Galanos
Helen Michelle Garrott
Michelle Sue Yen Goh
Samuel Christopher Hume
Susan Ilic
Beng Liam Lim
Mark Andrew Steven
Eppie Mildred Yiu

Final Year Top Student 2000



MICHELLE SUE YEN GOH

MICHELLE SUE YEN GOH was the top student in 2000. She was awarded a First Class Honours MB BS degree, the Australian Medical Association Prize, The Novartis Prize and the Rowden White Prize. Michelle gained First Class Honours in Medicine and Surgery, and won the Keith Levi Memorial Scholarship in Medicine, the Beanev Scholarship and Robert Gartley Healy Prize in Surgery, the Sir Albert Coates Prize in Infectious Diseases and the University Prize in Clinical

Gynaecology. In addition, Michelle won the Herman Lawrence Prize in Clinical Dermatology and the Royal Australasian College of Ophthalmologists Prize, as well as the Michael Ryan Scholarship and Peter Ryan Prize in Surgery at St Vincent's Hospital, and the Sister Christina Welsford Prize in Haematology. Michelle was also top student in her fourth year, when she was awarded the Manu Thomas Prize by the University.

Michelle was born in Malaysia, the second of three children, and spent most of her childhood and school days in Kuala Lumpur. Her parents, university professors of organic chemistry (father) and inorganic chemistry (mother), had strong links

with Australia having worked for extensive sabbatical periods at the Australian National University and at Monash University. Australia was a familiar place, therefore, when Michelle won a boarding scholarship to the Methodist Ladies College in Melbourne, where she spent her VCE years, before entering the School of Medicine at the University of Melbourne.

During her undergraduate years, Michelle has achieved her impressive academic record with apparent ease. She spent her clinical years at St Vincent's Hospital & Geelong Hospital Clinical School, where her charm and unfailing good humour have endeared her to all. She has a strong intellectual curiosity, and greatly enjoyed her BMedSc year when she worked on Interleukin-4 Action on Multi-Drug Resistance in Leukaemic Cells, under the direction of Associate Professor Frank Firkin at St Vincent's Hospital.

As well as her great enthusiasm and aptitude for clinical work, Michelle has maintained her cultural and sporting activities throughout her undergraduate career. She plays the piano and violin, sings in the church choir, reads voraciously, loves travel, and (YES!) even supports the Richmond Football Club!

Michelle greatly values the companionship and support of her colleagues, and has enjoyed her clinical years. She is currently working as an intern in St Vincent's Hospital and has not yet decided upon a definitive career path, though medical specialties such as gastroenterology and haematology, as well as dermatology and ophthalmology, are particular favourites. She would like to combine clinical and research work, and will undoubtedly make an outstanding contribution to whichever discipline she chooses.

Jacqueline Walters
St Vincent's Hospital Clinical School

STUDENTS VOTE FOR EXCELLENCE

Medical students greeted the announcement of the 2000 Excellence in Teaching awards for the School of Medicine with warm acclaim. Presented with their awards on 26 February 2001 were Professor Trefor Morgan from the Department of Physiology (First Year), Associate Professor Tony Goodwin from the Department of Anatomy and Cell Biology (Second Year), and Associate Professor Stephen Farish from the Department of General Practice and Public Health (Third Year). Associate Professors Goodwin and Farish received the award for the second year in succession.

Making the presentations, Associate Professor Susan Elliott and Professor Richard Larkins noted the high quality of the University's teaching staff and that the award was one way for students to recognise some of their best teachers. The awards are based on a ballot in which students in the first three years of the medical course have an opportunity to nominate their best teachers. Students were told that excellence in teaching could be demonstrated in a number of ways but, whether as lecturers, tutors or demonstrators, good teaching should be directed to helping students learn.



L-R: ASSOCIATE PROFESSOR STEPHEN FARISH, PROFESSOR TREFOR MORGAN AND ASSOCIATE PROFESSOR TONY GOODWIN AFTER RECEIVING THEIR EXCELLENCE IN TEACHING 2000 AWARDS

Minutes of the UMMS Annual General Meeting 2000

The annual general meeting of the University of Melbourne Medical Society (UMMS) was held at 7.00pm on Tuesday 13 July 2000, in the Sunderland Lecture Theatre, Medical Building, the University of Melbourne. The meeting followed the Dean's Lecture entitled *Bridging psychiatry & the humanities*. This was delivered by Professor Sidney Bloch, Department of Psychiatry, St Vincent's Hospital and Adjunct Professor, Centre for the Study of Health and Society.

1. Minutes of the Annual General Meeting 1999

The minutes of the 1999 Annual General Meeting, circulated at the meeting, were adopted as a fair record of proceedings.

2. Chairperson's Report

It was noted that the UMMS Committee had decided to introduce free UMMS membership, owing to the increasing cost of administration of a fee and the introduction of the GST. The Committee had decided it would be preferable to encourage donations to School of Medicine activities. The response to date had been encouraging and it was hoped that the free membership would encourage more members, particularly from overseas.

Congratulations were extended to Ms Liz Brentnall and Dr Janet McCalman, Editors of *Chiron*, for an excellent 2000 edition.

The School of Medicine and UMMS recorded their special appreciation and thanks to the Medical Defence Association of Victoria for their continued generous support of *Chiron*.

Congratulations were extended to Dr Jenny Conn and Ms Angela Stephens for another two excellent editions of *The Melbourne PostCard*.

The UMMS Bachelor of Medical Science Prize for 1998 was awarded to Jason William Galanos for his study entitled *Fabry's Disease in Australian Patients: medical review, cardiac, peripheral, neurologic and ophthalmic evaluation and patterns of x-inactive in symptomatic and asymptomatic carriers*.

There were three recipients of the Peter G Jones Elective Essay Prize in 1999. Prizes went to: Karen Donaldson for her essay *In the eye of the beholder*, Joanna Lenaghan for her essay *In the year that the short rains didn't come*, and Kasha Singh for her essay *My*

Indian elective. Karen Donaldson and Kasha Singh's essays are published in the 2000 issue of *Chiron*.

The annual UMMS Lecture was delivered by Professor Peter McPhee, entitled *Pansy: Roy Douglas Wright (1907-90)*. The lecture was well attended and has been published in this year's *Chiron*.

The Dean's Lecture Series continued successfully in 1999 and concluded with the annual seminar entitled: *Debates in human genetics: the brave new world of genetic testing* convened by Professor Richard Smallwood. A report of the seminar was published in the 2000 issue of *Chiron*.

Members were reminded of the final presentations in the Dean's Lecture Series for the year, which included the ethics seminar on Friday 21 July 2000—*Who owns your body? An ethics committee in action* and the 36th Halford Oration on Tuesday 8 August 2000, to be given by Professor Fiona Stanley entitled *The changing face of epidemiology*.

Forthcoming events for the year included a co-sponsored lecture by the AMA (Vic Branch), Faculty of Medicine, Monash University and the Faculty of Medicine, Dentistry and Health Sciences, the University of Melbourne entitled *Female, Fairness, Favour and Family: perspectives on achieving success and balance in the working lives of medical women*. The annual UMMS Lecture was scheduled for later in the year, members were advised that they would receive the details in the October edition of *The Melbourne PostCard*.

Membership of UMMS at the end of 1999 was 2148.

It was noted that the School of Medicine was currently in the second year of the successful implementation of the new curriculum.

3. Financial Report

The Financial Report, for the twelve months ending 31 December 1999, was circulated and showed a surplus of \$13 930 compared to a surplus of \$7843 in the previous year.

The budget balance at the end of 1999 was \$90 756. A motion to accept the financial report was carried.

There being no further business, the meeting closed at 7.15pm.

NOTICE OF UMMS ANNUAL GENERAL MEETING 2001

The Annual General Meeting of the University of Melbourne Medical Society (UMMS) will be held at 7.00 pm on Tuesday 26 June 2001 in the Sunderland Lecture Theatre, ground floor of the medical building, the University of Melbourne, Parkville. The meeting will be preceded by the Dean's Lecture in which Professor Mark Cooper, Professor of Medicine, Department of Medicine, Austin & Repatriation Medicine Centre—Repatriation Campus, will deliver a lecture entitled *Diabetic complications—more than just sugar*.

Agenda

1. Minutes of the 2000 Annual General Meeting
2. Chairperson's Report
3. 2000 Financial Report
4. Election of Committee, 2001-2004

Nominations are called for the election of six (6) members of the UMMS Committee for 2001-2004 and close on Tuesday 19 June 2001. In accordance with section 7.3

of the constitution, any two members may nominate, in writing, addressed to the Honorary Secretary at least seven days before an Annual General Meeting, any other member or members to fill vacancies on the Committee. The consent of each person so nominated must be submitted in writing.

The following six retiring members of the Committee are proposed for re-election:

- Dr Andrew Rothfield
- Mr David Westmore
- Dr Lorraine Baker
- Dr Thomas Kay
- Mr Michael Wilson
- Dr Barbara Goss

If more nominations are received than vacancies available, then an election will be held at the meeting.

5. General Business

UMMS 1999 BMedSc Prize

DAVID SEBASTIAN WILLIAMS

For his study entitled *A Single Amino Acid Polymorphism Influences the Repertoire of Peptides Presented by Subtypes of HLA-B44 that are Discriminated Between by Alloreactive Cytotoxic T Lymphocytes*

HLA molecules are receptors for peptide antigen that is recognised by T lymphocytes during an immune response. Class I HLA molecules present peptides to CD8 +ve cytotoxic T lymphocytes (CTL) that are critical for elimination of viruses but which also mediate cellular damage in transplantation rejection. HLA B*4402 and B*4403 differ only at amino acid (a.a.) 156 of the class I heavy chain (Asp_Leu). Although these alleles are very similar structurally, clinical mismatch between these HLA genes evokes a strong alloresponse. The structural basis of this powerful immune response is not understood. Molecular modelling suggests that the side chain of a.a. 156 is orientated into the peptide binding cleft, hidden from the T cell receptor. Therefore, one explanation for the observed alloreactivity between individuals mismatched for B*4402 and B*4403 is preferential binding of a different set of peptides by these B44 subtypes. These putative peptide differences could then provoke T cell responses. However, previous studies have not revealed any such differences in the peptides bound by B*4402 versus B*4403.

An aim of this study was to compare more comprehensively the peptide repertoire of HLA-B*4402 and HLA-B*4403. Hence these molecules were immunoaffinity purified and the HLA-bound peptides were eluted. These peptides were fractionated by Reversed Phase - HPLC and analysed by MALDI-TOF Mass Spectroscopy, a high resolution technique for analysing individual peptide species in a complex mixture. Considerable overlap was observed in the peptide repertoire of HLA-B*4402 and HLA-B*4403. Interestingly, a number of peptide species were more abundantly associated with one or other HLA-B44 subtype, whilst certain species were only detected in the fractionated peptides from one B44 subtype and were not

detected in the other subtype. Some of these peptides were sequenced by Mass Spectroscopy. Disparity between the range of peptides presented by these two HLA-B44 subtypes is likely to contribute to the observed alloreactivity across this mismatch since peptide ligand is a major focus of T cell receptor recognition.

A prototypic alloreactive CTL clone that discriminates between the B*4402 and B*4403 subtypes is called LC13. LC13 expresses a commonly occurring T cell receptor that is specific for the Epstein Barr Virus peptide FLRGRAYGL presented by the HLA-B8 class I molecule, and is also alloreactive against HLA-B*4402, but not HLA-B*4403. This exquisite fine specificity of the LC13 CTL clone is typical of many alloreactive T cells and suggests that a unique endogenous peptide might play a critical role in the alloreaction. Such a putative peptide would presumably be bound by B*4402 but either absent or present at a lower density or altered conformation in the B*4403 molecule. This hypothesis was evaluated by testing individual B*4402-bound peptides for recognition by the LC13 CTL. The evidence gathered in this way suggested that a single peptide species bound to B*4402 was the structure recognised by LC13 during the alloresponse.

In summary, the work has demonstrated that subtle polymorphism between HLA class I molecules results in altered selection of peptide ligands presented to cytotoxic T cells. This in turn can lead to unwanted T cell alloactions between individuals mismatched for these class I alleles. The structural basis of this alloreactivity is presumed to reside in the altered peptide display by the mismatched HLA molecule that either presents new ligands or reorients existing ligands which are then perceived as foreign antigen. The clinical consequence of HLA mismatching in organ transplantation is organ rejection or graft versus host disease. Understanding the molecular basis of this immune recognition might permit the design of better therapies and improved transplantation outcomes in the face of HLA mismatching.

2000 PETER G JONES ELECTIVE ESSAY PRIZES

In 1993 the University of Melbourne Medical Society established the UMMS Elective Essay Prize for sixth year MB BS students.

In 1996 the Prize was renamed the Peter G Jones Elective Essay Prize in honour of the late Peter Jones, founding editor of *Chiron*. Prizes of \$100 are offered annually for the best essays of up to 1500 words describing the students' professional and personal experiences during their elective. Winning essays are also considered for publication in *Chiron*.

In 2000, Prizes were awarded to: Michael Ong, for his essay *Strongpela Man, Sik Pikinini (Strong Man, Sick Child)* about his elective in the New Guinea highlands; to Anthony Clough, for his essay *Home, Horror and HIV* about his elective in Malawi; to Kerryn Gijbsbers for her essay *Changing Perspectives on the World* about her elective in Tanzania; and to Elif Ekinci for her Essay *Where East Meets West* about her elective in Turkey. Essays by Michael Ong and Elif Ekinci are published in this issue of *Chiron*, pp22-24.

Virtual Alumni

Students and alumni can now participate in a number of electronic and face-to-face networking opportunities on the interactive Alumni@Melbourne website. Alumni@Melbourne (<http://www.unimelb.edu.au/alumni/>) is a growing community that is a key contact point for alumni worldwide. Opportunities include the Graduate Forum, a discussion list that facilitates online networking and discussions on issues such as leadership, global employment and career trends. It provides an opportunity for online reunions; debates on topical issues, hosted by academic staff; and discussions of lifelong learning and professional development issues, hosted by faculties.

The Cyber-Mentoring Program offers students the opportunity to be mentored by alumni online through email. The mentoring has a careers focus, however, students can be mentored by alumni on the transition from school or home country to university.

Alumni can also stay in touch with the University by subscribing to a free fortnightly email bulletin called GradNet. The bulletin contains news of the University, information about forthcoming lectures, conferences and career opportunities, details of cultural events and graduate profiles. To subscribe, visit <http://www.unimelb.edu.au/alumni/gradnetbullpub.html>.

2000 REUNIONS

MB BS 1933

Sixty-Seven Years Reunion

LYCEUM CLUB, 18 SEPTEMBER 2000

From Reginald (Spot) Turnbull—Three former graduates attended the reunion. Out of the 119 who commenced the course, there were only eight alive as Harry Drury died in October 1999. Of the eight still with us, five lived in Victoria, two in Western Australia and one in London. If there are enough of us alive, we are thinking that we might hold the sixty-eighth year anniversary in Perth.

N.B. Norman Cust passed away on 16 December 2000, aged ninety-five years. Ed.



L-R: SPOT TURNBULL, LORNA LLOYD-GREEN AND NORMAN CUST

MB BS 1940

Sixtieth Year Reunion

MELBOURNE CLUB, 22 NOVEMBER 2000

From John Bignell—Norman Wettenhall had the reunion organised well in advance but, regrettably, was in hospital for the event and passed on very soon after.

We had sixteen present and it went off very well. There are five now who have died since our last meeting and nine others who could not come to the reunion, mostly because of ill-health.

At the meeting it was suggested we did the same in five years but Bill Rigg now being ninety-five or-six, suggested one year, which was heartily supported by all present.

MB BS 1941

Fifty-Nine Years Reunion

UNIVERSITY HOUSE, 22 SEPTEMBER 2000

From James Guest—For many years we met at five-yearly intervals but have now narrowed the gap to two years. On 22 September 2000, nineteen members (of the original 101) enjoyed a good lunch and a good dose of nostalgia.

There were a number of apologies: some were too infirm, some lived too far away, some found the Olympic Games a greater attraction and, surprisingly, only one forgot the date.

David Pitt, a paediatrician, is the only one of us (to my knowledge) to have produced an autobiography. Amongst other things Pitt did considerable early and important work on phenylketonuria and was a pioneer in establishing routine testing for the condition in Victoria.

Our next meeting is planned for September 2001.

MB BS 1945

Fifty-Five Years Reunion

MELBOURNE CRICKET CLUB, 24 FEBRUARY 2000

From Nate Myers—The fifty-fifth reunion of the class of 1945 was held in the Committee Room of the Melbourne Cricket Club on Thursday 24 February 2000. As on previous occasions, this room was made available through the generosity of the Melbourne Cricket Club (MCC) and because one of our number, Don Cordner, is a Past President of the Club.

From 6.45-7pm all were invited to sit down at table for dinner. There were no name places and those present were able to move around during the course of the meal. One minute's silence was observed for all those we had lost: Phil Tiernan, Alan Bignell, Des Hurley and Wally Moon.

The evening included a musical interlude when a choral performance of *Those Were the Days* was attempted, led by Gordon Trinca. Although the performance was not particularly impressive, the sentiments of the song were not lost on the class of 1945. A short talk was given by John Farrer, who had travelled almost 20 000 km to attend the reunion, on his life as a country squire in England.

MB BS 1941 FIFTY-NINE YEARS REUNION



STANDING L-R: JIM GUEST, BERIC HICKS, DOUG ATKINSON, BRIAN COSTELLO, PETER BIRD, MICHAEL BENSON, DAVID PITT, BILL SLOSS, STEWART MORONEY, ARTHUR PARKIN, FRANK DE CRESPIGNY. SEATED L-R: SHEILA CLEREMAN, CLARICE HETHERINGTON, MARY WHEELER, ALEX GALE, ELIZABETH KENNY, TOM GRIFFITHS, IDA SEWARD, WIN CHAMPION

The evening was attended by: Tom Antonie, Paddy Barrett, Don Cordner, John Critchley, Jim de Crespigny, Bill Etheridge, John Farrer, Shirley Francis, Jim Gardiner, Jenny Gardiner, Ross Hayes, Don Hewson, Joan Hosking (née Mowlam), Dorothy Hurley, Paul Jeffrey, Jim Keipert, John Little, Walter Lowen, Ian Mackay, Chan Piercey, Des Prentice, Paul Rowan, Don Rush, Michael Shoebridge, Jack Swann, Eric Taft, Gordon Trinca, Luke Murphy, Nate Myers, Kurt Schwarz, Stathy Shannos, Iris Solomon (née Leber).

Apologies were received from: Keith Torode, Mary Levensen, Adrian Jones, Baz Harper, Charlo Anderson, Tom Walsh, Howard Coates, Barry Christophers, Harry Cumming, Harold Grimblat, George Pestel, Bert McCloskey and Sam Troski.

MB BS 1975

Twenty-Five Years Reunion

IAN POTTER MUSEUM OF ART, 18 NOVEMBER 2000

From Robin Wilson—It was a warm night and an atmosphere of excitement developed in the foyer as people shouted recognition of each other, and greeted colleagues they hadn't seen for many years. There were a few embarrassing moments as the right name wouldn't come to mind, but fortunately the committee was well organised and printed name tags were available.

Drinks and hors d'oeuvres were served on the first floor, where loud chatter soon drowned out the talented Rossetti string trio. As the crowd grew, Henry Gaughin, manager of the Potter, and his security staff worried that their paintings would be swept off the walls.

At 8pm we strolled en masse to the Union Building, where the Grand Buffet Dining Room was filled with nineteen tables to seat 172 people for dinner. We sat according to clinical groups, eating two courses from the 'Professor's Menu'.

One of the highlights of the night was reading the yearbooks, which had been produced by the organising committee, with the help of Reital Minogue, and placed at the tables for everyone to take home.

Mistakenly thinking it was traditional, the committee had organised an impersonator to entertain. We all breathed a huge sigh of relief when he finished, only to be harassed again by the band 'Hey Jules' beginning to play. It was too noisy to talk! However, most people began dancing when Gordon Wallace did a guest appearance singing *Brown Eyed Girl*—suddenly the room was alive with gyrating middle-aged doctors.

The festivities finished at midnight and we said our goodbyes. We couldn't believe that we would have to wait another five years to repeat the experience.

MB BS 1980

Twenty Years Reunion

ANZ PAVILION, 24 NOVEMBER 2000

From Umberto Boffa—Well over 100 MB BS graduates and their partners gathered at the ANZ Pavilion on the night of Friday 24 November 2000 to celebrate their mutuality with the best colleagues they will ever have.

Guest speaker, Mr Mark McKeon, gave a timely talk about the need for doctors to balance their working and family lives and to make time for themselves. This was very well received and we hope graduates take note.

The five members of the year who had passed away were fondly remembered: Steven Hore, Peter McMahon, James Fan, Dean Smith and Peter Jones.

Donations totalling approximately \$500 were generously made on the night to the Victorian Medical Benevolent Society (confidential contact with the association may be made through Chris Roth on (03)9857 5482).

2001 REUNIONS

68th Year of 1933

18 September
Hotel Sofitel
Spot Turnbull
(+61 3) 9822 7727

61st Year of 1940

26 November
Melbourne Club
John L Bignell
(+61 3) 9817 2268

60th Year of 1941

21 September
James Guest
(+61 3) 9347 3852 (h)

58th Year of 1943

13 March
William Swaney
(+61 3) 9822 7039 (h)

55th Year of 1946

April
Melbourne Cricket Club
J Snell
(+61 3) 9882 6644 (h)

50th Year of 1951

24 November
Commonwealth Golf Club
Brian Entwisle
(+61 3) 9598 1645 (h)

35th Year of 1966

10 November
Australian Club
Stan O'Loughlin
(+61 3) 9792 1791

30th Year of 1971

November
Elizabeth Dax
(+61 3) 9418 1117 (b)

25th Year of 1976

10 November
River Room—Crown
Entertainment Complex
Tony Kostos
(+61 3) 9417 7337 (b)

20th Year of 1981

early June
Tony Sellars
(+61 3) 9459 1100 (b)

10th Year of 1991

June/July
Richard Grills
(+61 3) 9387 4580/
0417 354 570 or
Chris Jackson
(+61 3) 5358 4842

THINK AHEAD

When did you graduate? Is next year your fifth or fifty-fifth year since graduation? Reunions are best planned well ahead of time. Your classmates who are living overseas or interstate may well travel to Melbourne for reunions if they have enough advance notice. Venues also need to be booked well ahead.

Please let us know of your plans—we like to publish information about reunions in *Chiron* and in *The Melbourne PostCard*. We can obtain, on your behalf, a list of graduates from your year and sets of labels from the Alumni Office. We can also advise you on alternatives you may wish to explore regarding University venues.

We are able to help you publish a reunion booklet containing details of graduates' activities since graduation. Reunion booklets give those who attend the reunion something to remind them of the event and those unable to attend a means of catching up with old friends and colleagues.

UMMS Office
c/- School of Medicine, University of Melbourne
Victoria, 3010, AUSTRALIA
Telephone (+61 3) 8344 5888, Facsimile (+61 3) 9347 7084
Email: umms-medicine@unimelb.edu.au
Web page: <http://www.medfac.unimelb.edu.au/med/UMMS.asp>

THE UNIVERSITY OF MELBOURNE MEDICAL SOCIETY CONGRATULATES...

Professor Jack Martin (Professorial Fellow/Director, St Vincent's Institute)—for his election as a Fellow of the Royal Society.

Professor Suzanne Cory (Director of the Walter and Eliza Hall Institute of Medical Research)—for winning the L'OREAL-UNESCO Women in Science Award for 2001.

Officers of the Order of Australia (AO)

Professor Christopher Allen Silagy (MB BS 1983)—for service to medicine, particularly in the areas of research and education, and in developments in evidence-based medicine.

Dr John Craze Morris, MBE (MB BS 1952)—for service to medicine, particularly as a consultant physician, and to the community through educational, medical research and social welfare organisations.

Members of the Order of Australia (AM)

Dr Peter John Graham (MB BS 1952)—for service to ophthalmology, particularly through the development of law and to medical administration through the Medical Board of Victoria.

Emeritus Professor Richard Alexander Joske (MB BS 1948; MD 1952)—for service to medicine, particularly in the fields of gastroenterology and hepatology, to medical education through the University of Western Australia and the Royal Australasian College of Physicians, and to the community.

Dr Gabriele Medley (MB BS 1959)—for service to medicine and women's health through the Victorian Cytology Service, particularly in the field of cervical cytology and pathology, and to the development of pap smear testing, reporting and screening programs.

Professor Wayne Allan Morrison (MB BS 1967; MD 1988 Head, Department of Surgery, St Vincent's Hospital)—for service to medicine, particularly reconstructive plastic surgery, through research and application of microsurgery techniques including innovation into graft tissues.

Professor Lester John Peters (Director of the Radiation Oncology Division, Peter MacCallum Cancer Institute and Chair of the Standing Committee on Oncology in the Medical School)—for service to medical research, education and clinical practice in the field of radiation oncology, resulting in improved treatments for people with cancer, particularly in the head and neck region.

Emeritus Professor Alfred James Pittard (former Professor of Microbiology 1970-97)—for service to science, particularly microbiology and molecular biology, through research into the control of gene expression in bacteria, and to education as a teacher and administrator.

Medal of the Order of Australia (OAM)

Dr Robert Gregory Birrell (MB BS 1956)—for service to medicine and to children, particularly in identifying the existence of child abuse and raising awareness of the problem among health professionals and in the community.

Dr Eric Donaldson (MB BS 1963)—for service to aviation medicine and air safety procedures, and as an educator in these fields.

Dr Richard Peter Freeman RFD, RD (MB BS 1948, P/G Dip Laryngology & Otology 1955)—for service to otolaryngology, particularly through the Garnett Passe and Rodney Williams Memorial Foundation, and through medical practice, research and training.

Emeritus Professor Sid Leach (former Professor of Biochemistry)—for service to science, particularly in the field of protein chemistry.

University of Melbourne Medical Society (UMMS) Membership

UMMS is the alumni society for the University of Melbourne School of Medicine. All MB BS (Melb) graduates are eligible to join, as well as those with a substantial association with the School of Medicine or the University's affiliated institutions, for example past and present academic staff. In addition, legally qualified medical practitioners registered or eligible to be registered in the State of Victoria, who do not qualify for automatic membership of UMMS, may be considered for membership on nomination by two members of the society. Members are encouraged to propose membership of eligible people who are interested in being associated with the society. This requires a joint letter together with the consenting signature of the nominated person.

Membership of UMMS is free and renewable annually. Those who have been University of Melbourne MB BS graduates

for fifty or more years are automatically eligible to become Honorary Members of UMMS.

Membership of UMMS will ensure that you receive *Chiron*, *The Melbourne PostCard*, news of reunions, medical school information and notices of UMMS and other University events.

For further information please contact:

UMMS Office

School of Medicine

The University of Melbourne VICTORIA 3010

Telephone: (+61 3) 8344 5888

Facsimile: (+61 3) 9347 7084

Email: umms-medicine@unimelb.edu.au

Web site:

<http://www.medfac.unimelb.edu.au/med/UMMS.asp>

Wilfred Talbot Agar

BSc 1932, MB BS 1934

1910–2000

Sceptical Physiologist



WILFRED AGAR

WILFRED WAS BORN in Scotland in 1910, the oldest child of Wilfred Eade Agar, Professor of Zoology, University of Melbourne, 1919–47. The family came to Melbourne in 1920 and soon after moved into 'Clyde', the first house on Professors' Walk, situated on the present site of the Brownless Biomedical Library.

In 1928 Wilfred commenced a science course and went into residence at Trinity College. In the first year of his BSc he obtained first class honours in zoology and was awarded the exhibition and the Baldwin Spencer Prize. In the third year he combined medicine with science, and graduated

MB BS in 1934 with first class honours in medicine and surgery, but his interest was more in the scientific basis than in the practice of medicine. The next year he spent both as resident medical officer in the old Children's Hospital on Rathdowne Street and demonstrating histology part-time to dental and science students. He joined the Commonwealth Serum Laboratories in 1936, working with insulin and pituitary extract assays and smallpox vaccine preparation. This was valuable experience for his wartime and subsequent research activities.

Wilfred was appointed Nuffield Dominion Demonstrator in the physiology department at Oxford University in 1938. There were two such posts, one pre-clinical and one clinical, and his was one of the first appointments. He married Rosemary Ross, from the Western District of Victoria, in 1939 and their two daughters were born in England; they later had three sons.

In 1940 the UK Ministry of Health established a regional blood transfusion laboratory at Oxford and Wilfred was appointed to supervise the work carried out in the physiology department. When this facility closed he volunteered for military service and in November 1942 he was appointed officer commanding a field transfusion unit, which was posted soon afterwards to northeast India. (See p51 of this issue of *Chiron*)

Upon his return to Australia in 1945 Wilfred was appointed Senior Lecturer in Physiology at the University of Melbourne. He was promoted to Reader in 1956 and on several occasions acted as Head of Department. Wilfred was an admirable colleague and was markedly considerate to more junior members, as to all others, though this did not mask a steely scepticism about unfounded claims and tendencies in physiology. He was critical of lecturers who lacked insight into student reactions or self-criticism of their own performance, or who crammed ever more of the latest facts into a course: 'details bewilder, principles enlighten', he quoted in one of his articles, 'Lecturing—A Neglected Art'. Furthermore, the lecturer needed to spend much time sitting and thinking about a lecture and needed an hour to recuperate afterwards. He sometimes remarked that, as his lecturing life went on, he left more and more out of his lectures—all of the required knowledge should be available in the textbooks. Ray Bradley describes his lectures as, 'superb, impeccably clear and logical'. Margaret Sumner (née Parker) recalls, 'he was recognised as the best general physiologist in the

Department. "Ask Wilfred" was the cry, and he always knew the answer.'

'Wilfred was not one to indulge in gossip,' says Margaret, but one day he confided to her that he had noticed a 'liaison' beginning between two young assistants. 'I had to inform him that the two had been married for two years and awaited their second child.'

His experimental work included a series of papers investigating the transport of amino acids across the gut, in collaboration with Frank Hird, later Professor of Biochemistry, and Margaret Parker, then a demonstrator in Physiology. This early work showed that the transport was active, selective for L-isomers and resembled enzyme action in its specificity. Hird recalls:

When, as a metabolic biochemist I was about to step into research on the more physiological aspects of biochemistry, I was fortunate to make the acquaintance of Wilfred Agar. He was a reticent man but it soon became apparent to me that knowledge and sense had made a common nest in his mind and governed his thoughts and actions. Once we had developed a suitable preparation we had to decide how to express the rate of transport across the gut. We rejected fresh weight and then considered surface area but concluded that the structure of the villi made this too difficult. I then raised the question of length of the gut as an index. Wilfred picked up a segment of rat ileum between his fingers and thumbs and stretched it back and forth, 'How long do you want it Frank?' We laughed and decided on dry weight. I was to observe this wry humour again at dinner in his home. At the end of the meal Wilfred helped to clear things away and holding a dish of left-overs said, 'Rosemary, will I throw this out now or put it in the refrigerator first?'. Wilfred established a tone by his very presence. I still see him in my mind, on his way to University House looking forward to the conviviality of lunch, hands in pockets, feet at 45 degrees and giving the impression of a scholar deep in thought, which he was.

Wilfred also collaborated with Jack Legge and his colleagues in Biochemistry on the purification of secretin by chromatography and counter-current fractionation. Wilfred was responsible for all the bioassays of activity in the fractions, recording pancreatic secretion from the cannulated duct in cats, sometimes dogs. This work produced the purest preparation of secretin to that time. Wilfred's involvement received only a brief acknowledgment at the end of the article published in the *Australian Journal of Experimental Biology and Medical Science*, in 1957.

At David Dewhurst's request, Wilfred continued to lecture to senior science students after his retirement, on a favourite topic entitled 'Fact and Fiction in Physiology'. He began with a quotation from Sherlock Holmes: 'It is a capital mistake to theorise before one has data', and proceeded to demonstrate this with well-chosen examples from physiology. As a sceptical physiologist, Wilfred did not spare great men, such as Ernest Starling, when they presented hypothetical arguments as if they were fact (as in Starling's 1915 Linacre Lecture on cardiac adaptation to exercise, overlooking the fact that the normal heart lies within the negative pressure of the thorax and that the isolated heart is devoid of neuro-humoral influences). Wilfred then drew three conclusions all too often confirmed in the history of science:

- while it takes ten years to get a new idea into the text books, it takes fifty years to get it out if it is wrong;
- an explanatory hypothesis is not rejected merely because it is disproved—it is rejected only when a better hypothesis is put forward; and
- the eminence of a scientist can be judged by the length of time his views hold up the development of his subject after his death.

He went on to discuss Francis Bacon's (1561-1620) list of reasoning fallacies, illustrating them from physiology:

- supposing greater order in nature than there is, resulting in a tendency to play down exceptions to the rule;
- supporting an opinion by positive cases and overlooking the negatives;
- generalising from too few observations; and
- attaching excessive importance to a favourite idea (his example was Eccles, in 1936, dismissing the idea of chemical transmission in sympathetic ganglia, 'the acetylcholine liberated in sympathetic ganglia possibly having a secondary excitatory action').

With all this, Wilfred kept a dry wit, tongue often in cheek, as shown in his occasional Physiology Christmas Quiz. For example, the 'Handicap Quiz' in 1958:

All questions to be attempted. Pass mark 50%. Professors' handicap 30, Demonstrators' 10 and research staff Nil. Name the authors of the following passages (in English, Latin, French and German, none translated), e.g. 'cor una semihora plusquam mille pulsus facit'. (William Harvey).

And the 1961 'Staff Qualifying Examination':

time allowed 1 week. Candidates are expected to obtain full marks but will not be provided with hippopotamuses. Arrange the following ratios in order of magnitude (hippopotamus versus guinea pig): Oxygen consumption, mean arterial pressure, body weight, resting pulse rate.

When Acting Head of Department in 1964, he had to oversee production of the final plans for the Physiology Department in the new medical school building. He found the conflict between the haste urged by the architects and the many letters from Professor Wright, then in London, objecting to their proposals, difficult to reconcile. At the end of 1966, aged only fifty-six, Wilfred resigned from his position in Physiology and the family moved to the Western District where, with scientific insight and to the great benefit of the region's farmers, he had previously discovered that the underground water contained toxic levels of magnesium salts. His intellectual contributions to the Department were sorely missed by his colleagues. He is remembered for his wisdom.

Collated by Sandford Skinner and John McKenzie from written and oral contributions by Wilfred Agar's academic colleagues, and from autobiographical notes and family records supplied by his sister, Elizabeth Marshall, and his son William. Wilfred's wartime experiences appear in a companion article in this issue of Chiron (p51)

Gwen A M Donald

BA 1934, DipEd 1935, MB BS 1944,
DCH RCP (ENG), FACA

1914-2000

WHEN SHE WAS six years old, Gwen Joynt asked her mother if she could have a shelf of her own in the wash-house behind the family home in Elsternwick. Less imaginative minds might have mistaken the medicines and bandages on the shelf for coloured water and pieces of rag, but, if Gwen's toys could testify, it is certain they would have affirmed they received only the very best medical attention. This was the beginning of a career that led her, with her husband, the late Russell Donald, to a Collins Street consulting room.

Gwen Donald, a consultant allergist, died on 5 July 2000, aged eighty-six.



GWEN DONALD

Dr Gwen, as she was affectionately known, was born Gwendolene Alice Margaret Joynt in 1914. She remembered, as a toddler, waving goodbye to her father, Lieutenant Gerald Joynt, as he left for Europe during the First World War. He did not return; he was killed in Flanders. Her uncle, Donovan Joynt, survived the war and returned home with a Victoria Cross.

When Gwen was eight, her mother remarried and her stepfather provided her with the best educational opportunities possible. She excelled at school both academically and on the

sports field, winning many awards, prizes and colours.

She went on to the University of Melbourne where she took an Arts degree and a Diploma of Education, majoring in French and history. But Gwen desperately wanted to be a doctor and she used her salary from her teaching position at the Presbyterian Ladies College to begin her medical studies. She finished her medical studies with the aid of a scholarship from the Returned Services League and graduated in 1944 with final honours in medicine and surgery, being one of only eight women of the seventy-eight graduates. While still a medical student, she married Russell Donald, an established doctor.

After completing her hospital residency at Prince Henry's Hospital and the Royal Children's Hospital, Gwen went into general practice in Camberwell. Her first visit to a family was a memorable one: she was greeted at the door by a woman who, surprised to see a woman doctor, bellowed down the hallway, 'Bill! It's a woman. Will I let 'er in?'.

In the late 1940s, Gwen received a second scholarship from the RSL. It gave her the opportunity to go to London, where she undertook postgraduate study in paediatrics and allergy. She returned to Melbourne in 1950 and worked with her husband at the Royal Melbourne Hospital Allergy Department, as well as giving anaesthetics.

In 1952 she was appointed Medical Officer in Charge of the Children's Health Bureau of the Returned Services League, an honorary position she held for thirty years. In her own mind it was her way of thanking the RSL for the help it had given her with her studies.

Gwen was one of the pioneers in the emerging field of allergy in the 1950s. She and her husband were involved in the formation of The Australian Society of Allergists, with Russell being on the inaugural committee. The Australian Society of Allergists became the Australian College of Allergy and then, by amalgamation, the Australasian Society of Clinical Immunology and Allergy, which it is today. Gwen was an active member of them all.

Her private allergy practice grew over the years until she finally retired when she was in her eighties, after more than fifty years as a doctor.

In her later years, Gwen was active in the parish of her local church, Holy Trinity, Hampton, where she served on the vestry and in various other capacities.

Gwen is survived by her brother 'Mick' Hargrave, MB BS (Melb 1951), her sister 'Bon' Eyre-Walker, BSc (Melb 1944) and by her two sons Rick Donald, BComm (Melb 1972), DipEd, ND, and Peter Donald, MB BS (Melb 1983).

This obituary is based on that published in The Age, with additional information supplied by Professor Robyn O'Hehir

William (Bill) Hamilton Smith

MB BS 1939, MD 1947, FRACP, FRCP (LONDON),
MRCP

1916–2000

BILL HAMILTON SMITH was born on 2 July 1916. He was dux of Xavier College then studied medicine at the University of Melbourne, while living at Newman College where he forged some of his strongest friendships. He excelled throughout the course and was awarded the Old Collegians' Scholarship for Academic Excellence and the Margaret Ryan Scholarship for general medicine.

In 1940, after a brief appointment as a resident medical registrar at St Vincent's Hospital in Melbourne, Bill joined the RAAF. He served as a squadron leader and medical officer until 1945, seeing active service in Broome and Papua New Guinea. Upon returning to Melbourne he worked at the Repatriation Hospital and at St Vincent's Hospital.

In 1947, Bill travelled to London, where he studied the relatively new clinical specialty of endocrinology at the Royal Postgraduate Medical School, Hammersmith, then worked at the prestigious British Diabetes Centre at King's College Hospital. At that time great advances were being made in endocrinology, with many new drugs being discovered—notably the steroid family, in particular cortisones—and Bill mastered the new advances with great skill.

In 1951, he returned to Melbourne and was appointed Honorary Consulting Physician at St Vincent's Hospital. He was responsible for treating endocrine patients within the Hospital, and set up and became head of a large diabetes outpatients' service. As the first physician to train in a specialty rather than in general medicine, Bill Hamilton Smith set a new direction for physician training at St Vincent's Hospital. His influence on patients, medical students and colleagues was testament to his personality and to the success of his training.

In 1971, David Penington encouraged Bill to establish a new metabolic endocrine clinic at St Vincent's Hospital. Don Chisholm, now Professor in Charge of Diabetes and the Metabolic Division of the Garvan Institute of Medical Research in Sydney, was appointed to the University Department of Medicine and was the first Head of Endocrinology and Diabetes Services at St Vincent's Hospital. He wrote: 'Thanks to Bill's guidance and mentoring, as well as his physician skills, we were able to move the endocrine services at St Vincent's...to a very successful clinical, research and teaching department'. Characteristically, once Bill was certain of the endocrine service, he withdrew to make way for younger trainees.

Bill was also a specialist physician at the Repatriation Hospital from 1952 to 1982, and was a staff specialist at the Royal Victorian Eye and Ear Hospital from 1955 to 1961.

Above all, Bill was a communicator and teacher. All his hospital appointments involved teaching and because of his personality, his knowledge and his encouragement, he was much appreciated by students and colleagues. A few years before his death, Bill had a coronary stent inserted while he watched, fascinated, on a television screen. He was particularly pleased that the procedure was being performed by one of his former students.

In 1978, after more than thirty years of honorary service, clinical care and teaching, Bill retired from St Vincent's Hospital. As his friend and colleague Bill Heath stated: 'Bill Smith was a great guy. He did each day's work well. He obeyed the golden rule towards his professional brethren and towards his patients. He met success with humility and the affection of friends without pride.'

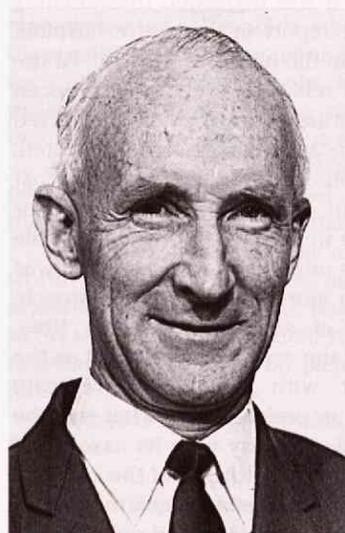
Bill was a gracious and humble leader, however, his greatest achievement, and the background to many of his other contributions, was his marriage to Billie in 1949. Billie Hamilton Smith and their three daughters Adrienne, Toni and Terrie survive him and miss him dearly.

This obituary is based on that published in The Age and was compiled by Bill Hamilton Smith's three daughters, with the assistance of Dr Bill Heath and Professors D Chisholm and F Alford

Vernon E Hollyock OBE

MB BS 1939, MRCOG, FRACS, FRCOG

1916–2000



VERNON HOLLYOCK

VERNON HOLLYOCK WAS born in Melbourne on 13 May 1916 and died on 16 June 2000, aged eighty-four. Mabel (née Jarman), his devoted wife of fifty-one years, died a few weeks later.

He was educated at Wesley College and the University of Melbourne, graduating MB BS in 1939. After a year's residency at the Royal Melbourne Hospital and with the Second World War in progress, he enlisted in the Australian Medical Corps, holding the rank of Captain.

He was based in Morotai in the Pacific Islands and discharged from the Army in 1946.

Vernon then set out on the career path of specialist obstetrician and gynaecologist, as a resident and registrar at the Royal Women's Hospital in Melbourne, and obtained membership of the Royal College of Obstetricians and Gynaecologists at a special post-war sitting of the examination held in Australia in 1947. He obtained fellowship of the Royal Australian College of Surgeons in 1948, then left for England and worked as registrar at the Liverpool Maternity and Women's hospitals from 1949-51. Vernon returned home to Melbourne in 1951, initially as first assistant in the University Department of Obstetrics and Gynaecology at the Royal Women's Hospital. Soon after, he was appointed to the clinical staff as Honorary Gynaecologist to Outpatients. This began a long association with his inpatient senior, the late Arthur 'Bung' Hill and, as with

anyone closely associated with the legendary Bung, appreciation of good wine became an important interest.

As a member of the University Clinical School, numerous medical students were the beneficiaries of Vernon's teaching. He held a concurrent position for ten years at the Western General Hospital in Footscray, as Senior Obstetrician and Gynaecologist.

He was elevated to the fellowship of the Royal College of Obstetricians and Gynaecologists in 1965 and became a foundation fellow of the Royal Australian College of Obstetricians and Gynaecologists in 1980.

My professional association with Vernon began in 1953 and extended over thirty-five years, firstly as his RMO, registrar and associate surgeon, and then during our mutual involvement in the Dysplasia Clinic at the RWH. I had great admiration for his surgical ability. He was meticulous, fussy with detail and humble—at times to the point of self-effacement. He was a much more skilful surgeon than he was prepared to admit.

Although his early interest lay in general gynaecology and gynaecologic surgery, the liaison between his general gynaecology unit and the then radiosurgical unit, headed by Bung Hill and Graham Godfrey, specifically for management of genital cancer, resulted in both of us becoming interested in preinvasive cancer of the cervix. The opportunity arose in December 1966 for us to establish a designated Dysplasia Unit in the Hospital. This clinic was unique at the time, both in Australia and internationally, as it was dedicated to evaluating every abnormal cytology smear report in the entire hospital, with all management remaining in the hands of the Unit. At the time, colposcopy had been only relatively recently introduced into Australia. Not only was routine colposcopy with directed target biopsy for diagnosis of precancerous disease advocated, but also the definitive role for colposcopy in selecting the most appropriate method of treatment. It was our view that major degrees of precancerous change were being over-treated while lesser degrees of dysplasia were often ignored. This clinic was one of the pioneers of the much more conservative approach. In the face of a great deal of scepticism at the time, electrocoagulation diathermy of the cervix was selected as the ideal conservative treatment with which to eradicate precancerous disease. This was in preference to what was the routine at the time—cone excision biopsy with its associated problems of morbidity and traumatic distortion of the cervix.

During our association in the Dysplasia Unit, a number of articles on the subject were written conjointly and published in American and Australian medical journals. The results eventually attained international recognition.

After fifteen years in an honorary capacity, Vernon retired from the senior staff in 1976, having served as chairman of gynaecological staff. He remained as a clinical assistant until 1986, completing thirty-five years of service to the RWH. He helped manage the Alfred Hospital Colposcopy Clinic for five years from 1976.

Vernon was an avid enthusiast of modern music and enjoyed playing the piano and a home version of the Wurlitzer organ. He was also a keen photographer. Together with Mabel, he made a number of trips in the South Pacific as ship's surgeon on cargo vessels.

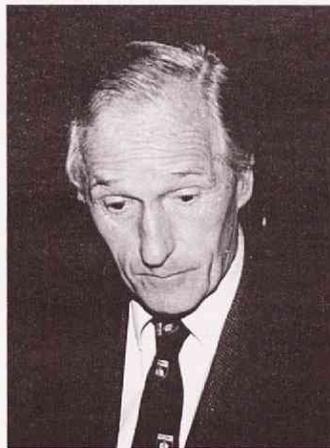
He was awarded the Order of the British Empire in 1978 for his services in the field of gynaecology.

*William Chanen
former Head of Gynaecologic Oncology and Dysplasia Units
Royal Women's Hospital, Melbourne*

John Victor Hurley

MB BS 1944, PhD 1959, MD 1965, FRACP, FRCPA,
FRCPATH, HON FRACR

1921–2000



JOHN HURLEY

JOHAN VICTOR HURLEY, the second child and eldest son of Victor and Elsie Hurley, was born three years after the end of the 1914-18 war. Victor, a young surgeon on the staff of the then Melbourne Hospital, had enlisted in the AIF on the outbreak of war and, after serving in Egypt and Gallipoli, was posted to London. Here, he met and married Elsie, the youngest child and only daughter of Dr George Crowther, founder and first headmaster of Brighton Grammar School.

John spent most of his early years at Wyuna in Albany Road, Toorak. He went to school at Glamorgan then Melbourne Grammar, establishing a record of academic excellence that continued throughout his life. He was a skilful tennis player: he played for his school and was awarded a blue for tennis at University.

In 1939 John began his medical course and continued his outstanding academic record by obtaining first class honours in every year, and six exhibitions including pathology in fourth year and surgery in his final year, when he topped the graduating class.

After a year as Resident Medical Officer at the Royal Melbourne Hospital, John enlisted in the RAAF and served as a medical officer in Australia and North Borneo. He returned to Melbourne in 1947 and started surgical training, planning a career as a surgeon in a teaching hospital. However, he developed severe pulmonary tuberculosis and, realising a surgical career would now be unwise, he decided to train as an academic pathologist.

John's first appointment was assistant to Edgar King, pathologist at the Royal Melbourne Hospital. King became his mentor and remained a life-long friend. King had trained as a surgeon but, like John, had developed pulmonary tuberculosis at the end of the war and abandoned his surgical career to return to his former interest in pathology.

In 1950, on the retirement of Sir Peter MacCallum, King was appointed to the Chair of Pathology at the University of Melbourne. The following year John also moved to the University and became Stewart Lecturer, beginning his long association with the Pathology Department.

He married Evelyn Young in 1953 and, in 1959, she and their infant sons, Peter and Bill, accompanied John when he travelled to England on a Nuffield Dominion Fellowship. John worked for a year in London with Professor Sir Roy Cameron (a distinguished Melbourne graduate who had himself been Stewart Lecturer) and while there commenced his study of inflammation and tissue repair, which remained the focus of his research throughout his career. This required meticulous histologic study and, on his return to Melbourne in 1960, John and his team were early leaders in the use of the electron microscope as a tool in experimental and subcellular pathology. He made major contributions in the time course and pathways of vascular permeability, migration of leucocytes across capillaries and influx of cells into tissues in acute inflammation.

This work culminated in 1972 with the publication of his book *Acute Inflammation*, the most authoritative treatise on the subject since the pioneering work of Adami the previous century. He also investigated the events and pathways of fluid movement in pulmonary oedema and liver ascites.

Promoted to Reader in 1964, John succeeded to the Chair of Pathology on the death of George Christie in 1980. He supervised a number of PhD, MSc and BSc(Hons) students, some of whom went on to have distinguished academic careers—most notably Graeme Ryan, who became Professor of Anatomy and Dean of the Medical Faculty, and Kathryn Ham, who became Reader in Pathology.

Many generations of students regarded him as an outstanding teacher, whether in the autopsy room, pathology museum or lecture hall. He was invited to give lectures in inflammation and repair for several years after his retirement from the Chair, and enjoyed giving museum tutorials up to the time of his terminal illness. He and the other qualified pathologists in the Department continued a biopsy service established by Professor Edgar King and continued the traditional use of its earnings to support departmental research.

Following his retirement in 1986, John played a unique role as a valued research advisor to Dr Bernard O'Brien and, subsequently, Professor Wayne Morrison, through his appointment to the relatively newly established Microsurgery Research Centre (now the Bernard O'Brien Institute of Microsurgery) at St Vincent's Hospital, Melbourne. In that role, John provided the intellectual matrix that bridged the clinic and the laboratory, the surgeon and the scientist. His international reputation in the fields of inflammation, ischaemia reperfusion injury and angiogenesis were of enormous benefit in increasing the stature of the Institute. His incisive intellect was clear to the end. He had the great ability to see the essence of the problem—a quality that was instrumental in many a grant being received, an article being published, a postgraduate student achieving success.

John and Evelyn enjoyed a very happy life together. John played a good game of tennis and until quite recently enjoyed a regular game of golf at Royal Melbourne Golf Club. Their family—Peter, Bill, Ian and Sue—and their grandchildren were a source of great pride to them.

Tom Hurley and Prithi Bhathal

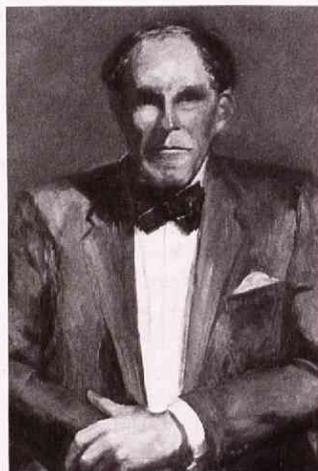
Malcolm Benbow Menelaus

MB BS 1954, MD 1971

1930–2000

MALCOLM MENELAUS WAS born in Melbourne and educated at Scotch College. He graduated in medicine from the University of Melbourne in 1954 then spent three years in residence at Prince Henry's Hospital. During the latter part of his residency he decided to specialise in orthopaedic surgery.

At that time it was considered necessary to travel to Britain to obtain adequate training and this he did. After a year or so at various London hospitals he obtained a post at Rowley Bristow Orthopaedic



MALCOLM MENELAUS

Hospital in Pyrford, and then at the Birmingham Accident Hospital before deciding the time was ripe to return to Melbourne. He had no difficulty in finding work and obtained honorary posts at the Royal Children's and Prince Henry's hospitals.

It was my good fortune to have Malcolm as my first assistant, and later deputy, at the Royal Children's Hospital. He demonstrated from the beginning that not only was he well trained but that he also had a decided preference for academia. By this I mean that he enjoyed and was skilled in teaching, writing and clinical research—qualities always difficult to find in a surgeon. He also developed a preference for paediatric orthopaedics at a time when most young surgeons preferred the glamour and financial rewards of adult practice. Malcolm abandoned his other commitments and became almost full-time at the Royal Children's Hospital, gradually working his way up the ladder until in 1982 he became Chief Orthopaedic Surgeon, a post he held until his retirement in 1990. He became an essential part of the team at the Royal Children's Hospital, which was soon recognised internationally as a centre of excellence.

Malcolm became a member of the editorial board of the *Journal of Bone and Joint Surgery*, a member of the Court of Examiners of the Royal Australasian College of Surgeons and, in 1981, President of the Australian Orthopaedic Association. There were numerous other appointments which space does not permit me to list.

Malcolm submitted and had published no less than ninety-five scientific papers. He produced a text book on the management of spina bifida, which became a classic and went to three editions and then, after contributing numerous chapters to a variety of text books in paediatric orthopaedics, he produced his final text on the management of limb length inequality, which also became a classic.

As his reputation grew, Malcolm received more and more invitations to speak. Between 1967 and 1994 he filled no less than forty national and international lectureships.

A big man in every sense of the word, Malcolm walked the world stage with elegance and confidence. Apart from his scientific achievements, he was a devoted and loving husband to his wife Margaret and their two daughters, Jane and Sarah. In retirement he took up oil painting, which brought him much pleasure and success.

His loss is felt deeply by his family and by his large circle of friends.

Peter F Williams AO

This obituary is based upon that published in The Age

Kenneth Newman Morris

MB BS 1940, MS 1946, FRACS, FRCS

1917–2001

KENNETH MORRIS WAS a leader, a great surgeon, a brave naval officer, an historian and a devoted family man. He died on 2 February 2001.

Educated at Bacchus Marsh, Werribee and Geelong College he was resident in Ormond College when he studied medicine. He rowed in the crew and displayed an early interest in history by re-writing the 'Blue Book', a student history of the College. He graduated in 1940 and married Fay Kinross in 1941, when they were both residents at the Royal Melbourne Hospital. It was a long, close and successful marriage.



KEN MORRIS

Ken joined the Navy in 1942 and went to sea on the HMAS *Canberra* as a Surgeon Lieutenant. The *Canberra* was disastrously torpedoed off Savo Island on the night of 9 August 1942—there was no light, many casualties and torrential rain. Using his own battery-powered headlight to see, Ken was able to get on with the job of operating. His Surgeon Commander and he, together with a growing number of casualties, were twice transferred by ship until they ended up on a hospital ship where they operated,

with little rest and under crowded conditions, for seven days before reaching port. Ken was mentioned in dispatches for his bravery and served on HMAS *Nepal* for the rest of the war.

After the war, Morris resumed his surgical training at the Royal Melbourne Hospital and, later, in 1947, at Guy's Hospital in London. Ken and Fay loved London and, on a tandem affectionately named 'Agatha', which was fitted with a sidecar for the children, they toured most of England, Wales and Scotland before returning to Australia.

In 1949 Morris joined C J Officer Brown, the chest surgeon at the Alfred who was well known for his pioneering work on 'blue babies' and other heart operations, including quick operations on the valves inside the beating heart. They worked together well. It was clear that further progress in heart surgery lay in the development of techniques of operating inside the empty heart using a heart-lung machine to take over the functions of the heart and lungs while the repair was done. In 1955 Officer Brown, still active in surgery, handed over this job to Morris. They saw the necessity of continuing research and development in surgical technologies and of training all in the team before clinical application was acceptable. The Alfred and its Baker Institute accepted the challenge and this model has influenced many Australian surgeons. In 1955 Lillehei in Minnesota had used a heart-lung machine to carry out open-heart surgery for the first time. Morris decided to follow his lead and, in March 1957, after two years of research and development, carried out the first such operation in Australia on a young boy with a 'hole in the heart'. Fay took over the preparation of the machine and its use during all operations carried out by Morris and his colleagues. Many operations followed: on other congenital defects, on the valves of the heart and cardiac transplantation. Morris carried out the first coronary artery bypass operation in Australia in 1969. He trained many surgeons from Australia and overseas and helped set up a unit in Singapore. He was a great leader, a humble, caring, man and a good teacher: many owe him their lives.

In 1971 Ken and Fay retired from cardiac surgery—to do other things while they were still young enough to do them well. They had holidayed at Kilcunda and later farmed near Bass. Morris became a serious student of local history. He helped Tom Horton write *The Andersons of Westernport*, and wrote *Our School by the Sea*, a history of Newhaven College. My favourite, *George Bass in Western Port*, is a scholarly analysis of Bass's

reports and 'eye sketch' of Western Port Bay, helped by Morris's observations and knowledge of the area.

Fay died in 1997 and for Ken life was not the same. He was a great and caring friend to many and he had done great things. Ken and Fay's two children, Graham and Margaret, their grandchildren, James and Thomas, and their great grandchildren, Jacqueline, Ella and Alfred, miss them. They left the world a better place.

George R Stirling AM FRACS FACS

Henry Norman Burgess Wettenhall AM

MB BS 1940, MD 1947, FRCP, FRACP

1915–2000

NORMAN WETTENHALL HAD a rich and colourful life: distinguished paediatrician, eminent ornithologist, avid conversationalist, book collector, philanthropist, family man.

In 1913, his parents travelled to England and on the outbreak of war his father joined the RAMC. Consequently, Norman was born in England.

Back in Australia, his father specialised in dermatology and became a consultant at the Melbourne Hospital. His mother was Jane Vera Creswick, daughter of A T Creswick, a noted pastoralist. His mother's death, when Norman was eleven years old, had a profound effect on him: his father became more and more steeped in the church, and gave Norman a strict Presbyterian upbringing.

His primary schooling was at Glenmorgan in Toorak and then at Geelong College, where his red hair earned him the schoolboy nickname of 'Raspberry'. Norman studied humanities and was a school prefect. Throughout his life he remained a great supporter and benefactor of his old school, being on the Council for over thirty years and Chairman from 1969 to 1977. He was only the second person to be appointed a Life Governor of Geelong College.

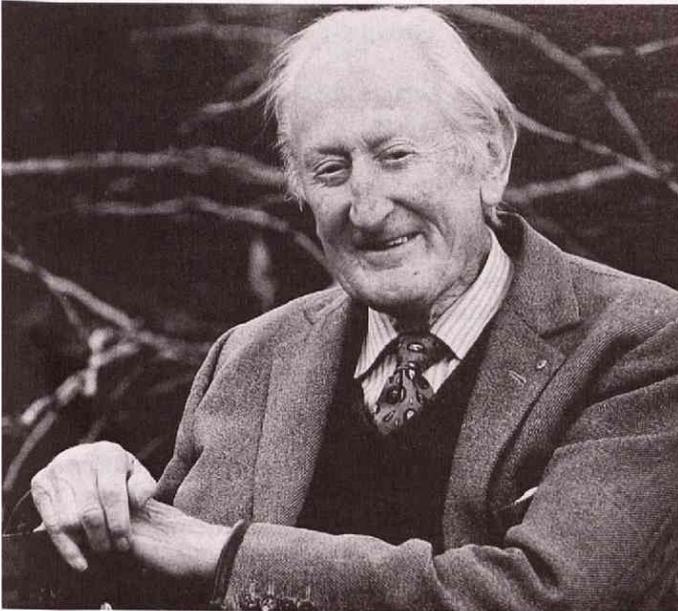
I first met Norman in 1937 when we were both members of a group that explored the islands in Bass Strait, sailing on the Gloucester fishing schooner *Henrietta*. Even at this stage his interest in birds was apparent.

He made a late decision to do a medical course and, having not studied any scientific subjects at school, found first year difficult. However, hard work and ability saw him through and this continued throughout his course so that he graduated high on the honours list.

After spending 1941 as a Junior Medical Resident Officer at the Royal Melbourne Hospital, Norman joined the Royal Australian Navy and saw service as a Surgeon Lieutenant on HMAS *Shropshire* and the destroyer *Nepal*. Whilst his ship was in East African waters he became severely ill with a blood disorder, necessitating blood transfusions and a long period of hospitalisation in Durban, and he was subsequently invalided out of the Navy.

When well again he was appointed Medical Registrar at the Royal Children's Hospital, an association that continued until 1980, being Dean of the Clinical School (1961–64) and, in the last seven years of his service, Head of the newly established Endocrinology Unit.

On a skiing holiday at Mt Kosciusko he met Joan Lamb from Sydney. They were married in April 1947 and left for England later that year. Norman did further paediatric training at the



NORMAN WETTENHALL

Hospital for Sick Children, Great Ormond Street, while Joan was busy having two children.

He was physician at the Royal Children's Hospital from 1948 to 1973, interspersed with periods of training and, later, of teaching in endocrinology at Johns Hopkins Hospital, Baltimore, USA.

Wettenhall's involvement with ornithology was intense and sustained over some fifty years. He was skilful in the field, but made a great contribution to the Royal Australian Ornithologist's Union (now Birds Australia) as a Member, Councillor, President (1975-83) and, later, as Chairman of the Fundraising Committee for the *Handbook of Australian, New Zealand and Antarctic Birds*. Five volumes of this award-winning ornithological masterpiece have been published; two more volumes are in preparation.

Norman gave his time and commitment to many other bodies—the Victorian Conservation Trust, the Museum of

Victoria, the World Wildlife Fund, the Australian Conservation Foundation and the Museum of Modern Art at Heidi.

He was a great collector of books on birds, natural history and Australiana. His valuable collection has been sold to establish The Norman Wettenhall Foundation, aimed at protecting and monitoring Australian fauna, flora and the environment.

His energy was enormous, his interests wide. He was talkative and a brilliant and persistent networker. All this is reflected in his considerable achievements. He was gregarious, generous and a good companion who enjoyed all aspects of life and living.

At his memorial service in the Toorak Uniting Church there was not an empty seat. All present had their own recollections of Norman. A colleague recalled his high profile as a paediatrician; a noted ornithologist talked of his passion for birds; his children Gib, Jane, Adam and Helen participated. The picture that emerged was of a devoted father, a talented and disciplined man, generous of time and money and totally committed to the causes he supported. His great contribution to Geelong College, the Royal Children's Hospital and Birds Australia will long be remembered. The University of Melbourne farewells a most distinguished graduate.

James Guest

Sir Michael Francis Addison Woodruff

BENG 1933, MB BS 1937, MD 1940, MS 1941, DS 1962, FRCS (ENG & ED), FRCP (ED), FRACS, FRS (ED & LOND)

1911–2001

UMMS RECORDS WITH SADNESS the passing of Professor Sir Michael Woodruff in Edinburgh, Scotland on 10 March 2001. A full obituary will appear in the 2002 issue of *Chiron*.

Eds

UMMS RECORDS WITH REGRET THE PASSING OF...

Owen Hugh Dunon (Bill) Blomfield, MB BS 1954

Edward Leslie George Beavis, MB BS 1944

John M Bradley, MB BS 1947

John T Cahill OBE, MB BS 1940

Ronald P Cleary, MB BS 1951

Brian Clerehan, MB BS 1942

Donald A Coventry, MB BS 1956

Harry G Cumming, MB BS 1946

Norman A Cust, MB BS 1933

Frank G Edwards, MB BS 1947

Robert K Edwards, MB BS 1938

Eric B Garratt, MB BS 1959,

John W Hill, MB BS 1953

John Anthony Horgan, MB BS 1955

Maurice G Ingram, MB BS 1944

Donald S Jacobs, MB BS 1960

John J Kenny, MB BS 1934

Peter R Kerr, MB BS 1959

Peter Kirby, MB BS 1951

Michael C Laver, MB BS 1965

William M Leembruggen, MB BS 1942

Frank McCoy, MB BS 1936

John S Murphy, MB BS 1940

James P O'Neill, MB BS 1950

Desmond J O'Shaughnessy, MB BS 1952

Douglas B Pearce, MB BS 1942

Graeme J Pollock, MB BS 1948

William A Self, MB BS 1952

William Smith, MB BS 1939

Tam Steel, MB BS 1935

Clark Stribley, MB BS 1971

Maxwell S Swan, MB BS 1951

William A Syme, MB BS 1952

Maxwell G Whiteside, MB BS 1949

Stanley C Wigley, MB BS 1944

John V Vaughan, MB BS 1944

A LASTING GIFT

Medical History at The University of Melbourne and the Johnstone-Need Medical History Unit

BY WARWICK ANDERSON



DR JAMES WALTER JOHNSTONE-NEED
1960-1994

THE STUDY OF THE history of medicine has a long history at the University of Melbourne, through both the Medical History Unit, under the direction of Professor Ken F Russell and later Professor Harold Attwood, and the History and Philosophy of Science (HPS) Department, where Diana Dyason taught for many decades.

Because of the generous benefactor Dr Walter Johnstone-Need, the future of medical history at the University is

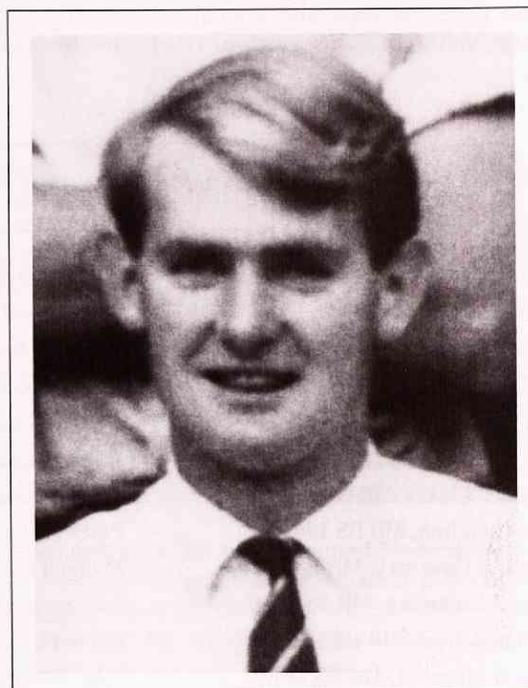
as bright as its past. The University of Melbourne has become the leading centre in Australia and the region for the study of the history of medicine, which includes the history of health and disease, and of nursing and other health care. The principal academic locus is now the Johnstone-Need Medical History Unit (JNMHU) at the Centre for the Study of Health and Society (CSHS), which is complemented by medical history teaching and research in the Department of History and Philosophy of Science, Faculty of Arts, and in the School of Postgraduate Nursing. Associate Professor Janet McCalman has a joint appointment in the CSHS and HPS while Dr Sioban Nelson, based in Nursing, has an adjunct appointment at the CSHS. Dr Di Tibbits, an historian of venereal disease, is a Fellow of the JNMHU and from July 2001, Ann Westmore, an historian of psychiatry, will be the R D Wright Post-Doctoral Fellow in the Unit. A second medical historian will be appointed to replace Associate Professor Warwick Anderson who resigned in January to take up a position at the University of California in San Francisco.

Bringing together historians from the Faculty of Medicine, Dentistry and Health Sciences and from the Faculty of Arts the current program in medical history is thus able to consolidate, and to build on, earlier work in medical history. Janet McCalman's recent book, *Sex and Suffering*, has won a number of awards, and has recently been republished by the Johns Hopkins University Press; Warwick Anderson's book, *The Cultivation of Whiteness: Science, Health and Racial Destiny in Australia*, will soon be published by Melbourne University Press. Research students are working on a wide variety of subjects, including the origins of biological psychiatry in Melbourne, the development of geriatrics, homoeopathy in New South Wales, the history of surgical education, childhood disease in the nineteenth century, the past treatment of alcoholism, early Melbourne surgery, and blood transfusion policy making. The CSHS also offers graduate coursework degrees: a Certificate and a Graduate Diploma in Health Care History. An active History of

Medicine Working Group meets monthly, bringing together staff and graduate students, and scholars from across Melbourne.

Teaching and research in medical history at the University is also organised through the Medical History Museum, established in the 1960s by Professor Ken Russell. Although the Museum is formally independent of the CSHS, the head of the Johnstone-Need Unit is ordinarily the chair of the Museum's Committee of Management, so the connection is actually a very close one. Since last year, Ann Brothers has been the Curator of the Museum, and she is an important contributor to the active medical history community at the University, and in Melbourne more generally. A Friends group was established at the Museum last year.

The Johnstone-Need Medical History Unit houses the Secretariat of the Australian Society of the History of Medicine, and has informal ties to the Medical History Society of Victoria. The only history of medicine journal in the Asia-Pacific region, *Health and History*, founded by Warwick Anderson and Janet McCalman, is still edited by them. A series of Witness Seminars in Twentieth Century Medicine in collaboration with Museum Victoria is also being organised by Janet McCalman. The first of these, 'Venomous Country: Medical Science and Australian Animal Toxins' will focus on the work of Dr Struan Sutherland and his colleagues at the Commonwealth Serum Laboratories. The day-long seminar will also explore the ecology of animal toxins, the history of the human response both medically and culturally, the early history of venom research and finally a look at where the science of envenomation is taking us



WALTER WINSTON JOHNSTONE, SON OF DR J W JOHNSTONE, IN WHOSE NAME THE WALTER WINSTON JOHNSTONE FUND WAS ESTABLISHED TO PROMOTE THE HISTORY OF MEDICINE IN THE FACULTY OF MEDICINE

in pharmacology. It will be held at the new Melbourne Museum on 16 June 2001. (Enquiries to Janet McCalman, janetsm@unimelb.edu.au)

The Johnstone-Need Medical History Unit is entirely supported by a donation from Dr J Walter Johnstone-Need, OBE. Dr Johnstone-Need was a leading obstetrician and gynaecologist at the Royal Women's Hospital, and the Acting Professor of Obstetrics in 1948. As Wally 'Hoppy' Johnstone he is fondly remembered by generations of medical students as an inspiring teacher who possessed a remarkably broad literary and historical knowledge of the sort that is now virtually extinct in these days of specialism. Born in Korumburra in 1906, Dr Johnstone-Need had attended Melbourne High School and graduated in medicine at the University of Melbourne. Queens College and the University of Melbourne shaped his career, and he recognised a debt to them. Fond of quoting Shakespeare, Wally Johnstone would perhaps have referred us to Henry VI: 'Ignorance is the curse of God; knowledge is the wing whereby we fly to heaven'.

In his obituary of Walter Johnstone-Need in *Chiron*, Vol 3, No 3, 1995, Barry Kneale wrote:

In 1947 as a fifth year medical student at the Women's Hospital we were summoned to the labour ward by five bells which indicated an honorary was at work there. We were met by a short, stocky man with wavy fair hair drooping over his left eyebrow. In a slightly high-pitched articulate voice he said 'DOCTORS, you are about to witness a birth by BREECH'. A magnificent display followed of an assisted breech delivery accompanied in incisive tones by a historical account of the contributions of the master *accoucheurs* - the Mauriceau, Smellie, Viet-Liveset and Burns Marshall manoeuvres. Finally a majestic slap on the up-ended infant's buttock brought the first cries of a healthy newborn. Who was this man with the limp, the ready wit and smile and indefatigable energy? It was the surgeon, J W Johnstone, whose plate I had seen from the tram.

His interest in medical history led Johnstone-Need to establish the Walter Winston Johnstone Fund, in memory of his son who was killed in a motor car accident.

Last year, Professor Richard Larkins hosted a special dinner at University House to thank the family of Dr Johnstone-Need for the continuing support of medical history at Melbourne. As a result of this bequest, future generations of students will have an opportunity to learn about the history of their profession.

Warwick Anderson, previously Director of the Centre for the Study of Health and Society, is now at the University of California at San Francisco



NAMING OF THE JOHNSTONE-NEED MEDICAL HISTORY UNIT, 14 NOVEMBER 2000.
BACK ROW L-R: HAROLD ATWOOD, RICHARD LARKINS, WARWICK ANDERSON.
FRONT ROW L-R: JANET MCCALMAN, HELEN JOHNSTONE (DR J W JOHNSTONE-NEED'S DAUGHTER) AND MURIEL JOHNSTONE-NEED (DR J W JOHNSTONE-NEED'S WIDOW)

BEQUEST AND MEMORIAL GIFT INFORMATION

If you would like information about establishing a memorial gift or making a bequest to the University, please contact Catherine Spencer at the Development Office, The University of Melbourne, Victoria, 3010. Telephone (+61 3) 8344 0896; email cmls@unimelb.edu.au. All enquiries are treated in strictest confidence.

Alumni in the USA, Mexico and the UK

If you are a resident of or have assets and tax obligations in the USA or Mexico, and are considering a gift or bequest to benefit the University, the University of Melbourne USA Foundation can assist with making such a gift tax effective.

The Foundation is an incorporated not-for-profit body in the USA. Contact: The Administrator, The University of Melbourne USA Foundation, 630 Mt Pleasant Road, Freeville, New York 13068 USA. Telephone (+607) 277 8860.

The Friends of the University of Melbourne Charitable Trust is a registered charity in the United Kingdom and offers similar benefits for prospective supporters in that country. Contact: The Trustee, The Friends of the University of Melbourne Charitable Trust, Swire House, 59 Buckingham Gate, London SW1E 6AJ United Kingdom. Telephone (+020) 7630 1075.

7 November 2000

MILLENNIAL CHALLENGES IN ABORIGINAL RECONCILIATION

BY PROFESSOR EMERITUS SIR GUSTAV NOSSAL AC, CBE

AN EDITED TRANSCRIPT

Introduction

BY PROFESSOR MARCIA LANGTON

Foundation Chair of Australian Indigenous Studies, The University of Melbourne



MARCIA LANGTON

May I acknowledge that we are this evening on Wurundjeri country.

It is my very great privilege to be asked to introduce Sir Gustav Nossal, who will be presenting this evening's 2000 University of Melbourne Medical Society Lecture.

Sir Gustav does not need introduction. Among his many honours and positions of high rank he is Australian of the Year for 2000 and Australia's best-known scientist; his research accomplishments are world-renowned. Retirement has not slowed the pace of his life. He is Chairman of the Strategic Advisory Council for the Bill and Melinda Gates Children's Vaccine Program, based in the United States of America, which was developed to help ensure that children in developing countries are immunised against major killer diseases. He has been instrumental in getting the initial funds of \$100 million raised to US\$1.04 billion, to spend over the next five years. This means that millions of lives can be saved from diseases that are so easily preventable.

Sir Gustav is also involved in many other organisations, which allows him to reach people in many areas of the community. He is best known among Aboriginal and Torres Strait Islander people as the Deputy Chairman of the Council for Aboriginal Reconciliation and is widely respected for his advocacy of reconciliation. He will be remembered by all of us who have tried to improve the circumstances and standing of Indigenous people in Australia for his wide and strategic interventions on health inequalities and for his commitment to public health and preventive medicine.

This is the last year of the Council for Aboriginal Reconciliation. In his address to the National Press Club in Canberra on 26 April 2000, entitled Symbolism and Substance in Aboriginal Reconciliation, Sir Gustav pointed out that the health issue is one example of how urgent the practical aspects of reconciliation are. Aboriginal and Torres Strait Islander peoples in Northern, Central and Western Australia have a lower life expectancy than any other Indigenous minority within a first world country. Overall life expectancy is eighteen years lower than for mainstream Australians. Of course, this is by no means due to the nature of the health services alone. It has a great deal to do with the overall life situation. Still, it is daunting to realise that the overall death rates are not falling fast enough in contrast to the situation in the United States, Canada and New Zealand. He exploded the myth that a great deal of money has been thrown at Aboriginal health, to no good effect. In fact, he said we spend a total of \$1.08 on health for Indigenous Australians as compared to \$1 spent per man, woman and child on mainstream Australians. Given a health status at least three times worse, this eight per cent differential is actually tiny and when one factors in remoteness—it costs more to do almost anything in a remote community—the difference disappears altogether. In relation to need, this situation is patently unfair.

It is extraordinary in Indigenous affairs in Australia for a renowned scientist of Sir Gustav's standing to defend and advocate Indigenous peoples' health issues. He recently accomplished another outstanding achievement, with the Chairman and other members of the Council for Aboriginal Reconciliation: an acceptance by the Federal Government of a negotiated process of benchmarks for improving the status of Indigenous Australians through practical reconciliation. I congratulate and thank him for his achievements in immunology, public health and in reconciliation.

He asked me to say in the introduction: 'This is my mate, Gus', but may I present Sir Gustav to deliver this year's lecture.

PROFESSOR LARKINS, PROFESSOR LANGTON AND ALUMNI in your droves, I, too, wish to acknowledge the Wurundjeri people, to pay my respects to their traditional elders and to thank them for allowing us to have this important meeting on their land.

This occasion does give me a chance to thank successive Deans—particularly Graeme Ryan, Gordon Clunie and Richard Larkins—for the unbelievable privilege of being able to occupy a splendid office in the Pathology Department, and my host, of course, Professor Colin Masters. I could not possibly have done any of the work that I've been doing over the last five years without this really quite extraordinary act of generosity. It also gives me a chance to say to Professor Suzanne Cory how grateful

I am to her for allowing me to have excellent secretarial backup from the Walter and Eliza Hall Institute, which is equally important to functioning. It has been absolutely fantastic and it's such a sheer joy to be one of your alumni now, in every sense of the word.

Aboriginal Reconciliation

I'd like to dissect with you where we are on Aboriginal reconciliation, both in terms of the political and the popular sides.

On 27 May 2000 the Council for Aboriginal Reconciliation handed two documents to the Australian people. One was the *Declaration Towards Reconciliation*—a poetic outlining of general principles that we hoped would be accepted by the whole nation. The second was a more detailed statement called *The Road Map for Reconciliation*, which outlined four strategies that we felt were needed for reconciliation. These are now in much more detailed form and will form part of the final report to Parliament at the end of 2000.

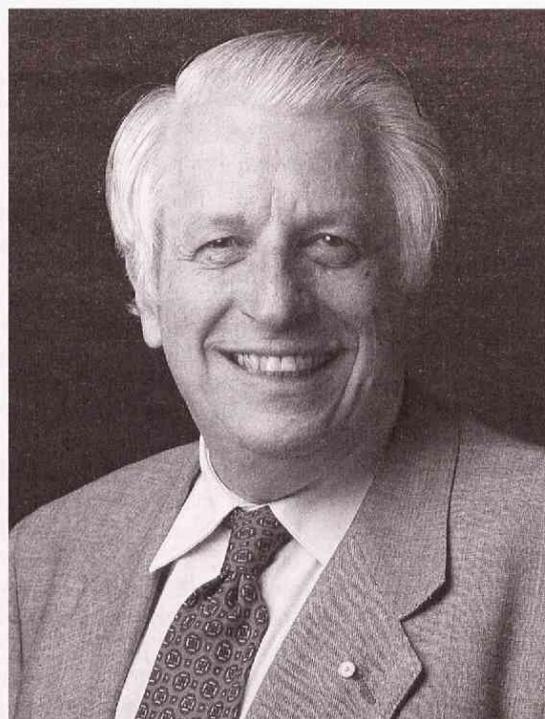
Before discussing why these documents were not accepted in full by the Federal Government, I have to say one very important thing: the broad thrust of the Council's work over nine years has been accepted by all the leaders of this country. On that classical day in the Opera House on 27 May 2000, there was the greatest ever gathering of leaders since Federation Day. Black and white—with a few notable principled abstentions from the black side—every premier, the Prime Minister, the leader of the Opposition, the leader of the Democrats, many, many cabinet members and many leaders of peak groups, including local government representatives. All of them affixed their handprint to the key strategic thrust document claiming and arguing for greater social justice in this country.

So, when I now dissect the differences, don't forget that the movement as a whole has made very great progress in those nine years.

...Aboriginal and Torres Strait Islander peoples do not want present day Australians to feel guilty about actions of past Australians, though perhaps they may want us to feel some shame.

The Declaration Towards Reconciliation

There were three sticking points that made the Federal Government decide not to accept the declaration in full. The first was the famous apology. This has been well canvassed in the media and perhaps need not delay us for too long. In Mr Howard's words, he did not want to accede an official apology on behalf of the Australian people because of what he termed the issue of cross-generational guilt. Our social research has shown quite clearly that Aboriginal and Torres Strait Islander peoples do not want present day Australians to feel guilty about actions of past Australians, though perhaps they may want us to feel some shame. But, interestingly enough, in the social research that we did, the quantitative polling, it turns out that the majority of Australian people agree with Mr Howard. By a slight majority, more Australians don't want to apologise than do want to apologise, although the overwhelming majority of Australians want reconciliation and consider it to be very important.



GUSTAV NOSSAL

The Council believes an apology would have been helpful but the time has long since passed for the present Prime Minister to issue one. In the very unlikely eventuality that he were to issue one, at the moment it would not be accepted as sincere. I wish that the media would de-emphasise this aspect of difference, because although the apology will eventually be important and will eventually be issued, it should not be a showstopper for the whole process, which has many, many other threads.

In Sir Ronald Wilson's report for the Human Rights and Equal Opportunities Commission on the stolen generations, the *Bringing Them Home* report, he said there are three things that will be very important in setting things right. The first is the apology, chiefly to signal a new beginning, a symbolic step that says: We're now going to begin as a united group to address the problems that doubtless remain. He also said it was important to help stolen children, no matter if the stolen children were now old, to make contact with their families, to reunite families that had been so abruptly ruptured in their youth. Lastly, and in a sense the most minor consideration, he mentioned financial compensation. The Council believes very strongly that a tribunal to settle the question of compensation by some non-adversarial process, some kind of reparation that doesn't involve the agony of perhaps as many as 2000 cases wending their way through the civil courts, would be a so much better way to go on this last aspect, because nobody believes that this should involve large amounts of money. You can't pay for a life that has been lost. I think what was in Sir Ronald's mind was the fact that, in our terms, giving money is something that hurts us and that therefore it would be a step assuring that we were for real and that we really meant the apology.

The second sticking point was the phrase 'self-determination'. The Government does not like the phrase 'self-determination of Indigenous peoples' because to them it connotes apartheid, it connotes a nation within a nation, it connotes a split Australia. We actually believe that that is a misinterpretation of what Aboriginal and Torres Strait Islander peoples themselves mean by the word. My wonderful Victorian colleague on the Council, Marjorie Thorpe, explained it to me

this way, she said: 'Look, Gus, self-determination is a very simple thing. For 212 years white fellas have been pushing black fellas around and telling them what to do. We reckon it's time for white fellas to get off the backs of black fellas. We don't want to be told what to do, how to live or what sorts of services should be provided. We want to determine ourselves how we're going to live, what sorts of communities we're going to have, how we're going to run them. And if help is required, as it undoubtedly will be in some cases, we want to be full and equal partners in deciding what kind of health service, what kind of house.' Surely not an unreasonable proposition! This kind of self-determination means fine-grained community involvement with less central bureaucratic decision-making as to how the funding will flow to Indigenous communities.

The third sticking point, and in a sense a rather more serious one, but not an insuperable one, was the Council's belief that we should respect and recognise continuing customary laws, beliefs and traditions. As you might imagine, we had quite a long discussion about each and every one of those words. It is not desirable, I think, in one country, to have two completely separate sets of laws, two judicial systems. But the Reverend Dr Djiniyini Gondarra, a very respected law man and a senior of the Methodist Church in East Arnhem Land, put it to the Council this way, and his voice carried the day. He said: 'Look, customary laws have been how we have lived with one another in communities for 50 000 years. Customary laws define a set of relationships between Indigenous peoples and their elders, the relationships between one clan and the next, the relationships governing marriage and procreation. And customary laws and traditions are very, very closely involved with our sense of spirituality. Therefore, just this sheer fact that we were invaded doesn't mean that all of these customary laws were all of a sudden washed away. That could not be.' I think from that point of view we would have to agree that customary laws involving a way of living have to be recognised. How it will relate to offenders in detail will depend very much on the seriousness of the offence and on the particular circumstances. I wouldn't want to go further than that. It does seem to me difficult that a person should be speared through the leg, but I think the circumstances as to when that law will prevail and when the white fellas' law will prevail is too particular to go into in a discussion such as this.

The Road Map for Reconciliation

Here we have made some excellent progress and I'm going to discuss the four strategies with you in the following order: the strategy to sustain the reconciliation process; to overcome Indigenous disadvantage; to address the employment situation; and the strategy for Aboriginal rights.

Sustaining the Reconciliation Process

Because of the sunset clause in its legislation, the Council disappears on 31 December 2000. We have negotiated that it will be replaced by a foundation. The foundation is to be called Reconciliation Australia and, unequivocally, we have the Government's agreement that the Council, not the Government, will be the obstetrician. The Council will name the founding board and that board of nine individuals will contain at maximum two, perhaps as few as one, members of the present Council, so that new faces will take over the struggle. This Council has had ten years to do its work, it's gone a long distance and this will be a new start. We hope and have received assurances that the foundation will be kick started by Government and will have tax deductibility status.

The foundation will be different to the Council in a number of very important respects. First of all it will have no politicians on it. Not that I have anything but the greatest respect for the three politicians on the present Council, but with three serving politicians on the Council, representing the Coalition, Labor and the Democrats, as well as two quasi politicians, namely the Chairman and Deputy Chairman of ATSIC, a certain structural rigidity is imposed that we want to avoid in future.

Secondly, the secretariat of this foundation will be absolutely freestanding from government, freestanding from the bureaucracy. What this foundation will do is it will continue the people's movement, by which I mean the anti-racism work in communities, the communication and education work, the work in the schools, the work with local councils, the work with the learning circles, the work with the Australians for Reconciliation coordinators in the various States.

The foundation will be housed in Reconciliation Square. This hasn't had much publicity, but the Prime Minister has offered a starting sum of \$5 million to construct a reconciliation square in the parliamentary triangle, in the most prestigious part of Canberra.

At a talk I gave recently to the Williamson Community Leadership Program, one chap got up in the question period and said, 'Look, it's so terribly interesting. I have learnt such a lot about reconciliation in this last year or two, and I now really have this cause as an interest, but I've actually never met an Aboriginal or Torres Strait Islander person. Never met one.' I think this is very true and for many Australians this will be a familiar concept. Most Australians do not have the chance to meet Indigenous people on the ground. I think the Council has done a good job at the grassroots in furthering that communication, in initiating discourse, in having white fellas ask black fellas into their homes for a cup of tea so that they can get to know each other as human beings, and so forth. That sort of work must go on. It's what I mean by the grassroots movement.

Most Australians do not have the chance to meet Indigenous people on the ground.

Overcoming Indigenous Disadvantage

This strategy, which is the same as practical reconciliation, of which the Prime Minister speaks, needs to be done in areas such as education, health, housing, employment opportunities and relations with the justice system. The Council has scored some real triumphs in this area. The executive of the Council put to the Prime Minister that the Council of Australian Governments (COAG) should take a leadership role in advancing reconciliation. In the event, on 3 November 2000, reconciliation was only one of three or four major agenda items on the COAG agenda, and all the positions that the Council put were agreed to. The COAG agreed to a national approach based on a partnership concept with Aboriginal and Torres Strait Islander peoples—a fine-grained process of actually finding out from communities themselves what it was that they wanted and needed. Best of all, the COAG accepted that there should be a performance monitoring strategy, with quantitative benchmarks through Commonwealth State Ministerial Councils, and for the COAG to review progress in twelve months time and periodically thereafter. We're so often accused that all of this reconciliation stuff is just words. You hear that often in communities, 'We don't want just more words, we don't just want a fine piece of paper'.

Well, this process will ensure that governments—Federal, State and local—will be held to account if the benchmarks, to the setting of which they have been a party, are not met. The benchmarks will not be set by the foundation, they will not be set by the Government, they will be set in partnership between governments and Indigenous communities. I think that is a real breakthrough. It offers us a process with some hope.

The key difficulty here lies in recognising that there is a difference between a right which Aboriginal people but no others possess, and the other concept of enjoyment of rights.

One area that I want to comment on most particularly is almost exclusively the work of my boss, Dr Evelyn Scott. She believes that the Council so far, and ATSIC also, have not sufficiently addressed the question of some of the darker aspects of Indigenous life itself: family violence, drug and alcohol dependency, sexual violence and other symptoms of community dysfunction. Her idea is that it is women—Indigenous women—who can help to fix these problems. She says the men, including the elders, have sometimes given up on these problems and that there will even be individual occasions when the elders themselves are the perpetrators of sexual violence. It is a very, very courageous thing for her to say.

She has the Prime Minister's agreement to an initial sum of \$20 million, being put under the control of two ministers, with a group of eighteen Indigenous and mainstream community leaders, including prominent people like Evelyn Scott and Noel Pearson, to help this process of the empowerment of women. This is a problem, which, frankly, only Indigenous people themselves can solve. This is not one where you can jet in on an aeroplane in two days time, visit the community and say, 'Thou shalt not bash up your wife when you get drunk the day the dole cheque arrives'. It's a problem that has to be solved within the community.

Economic Independence

The third of the strategies—fostering greater economic independence—is very important and here, also, the Council has had a bit of a breakthrough. We've gone to every State and Territory premier and to the leaders of the State and Territory oppositions, and said to them: 'Words alone are not enough. We now want concrete commitments from you. We want you to tell us in a planned manner, according to a questionnaire left with you, what you are going to do about these specific aspects of Indigenous affairs, to rectify the sins of commission and omission of the past.' We've had a remarkable reception to this.

In the final report to Parliament, which will be handed down on 7 December 2000, we will include a whole series of these commitments, not just from governments, but also from peak bodies and sizeable community groups. For example, we've written to each Chief Justice to say: 'What will you do in your jurisdiction to improve matters with respect to the administration of justice with and on the Aboriginal community?'. We are very heartened by these commitments as they're coming back because there really does seem to be a climate for change.

Aboriginal Rights

This is the most difficult of all the strategies. The key difficulty here lies in recognising that there is a difference between a right which Aboriginal people but no others possess, and the other concept of enjoyment of rights. Because in many cases what is wrong in Indigenous communities isn't that they don't have the normal human rights that every human being shares, but that the dispossession, the alienation, the despair and the continuing discrimination makes it difficult for them to actually enjoy their human rights. We're trying to spell that out very clearly in the rights strategy. It needs to be noted that the Law does give some specific rights to Indigenous people—Mabo Two and Wik gave Indigenous people native title rights, but this is still very poorly understood in the Australian community. The Heritage Act of 1984 protects aspects of Aboriginal heritage.

We think a symbolically formal recognition of Indigenous peoples as the first peoples of Australia, in all relevant legislation and in a formal endorsement of the *Declaration Towards Reconciliation*, would be one right that would cost nothing but would mean a great deal to the Aboriginal and Torres Strait Islander peoples. It's a right that has been granted in the United States and in Canada, and I think could be an important step towards reconciliation here.

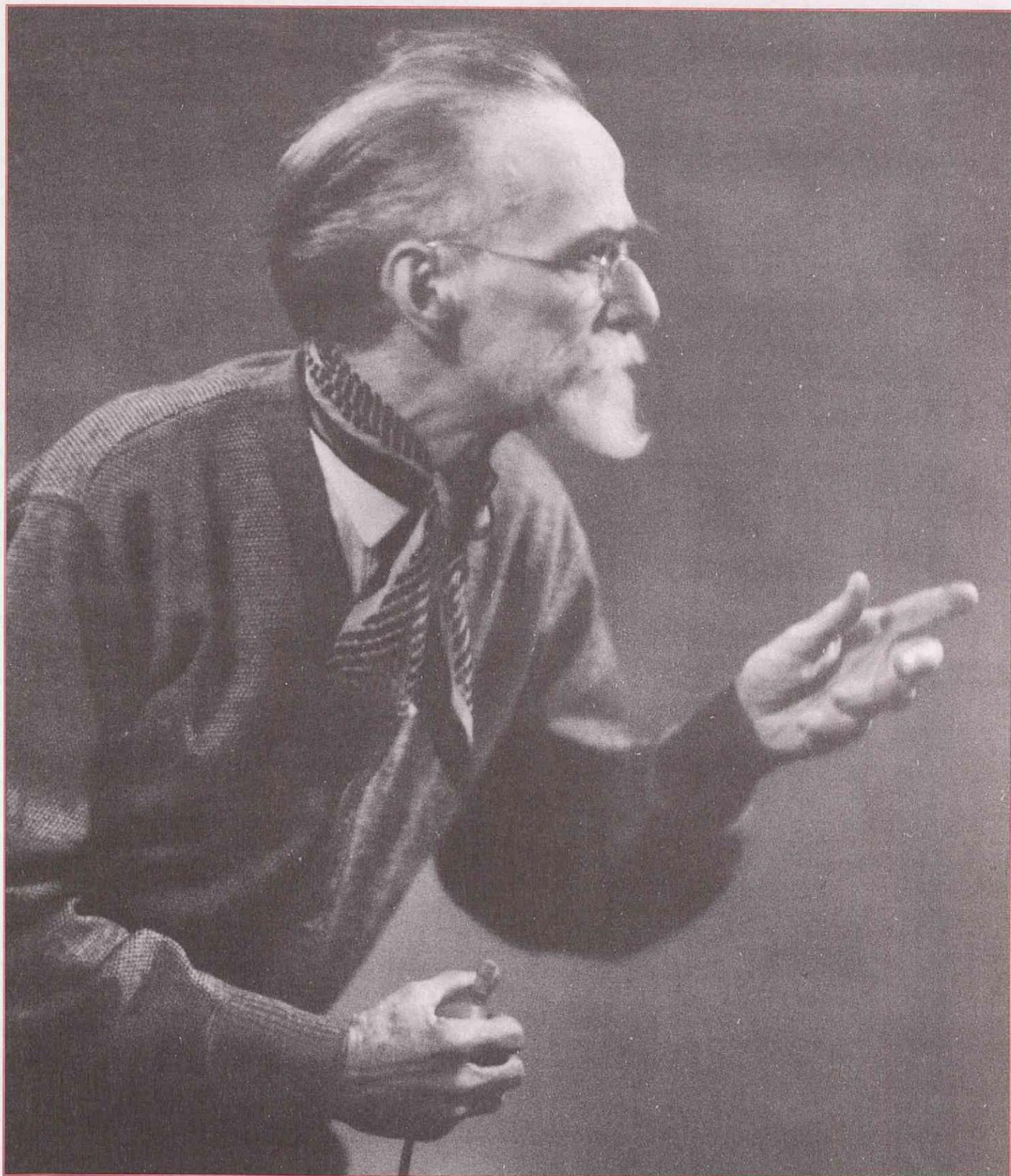
On 7 December 2000 the final document will be handed to the Federal Parliament. The four strategies will be spelled out in considerably more detail and appended will be the instructions for draft legislation to put in place a process or framework where unresolved issues, the so called unfinished business, can be addressed together. The commitments will be stapled to it.

As maybe the most moving thing of all, we will also hand to the Parliament a banner consisting of 1250 pieces of tapestry, from 1250 different primary schools, to tell the Government, to tell the Parliament, what young people think about Aboriginal reconciliation. If you could see, as I have seen, a few dozen of these pieces in their beauty, and the exquisite nature of the work and the sincerity of the sentiments expressed, that might be just about the high point of the final handing over.

The People's Movement

What about the popular side? The people's movement has gone a long way in the decade the Council has been working, even in the three years since the Reconciliation Convention in Melbourne in May 1997. I never thought that reconciliation would receive the constant media attention that it has, particularly in the last year or two. I never thought a quarter of a million people would walk across the Sydney Harbour Bridge—peacefully, joyfully—for reconciliation, followed by similar walks in Brisbane, Hobart and Adelaide. If nothing else, those walks have given the lie once and for all to the idea that reconciliation is something that only Aboriginal people and the 'Chardonnay Set' care about. That was the broadest cross section of ordinary Australians you could ever see in those walks. Above all, I never thought that the year 2000 Olympic Games would be so dominated by reconciliation themes. The grassroots movement is alive and well. Although racism is not dead, and the work must continue, we have come a long way.

...those walks have given the lie once and for all to the idea that reconciliation is something that only Aboriginal people and the 'Chardonnay Set' care about.



JULIAN SMITH—THE PHOTOGRAPHER

At the meeting forming the Friends of the Medical History Museum, a number of Julian Smith's masterpieces of photography were displayed, including the above self portrait. Julian Smith died in 1947. He was a man of much original thought and action—talented, idiosyncratic, unconventional. Russell Grimwade tells a story of how Julian Smith and the artist Lionel Lindsay were brought together by mutual friends. They met, spent an hour together, then parted. Each was found to have much the same opinion of the other, expressed in almost identical words: 'A most interesting fellow, but no listener'.

Z I N E

DIRECT BLOOD TRANSFUSION AND THE JULIAN SMITH PUMP

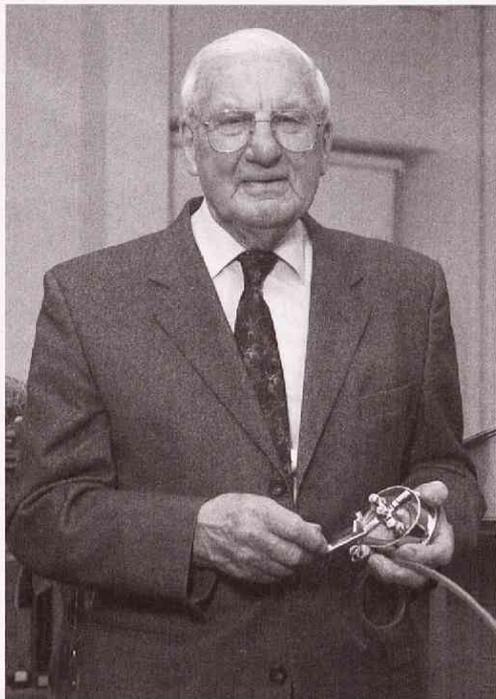
BY JAMES GUEST

When the Friends of the Medical History Museum was formally launched in September 2000, James Guest was invited to speak on some aspect of the Medical History Museum. He chose the topic of blood transfusion, with special reference to the Julian Smith Pump—an article of equipment he had presented to the Museum many years earlier. This is an abstract of his talk.

WILLIAM HARVEY PROPOSED his theory of the circulation of the blood in 1628, but it was not until 200 years later that James Blundell of Guy's Hospital in London performed the first really successful direct blood transfusion. Probably the single most important discovery in the history of blood transfusion was when Karl Landsteiner demonstrated the presence of iso-agglutinating and iso-agglutinable substances in human blood in 1900. This was the basis of the ABO blood group classification and the major risk of incompatible

transfusion was thus eliminated. Then, in 1914, Hustin reported the use of sodium citrate and glucose to prevent coagulation and indirect transfusion became possible.

War accelerates many activities and the Second World War renewed interest in blood transfusion. In Victoria, two names stand out—Julian Augustus Romaine Smith and John Angus McLean. In 1939 Smith was sixty-six years of age. A retired



JAMES GUEST

surgeon, he was one of a band of brilliant surgeons, which included T P Dunhill, H B Devine and Murray Morton, who had helped to put St Vincent's Hospital Clinical School on the map. He was also a world-renowned photographer. John McLean, thirty years younger, was a trained haematologist who, as a result of his painstaking and persistent work on direct blood transfusion, became an Alfred Hospital 'great'. He, too, was a gifted artist.

McLean had a rotary pump made for him by Gordon Machin, instrument maker to the Baker Institute, to a design published by Victoria Riddell, surgeon to the British Red Cross. This simply designed pump depended on the serial compression of a rubber tube. Michael DeBakey had described a somewhat similar apparatus. Additions and refinements were made by Julian Smith and, in Australia, the pump came to bear his name. He also designed a special

needle with a highly burnished internal surface and an ingenious needle sharpener to keep the tip of the needle in first class condition.

The body of the pump is a shallow well which accommodates a length of rubber pressure tubing for about four-fifths of its circumference. The remainder of the circumference provides entry and exit ports for the tubing. Two vertical rollers compress the tubing against the inner wall of the

FRIENDS OF THE MEDICAL HISTORY MUSEUM

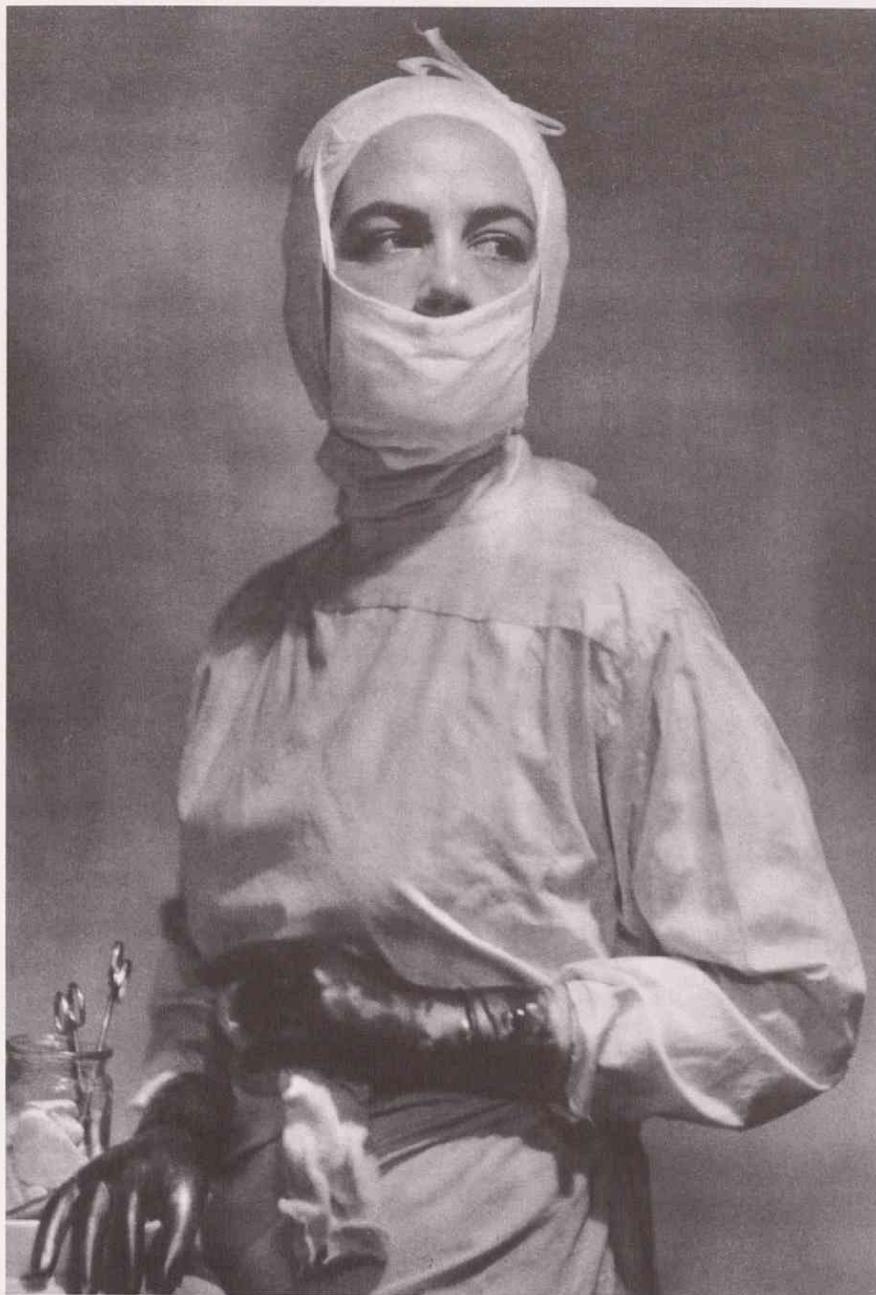
All those with an interest in medical history at the University of Melbourne are invited to join the newly formed Friends of the Medical History Museum. The broad aim of the 'Friends' is to provide support for the Medical History Museum of the University of Melbourne.

The Friends was formed through the adoption of a draft constitution presented at the Annual General Meeting of the Medical History Society of Victoria held on 2 March 2001. The President, Di Tibbits, and members of the Society are thanked for providing the opportunity for this event to take place during the course of their own meeting and for their support and interest.

Friends of the Medical History Museum Committee

The Committee is composed of James Guest (President), Noel Cass (Vice-President), Marie Rogers (Honorary Secretary), Margaret Naylor (Honorary Treasurer), Alan Malcolm, Bill Swaney and ex officio members Ann Brothers (Curator of the Museum), Rod Home (vice for Janet McCalman, Director of the Museum) and Richard Larkins (Dean of the Faculty) together with a nominated officer of the Information Division of the University.

The membership encouragingly numbers twenty-eight and is open to any interested person over the age of eighteen years. Enquiries are welcome and should be directed to the Honorary Secretary, Friends of the Medical History Museum, 26 Stirling Street, Kew, Victoria, 3101, telephone number (+61 3) 9815 2425.



'THE THEATRE SISTER' FROM '50 MASTERPIECES OF PHOTOGRAPHY' BY DR JULIAN SMITH

well, producing a continuous milking effect of blood from donor to recipient. Two horizontal rollers keep the tube in optimum position.

The pump is clamped to a bench reaching between the beds or stretchers on which the donor and recipient are lying. The pump is operated manually: there is a revolution counter and a stopwatch is used as a guide to deliver one pint of blood in approximately six minutes. Teamwork is essential—requiring an operator and a skilled assistant who can share the various steps in the procedure. A pot of sterile saline is attached to the bench and all air in the tubing is displaced by saline with a few turns of the pump. The recipient's vein is needled and a little saline run in. On the donor's side there must be an easily collapsible section of rubber tubing attached to the needle. This is really the manometer and safety valve of the operation. If delivery of blood from the donor becomes slow the tubing collapses,

warning the operator who can then reduce the rate of revolution of the pump or, if necessary, discontinue the transfusion.

In 1942, my colleague Keith Bradley and I were recruited by Julian Smith to assist assembling direct blood transfusion units that he was preparing for our fighting forces. Concurrently, he instructed us in the use of the pump and for a short period, while waiting to be called up for the Royal Australian Navy, we provided a direct transfusion service at the Royal Melbourne Hospital.

Blood from the donor and recipient was carefully cross-matched and we used needles of 1.6mm bore. In most cases one pint of blood was given, at an average rate of five minutes and twelve seconds. Occasionally we used two or three donors and we treated over one hundred cases.

At that time there was a concept of 'speed shock', i.e. the possibility of embarrassment to the right side of the heart due to circulatory overloading caused by too rapid transfusion. We kept careful watch on the jugular venous pressure and in a small number of patients measured the venous pressure. The maximum pressure recorded was 4cm of water and there was no evidence of circulatory overloading in patients suffering from acute blood loss.

Whilst serving at sea I had a Julian Smith pump with me, but found I did not have the luxury of time for direct transfusion when treating battle casualties.

The greatest exponent of direct blood transfusion in Victoria was John McLean. He started in 1939 and was involved in several thousand direct blood transfusions. Patients came from his own haematological practice and he found great use for direct transfusion in the treatment of haemorrhagic conditions associated with platelet deficiency, and in cases of severe infection. He also recorded over 1000 transfusions for refractory (aplastic) anaemia. He pioneered massive

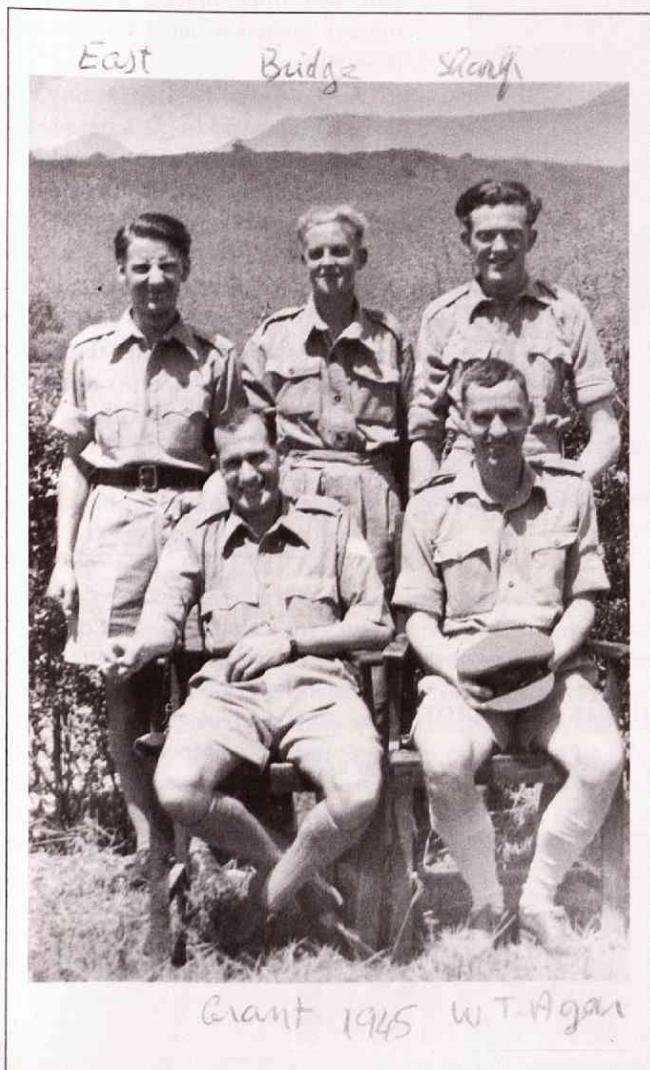
exchange transfusions and developed a technique for exchange transfusion using simultaneous catheterisation of artery and vein in collaboration with H A Luke.

The transfusion service of the Australian Red Cross played a large part in the success of direct blood transfusion. Over 11 000 blood donations were given by volunteers, who formed an ever willing emergency panel.

Although the Second World War did provide a stimulus to direct transfusion it was of short duration. In the post-war period Edwin Cohn developed the technique of 'fractionation of blood', which meant blood could be separated into its constituent parts. Plasma could be freeze-dried and reconstituted; packed cells, platelets, various clotting factors and immunoglobulins could all be isolated and dispensed individually to those in need. The birth of this new 'blood industry' meant the death of direct transfusion.

BLOOD SUPPLY IN WARTIME INDIA

BY WILFRED AGAR



WILFRED AGAR AGED 35—SEATED AT RIGHT, WITH LABORATORY STAFF OF THE NO2 BASE TRANSFUSION UNIT, DEHRA DUN, INDIA, IN 1945

In 1942, while working at Oxford (see Obituaries p35) Wilfred Agar volunteered for military service. He was posted Officer in Command of No32 Field Transfusion Unit and in January 1943 left England on board the SS California for India. The following is an edited extract from Wilfred Agar's autobiographical notes.

THE VOYAGE, IN A SMALL convoy, was uneventful, though I learnt later that troop convoys round the Cape had been suspended owing to an attack on a previous convoy and that we were the first to try it again. The ship was crowded with troops and I had to give a hand as a medical officer despite considerable lack of clinical experience.

We arrived off Bombay in the middle of March and spent a further few days anchored there. I then collected my vehicle and stores (not without difficulty) at Bombay and set off for Dehra Dun in the lorry with the driver, the two other men having gone by rail.

We travelled in a large convoy of Army vehicles via Indore and Agra, to Delhi, a distance of 870 miles, sleeping at night by the lorry. The journey took ten days, travelling by easy stages. We were supposed to receive further orders from the Staff Officer at Delhi but he knew nothing about us, so after a few days we joined up with a signals lorry, also destined for Dehra Dun, and set off. A day's journey of 150 miles, the latter part of it through very attractive country in the Siwalik Hills, took us to No2 Base Transfusion Unit (BTU) at Dehra Dun.

Dehra Dun, my base for two and a quarter years, was in the foothills of the Himalayas, at a height of about 2200 feet. Behind was a ridge of 6500 feet on top of which were the villages of Mussoorie and Landour, at a distance of twenty miles along a very winding road. We sometimes went there for the day in the weekends. From the ridge there were magnificent views, southwards across the plains and northwards to the snow-covered peaks of the Himalayas about sixty miles away, including Nanda Devi, 25 000 feet. The view from Chakrata, fifty miles to the northwest, where I convalesced for a few days from an attack of sandfly fever, was even more striking. The climate of Dehra Dun was tolerable—the temperature rarely exceeded 105°F, though the daily maximum was often above 100°F for a week at a time. In winter there was an occasional sprinkle of snow.

I was soon deprived of my command of No32 FTU and transferred to the staff of No2 BTU—they wished to keep me there owing to my laboratory experience. In fact, I was technically in the Indian Army, being seconded to the No1 Indian Blood Storage Unit, which was merely a device for increasing the staff of No2 BTU.

The Unit shared the work of supplying the transfusion requirements of India and the Burma front with No1 BTU, stationed at Poona. We concentrated mainly on the production of crystalloid solutions, saline and glucose saline, with a lesser emphasis on whole blood and plasma, which were the main concerns of No1 BTU. Other important sidelines were the preparation of grouping serum, and of sulphanilamide saline and ampoules of sulphamezathine. All this work was primarily my responsibility as I was in charge of the laboratory. The Unit also prepared and sterilised blood giving and taking sets and produced vast quantities of distilled water for making the solutions.

The work steadily increased throughout my stay and reached a peak in the first half of 1945. During most of 1944 and 1945 we had a working day of about ten hours on weekdays and worked most of Saturday, often with a half day on Sunday and night shifts in times of crisis. The number of men increased progressively, and for a time we had the assistance, as prisoners of war, of the crew of an Italian submarine captured intact in the Red Sea.

Our statistics were impressive. During my stay we prepared 151 000 bottles of solutions of which 80 000 were made in the first half of 1945. We bled 20 500 donors (of which I bled about 600), made 6200 bottles of plasma and issued 2500 bottles of

whole blood, beside the grouping serum and sulphonamide solutions already mentioned. The latter were a great success and we heard that they had saved many lives. The work was a real grind—the process of 'checking solutions', which involved inverting each bottle and inspecting it closely for particulate matter, was quite heavy physical work on the scale on which we operated and I shared this task with my sergeant.

Another part of the work involved the running of frequent courses in transfusion techniques for medical officers. I gave lectures on many topics, but principally on the physiology of shock, the maintenance of a blood bank, and blood grouping. This work involved many trips to Calcutta and back, 970 miles each way, staying for periods of one to four weeks. One of my trips to Calcutta was



WILFRED AGAR AGED 28—LEAVING FOR OXFORD UNIVERSITY IN 1938

during the famine of 1943; it was startling to see bodies lying in the streets. In Calcutta in August one experienced what tropical heat could be like. I visited Delhi several times and was once among a group of officers invited to meet Lord Wavell, then Viceroy.

At the end of 1944, Rosemary and the girls managed to get a passage to Australia and I applied for transfer to the Australian Army, to avoid repatriation to England when the war ended. We celebrated VE day in May with great rejoicing, but it made no difference to our work. Finally, my transfer to Australia came through. I left Dehra Dun for Calcutta on the day the Japanese surrendered and disembarked at Sydney on 30 September 1945.

The History of Tuberculosis in Victoria

AN EXHIBITION AT THE MEDICAL HISTORY MUSEUM UNTIL OCTOBER 2001

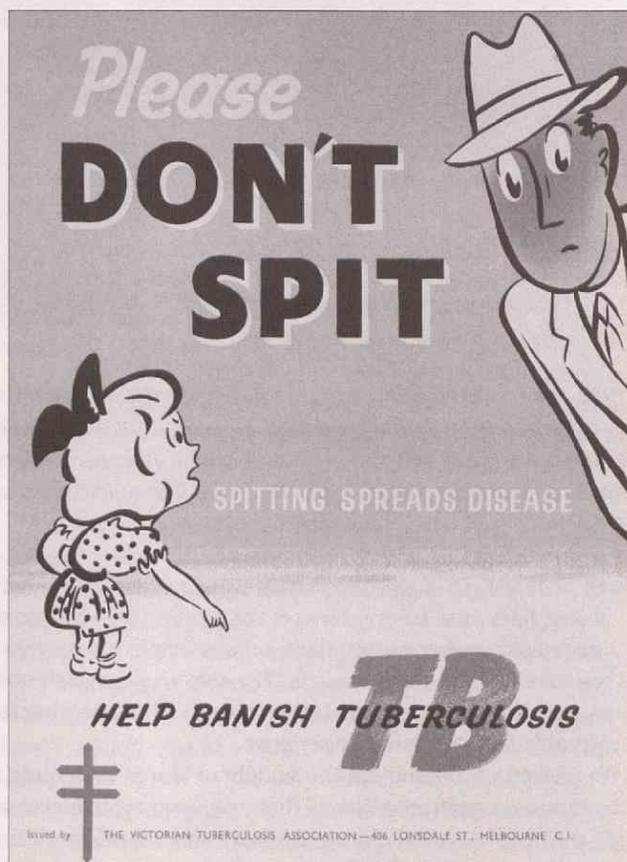
This exhibition celebrates the effectiveness of the public health program (1948-76), which contributed to Australia having the world's lowest incidence of this debilitating disease.

It explores the cause and manifestations of TB, past methods of treatment, the development of a vaccine, and contemporary methods of control. It also aims to assist Australians born after 1980, and largely unfamiliar with TB, to become more aware of its characteristics and its potential to re-emerge in areas of urban poverty, intravenous drug use, and amongst sufferers of HIV-AIDS.

A generous grant from the Victorian Tuberculosis and Lung Association has enabled the recording of a collection of oral histories, giving personal accounts of TB as experienced by several patients, a thoracic surgeon and physician, and nurses working both in hospitals and in the Public Health Service.

A selection of these stories feature in the exhibition, while the master tape will be placed in an appropriate archive as a resource for future researchers in the field, and a lasting testimonial to the lives and work of those associated with the disease.

*Medical History Museum, Second Floor,
Brownless Biomedical Library,
The University of Melbourne
Hours Mon—Thurs 9am-10pm; Fri 9am-6pm
Enquiries: Phone (+61 3) 8344 5719*



THE ST VINCENT'S HOSPITAL CLINICAL SCHOOL

A Personal Reflection

BY BRYAN EGAN MB BS 1949

ABOUT MIDDAY ON the first day of a new term in the mid-1940s, twenty or so students walked across from the University of Melbourne to St Vincent's Hospital. They were soberly excited because they had a boundary to cross. They were about to become clinical students in a hospital, on their first day in the then Division III of the course.

Smallest of the general teaching hospitals, St Vincent's had placed no obstacles in their way—it could not afford to turn away the qualified. In any case,

the greater number of the group had given little thought to any other choice. As Catholics they had more or less automatically enrolled at St Vincent's after passing third year examinations. Most knew little about the Hospital that had beckoned them in their pre-clinical years, but there were a number who, while not Catholics, had actively chosen St Vincent's because of family links or because they were attracted by its friendly and reputedly less student-crowded image. Probably none were aware that although the Hospital was only half a century old, the Clinical School was in its thirty-fifth year.¹

The St Vincent's Clinical School was established mainly because the 'amiable despot' who ran the Hospital, Sister Mary Berchmans Daly (a Sister of Charity and a teacher, but not a nurse) and two young surgeons, Tom Dunhill and Hugh Devine, agreed it would be a good idea.² In 1905 St Vincent's had completed a new ward building that could house eighty-eight patients but, by imaginative use of space, the Hospital could fit in some 120 inpatients. That was a meagre company for a clinical school. Nevertheless, Mother Berchmans (as she was



SISTER MARY BERCHMANS DALY. Photo SVHA

known while rectress) applied for recognition to the Faculty of Medicine in 1907. The latter decided on 19 December 1907 that, 'in view of the small number of Medical beds available and the smallest provision for Pathological work and teaching...there is not sufficient material for instruction in Clinical Medicine'. The University, however, was anxious to have another clinical school (for reasons which will become clear) and the Faculty members offered to consider the St Vincent's application again on 24 February 1908.³



THOMAS DUNHILL. Photo SVHA

Mother Berchmans took the hint. She persuaded the medical staff to agree to changes in bed allocation and, moving faster than could any hospital with a management committee, had an amended application before the Faculty on 24 February, offering to reduce gynaecology beds in favour of medical beds and to build new pathology facilities.⁴ The Faculty was won over a year later when it had seen the new pathology department plans and in April 1909 recommended recognition of the St Vincent's Clinical School, subject to conditions about the 'pathological department' and its

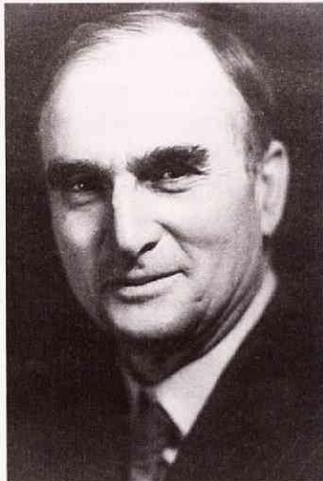
activities and, importantly, to conditions about the appointment of medical staff.⁵ These provisions (involving University representation on an electoral college for medical appointments) were approved by both parties and the agreement was signed on 23 June 1909.⁶

For the University, the method of appointing medical staff was crucial. Until the St Vincent's agreement was signed the Medical Faculty could not rely on any public hospital to appoint suitable medical staff. The negotiations with St Vincent's enabled the University to constrain the boards of the Melbourne and Alfred hospitals so as to secure agreements similar to the one it was planning to make with St Vincent's. The University knew it would have allies among the hospital staffs and was emboldened to ask the Melbourne Hospital to repair a state of affairs in which the University had:

no assurance that the Lecturer on Medicine or the Lecturer on Surgery, if chosen from the actual members of the Melbourne Hospital Staff, would be re-appointed to the Staff at the next election by the Governors and Subscribers...the University has no voice in the appointment of the teaching of the students in these subjects.⁷

In spite of initial resistance the Melbourne and Alfred fell into line. Although clinical teaching had been occurring at the Alfred for many years, only in August 1909 did the University faculty recommend formal recognition as a 'General Hospital for Clinical Instruction'.⁸ Moreover, within months Professors Allen and Osborne were accepted on to an advisory board set up 'to elect members of the honorary medical staff of the Women's Hospital Melbourne'.⁹

So the St Vincent's Clinical School in its very birth had moved mountains. Admittedly, the small Hospital had been used by the Faculty for the purposes of the University. Yet Mother Berchmans Daly, Dunhill and Devine were astute operators and had seized their own opportunity. Although the Rectress and the Superior-General in Sydney were uneasy about the partial loss of control over medical appointments, they and their Hospital gained immeasurably from the University affiliation, especially from the counsel available from Harry Brookes Allen as Dean of the Faculty.¹⁰



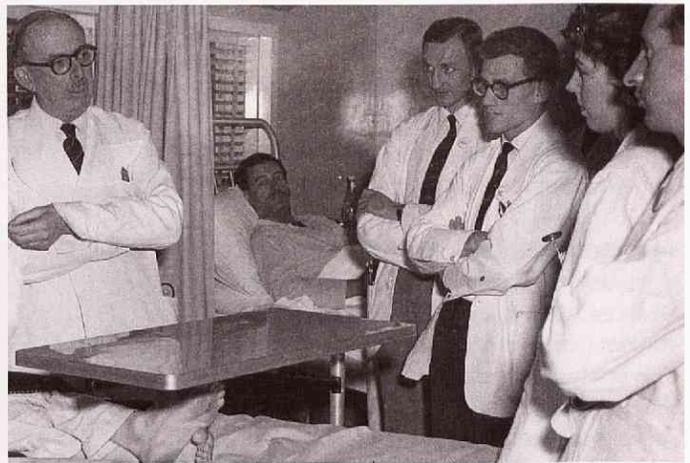
SIR HUGH BERCHMANS DEVINE.
Photo SVHA

The early students were happy and in its second year the school allegedly attracted 'nearly a dozen' from the Melbourne Hospital because of greater 'personal comfort' at the smaller hospital.¹¹ It continued as the smallest school but had its occasional high fliers, like its two Rhodes Scholars, F R Kerr of 1913 and John C Eccles of 1925.¹²

In the 1940s, like its sister schools, St Vincent's lost teachers to war service and outdated facilities remained so. Yet there was little grumbling from students: instead they formed a

students' association in 1945 to provide a better collection of books, some more furniture for their common room and to try and arrange monthly clinical meetings to which honorary medical staff would be invited.¹³ That the uncomplaining St Vincent's students thought these things were needed reflected discredit upon their experience—the University thought the same about all of the schools.

The year of 1947 was one of change and it was planned as no minor one. John Medley, the Vice-Chancellor, told the St Vincent's Rectress, Mother Gerardus Sholl, that the Clinical School records were to be integrated as 'part of the Medical school' rather than continue as 'separate and distinctive entities', that the University would monitor the students' hospital work by means of full-time clinical supervisors in medicine and surgery, and that there would be interchanges of students and teachers between schools.¹⁴ The drive for change came from the Stewart Lecturer in Surgery, Sir Alan Newton of the Royal Melbourne Hospital, who was articulate, determined and physically failing, but hard working. In late 1947, he reported to the Medical Faculty that he had formed a 'Department of Clinical Instruction...embryonic, unofficial, inexpensive and homeless' made up of himself and the three clinical supervisors. In his report about the clinical schools since 1910 Newton reflected that (with the new regime resulting from the negotiations after the birth of the St Vincent's school) the University had 'decided to appoint all clinical lecturers and



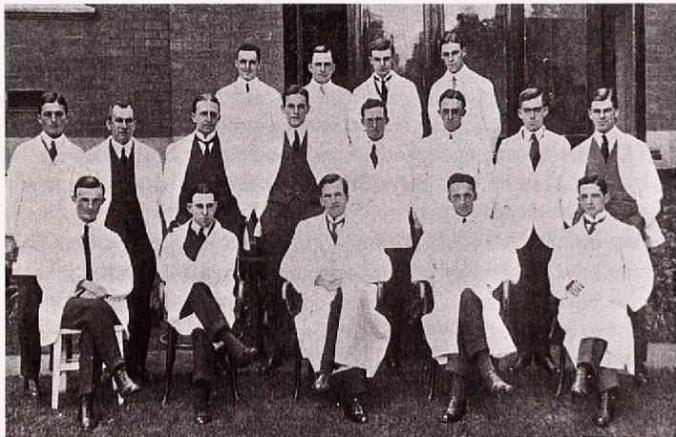
JOHN HAYDEN TEACHING UNDERGRADUATE MEDICAL STUDENTS. c1940 Photo SVHA

tutors, [and] to collect all fees for clinical teaching'. However, Newton pointed out, the schools had 'developed along their own lines after the fashion of London hospitals with their own officers and each in competition with the others'.¹⁵

In mid-1948, invited to meet with the St Vincent's medical staff, Newton explained that his aim was to make the 'Melbourne school...one Clinical School rather than three'.¹⁶ Within a year of that statement, however, he could see that he had failed, due, he thought, to 'vested interests in the clinical schools'.¹⁷ His work was ended incomplete; he resigned in July 1949 and died on 4 August.¹⁸ The post he had occupied was abolished in 1952. At that time the Dean of the Faculty, Professor Sydney Sunderland, stated that Newton had 'elaborated' the original proposal.¹⁹ Sunderland and others may well have feared that if an expensive staff structure resulted from Newton's plans it would threaten existing proposals for University clinical chairs and departments in medicine and surgery.²⁰

Whatever the benefits of the short Newtonian era, it was clear at its end that the Melbourne clinical schools still had problems. All three were inspected in 1952 by a Californian academic and hospital director, R J Stull, and were found wanting, especially in clinical academic appointments and in physical facilities.²¹

By 1952 the twenty or so students we saw walking across to join their later much criticised clinical school had almost all successfully graduated and dispersed to medical careers. They had remained less critical of their school than was the University Faculty; perhaps the point was that all of the clinical schools were so much a part of their hospitals that any deficiencies in the one were overcome by the good qualities of the other. The 'St Vincent's twenty', anyway, had quickly found a sense of belonging through the impromptu teaching by residents as well as senior staff: they had surmounted the almost universal initial feeling of being unwanted, unnecessary extras. Quite soon they had found that St Vincent's was the centre of their lives and most had helped make it so by spending as much time as possible as 'resident students', when they especially felt useful and 'wanted', even if sometimes it was in the lowly role of 'toastmaker' for 10pm supper in the residents' quarters. These sorts of experiences were scarcely peculiar to St Vincent's. The other clinical schools had their own cultures and stories—though probably not as dispiriting as the story at St Vincent's then about the inroads made into student health by tuberculosis. Of the members of the group we have followed, half a dozen had their courses or their lives delayed and changed, many spending long periods as patients at St Vincent's.²²



ST VINCENT'S HOSPITAL CLINICAL SCHOOL STUDENTS AFTER GRADUATION 1919.
NOTE SISTER MARY BERCHMANS DALY'S NEPHEW, DR J J DALY, IS IN THE MIDDLE
ROW, FIFTH FROM LEFT. Photo SVHA

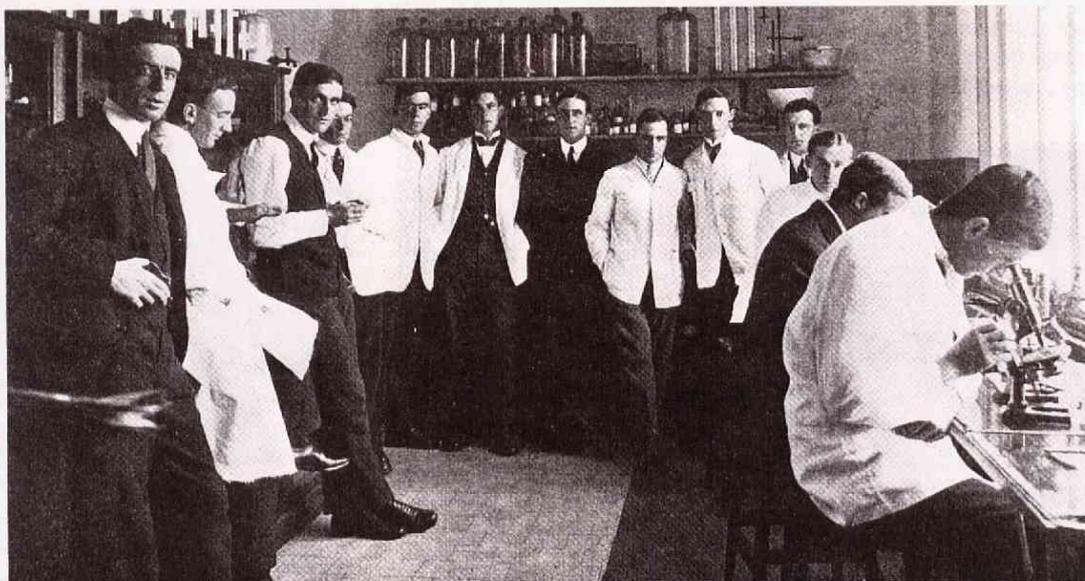
From the early 1950s the St Vincent's School experienced forty years of growth. There was a greater University academic clinical presence as the Departments of Medicine (from 1959) and Surgery (from 1965) took root and flourished. Later in the period, University ranks were given to senior medical staff members to mark involvement in teaching.

To replace poor office and student facilities a new building opened in 1964 in Princes Street, about the time when Max Biggins began a long period, first as 'Dean' and then as Clinical Dean—he had always been a notably keen and affable teacher. He was followed by John Billings (1973-82) and Greg Whelan (1982-88). While the School grew, in what would later be seen as measured fashion, its needs nevertheless outgrew the numbers of patients available for teaching and links were made with suburban and country hospitals. Goulburn Valley Base Hospital and Warrnambool and District Base Hospital began taking St Vincent's students in 1989. The associations continue and grow. The close association with Preston and Northcote Community Hospital (PANCH) extended from 1973 to 1997.

As the 1980s ended, an extraordinary wind change occurred. It blew through health care and hospitals and eventually transformed clinical schools. At St Vincent's the first big step was the amalgamation with the Geelong Hospital to form the St Vincent's Hospital and Geelong Hospital Clinical School on 1 January 1990. Yet who could have envisaged the continuing problems for clinical schools caused by the shorter stay of inpatients, the 'day of surgery' admission system, the building of a completely new inpatient facility at St Vincent's, the heart-breaking closure of PANCH, the large increase in student numbers and the MB BS curriculum changes integrating clinical training into the curriculum throughout the students' course? Wilma Beswick became Clinical Dean in 1989 and has steered the School through it all—fortunately from a fine new base in Regent Street into which the School moved in 1992.²³

There are some assertions to be made which serve as a sort of excursus to my reflections about the School:

1. The St Vincent's Hospital-Geelong Hospital Clinical School has for some years 'made the running' in academic results—especially in the Dean's Honours listings (introduced in 1993).
2. There is no longer a natural constituency from which many of the students come. Students besiege (metaphorically) the School for entry.
3. Self-identification by medical graduates is still primarily with their clinical school. The partiality that this attitude implies may have to do with the personal type of care they experience along with the teaching.
4. The spirit of Alan Newton may well feel satisfaction because of the role of clinical studies nowadays.



MEDICAL STUDENTS IN THE 'PATHOLOGICAL LABORATORY'. FROM THE 1917-18 SVH ANNUAL REPORT. Photo SVHA

- 1 Personal knowledge and experience of author
- 2 Egan B, *Ways of a Hospital: St Vincent's Melbourne, 1880s-1990s*, Allen & Unwin, Sydney, 1993, p45; *Una* 1 Oct 1935, p304; Ivo D Vellar 'Thomas Peel Dunhill: Pioneer Thyroid Surgeon' *Australian and New Zealand Journal of Surgery*, 1999, 69 pp375-387 (esp p380 & p385) and 'Hugh Berchmans Devine: Surgical Visionary and Great Australian' *ibid*, 2000, 70 pp801-812 (esp p802 & p803)
- 3 Medical Faculty Minutes 19 December 1907, book 3 (microfilm box 2)
- 4 *ibid* 24 February 1908
- 5 *ibid* 22 April 1908
- 6 *ibid* 1 July 1909
- 7 *ibid* 27 July 1908
- 8 Medical Faculty minutes 23 August 1909, 16 December 1909, 24 February 1910, book 3 (microfilm box 2) UMA. See also Ann Mitchell *The Hospital South of the Yarra*, 1978 passim concerning teaching at the Alfred Hospital up to 1910
- 9 *Australasian Medical Gazette*, 20 May 1910
- 10 See Egan B, *Ways* op cit pp48-52
- 11 *Speculum*, May 1911 p10
- 12 St Vincent's Hospital, *Annual Reports*, 1913 p8, 1925 pp14-15
- 13 Egan B, *Ways* p165
- 14 JDG Medley to Mother Gerardus Sholl 19 February 1947, St Vincent's Hospital Archives
- 15 Report by Sir Alan Newton, Medical Faculty minutes 20 November 1947, (microfilm box 3) UMA
- 16 Minutes of honorary medical staff at St Vincent's Hospital 28 June 1948, SVHA
- 17 Second report by Sir Alan Newton, Medical Faculty minutes 19 May 1948 (microfilm box 3) UMA
- 18 Russell K F, *A History of the Melbourne Medical School 1862-1962* Melbourne University Press, Carlton, 1977, p183
- 19 Memorandum on Position of Director of Clinical Studies by Professor S Sunderland, Medical Faculty minutes, 18 September 1952, (microfilm box 4) UMA
- 20 See Egan B, *Ways* p167
- 21 Report by Dr R J Stull to Dr H H Schlink (President of Australian Hospitals Association) August 1952, copy in SVHA
- 22 See Egan B, *Ways* pp115-118
- 23 The preceding three paragraphs are the result of personal experience, re-perusal of Egan B, *Ways*, reading of St Vincent's Hospital and Geelong Hospital Clinical School Reports of the ten years to 2000 and discussions with graduates, including Dr W Beswick and Mr I Vellar. Opinions expressed are those of the author. Goulburn Valley Base Hospital later became Goulburn Valley Health and Warrnambool and District Base Hospital is now included in the South West Health Care Group.

INTRODUCING MR THAKE AND MR JONES...

BY ANN BROTHERS



PETER G JONES. RCH ARCHIVES

IN 1989 IT WAS PROPOSED that a medical art and illustration collection be established within the Faculty of Medicine and a set of eleven pen and wash drawings were presented to the Faculty by Peter Griffith Jones, then editor of *Chiron*. The collection, however, did not eventuate and the drawings remained stored in a cupboard in the Development Office until November 2000, when they were offered to, and indeed welcomed into, the Medical History Museum Collection.

The eleven illustrations are by Eric Thake (1904-82) and

depict surgical procedures carried out in the region of the neck. They are believed to have been produced for publication in one of Peter Jones' many journal or book publications. (At the time of this article going to press, and following an exhaustive search for a site of publication, this writer must throw the enquiry open to readers to try to establish their published provenance.)

The subject matter, however, has been identified for us by Nate Myers, so that Series I can now be catalogued as 'Surgery for a branchial cyst'; Series II as 'Surgery for a branchial sinus'; and Series III, 'Procedures for a pre-auricular lymphadenitis, and probably another example of MAIS surgery', for the Museum records. An example of these illustrations, Series II.1, is reproduced here for the reader.'

Other Thake illustrations can be readily recognised, and are acknowledged by Jones in his *Torticollis in Infancy and Childhood*,

1968. As several of his books went into multiple editions and translations, it may be that later publishers altered or removed Thake's works, which had appeared in the earlier editions. Jones' *Clinical Paediatric Surgery*, 5th edition, 1999, for example, acknowledges the inclusion of many new photographs and drawings.

Eric Thake was a highly regarded graphic designer, printmaker, painter and photographer, whose work is represented in most State and major regional galleries in Australia. Thake, as have many artists before him and since, sought regular income from work in a field as closely related to his chosen profession as possible, pursuing his own work in his

free time. In Thake's case, this was with the Visual Aids Department at the University of Melbourne (1956-70), where he is known to have executed work for the Department of Zoology and the Faculty of Medicine. In his capacity as medical illustrator, Thake spent considerable time at the Royal Children's Hospital, meeting Peter Jones either there or while Peter was demonstrator in paediatric surgery at the University of Melbourne.

Although Thake's technique varied with the particular medium in which he was working, his graphic oeuvre is characterised by its sharp, clean lines, the confident sweep of his incising tool, which may well have appealed to the steady hand and eye of Jones the surgeon.

In all accounts by those who knew Jones, much is said of his wit and his enjoyment of the humour of others; of his philosophical and sound common sense approach to life. Although Thake was less gregarious by nature than Jones—more an observer of life from a distance—he was never 'disengaged'. Like Jones, however, he was a good communicator, perhaps not verbally, but in his own medium. His capacity to see the remarkable in the commonplace, played out in his prints, causes a smile of recognition in us the viewer, of our own foibles and vanities. Therein lay Thake's humanity and inventiveness.

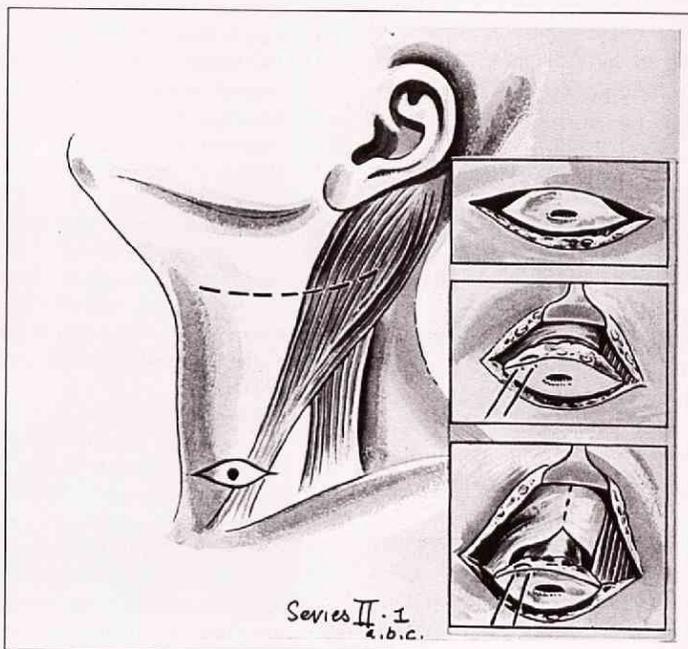
It is with delight, therefore, that we are also able to view the linocut print *Introductions at the RCH, 1959. Mr Thake...Dr So and So*, by Thake, and kindly loaned to *Chiron* to illustrate the links between the hospital, the surgeon and the artist. It also affords us the opportunity to see the humour and freer style of the artist's work when not constrained by the necessity for scientific accuracy as in his medical commissions.

In the Museum drawings, despite this call for clinical accuracy, Thake avoids a cold, sterile effect. His work here and elsewhere is executed with refinement and delicacy. Perhaps, in the depiction of the ear, whose presence is mainly to identify the

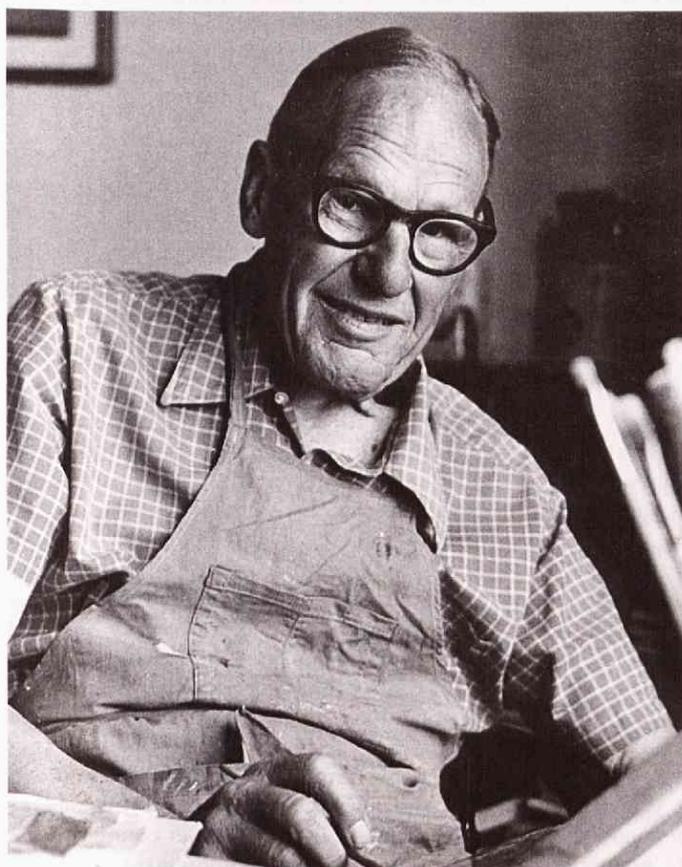
area under dissection, we might discern Thake's delight in the freedom to execute the several curved lines that so lovingly define it.

The many aspects of the very productive lives of Thake and Jones, both of whom were highly respected, are recorded elsewhere in the biographies, catalogues, books and eulogies published by those who knew them professionally and personally. They are too numerous to recall here,² but it is fascinating to realise that Peter Jones shared with Thake an interest in the black and white medium.

Not only was this demonstrated in Jones' founding and highly successful editorship of *Chiron* but, as one of his many



SURGERY FOR A BRANCHIAL SINUS. ERIC THAKE. DRAWING, PEN & WASH WITH GOUACHE (c.1960.)



ERIC THAKE, PORTRAIT PHOTOGRAPH BY RICHARD BECK, LA TROBE PICTURE COLLECTION, STATE LIBRARY OF VICTORIA

and varied interests, it resulted in him completing a Certificate of Printing Technology at the Melbourne College of Printing and Graphic Arts. This understanding of the print medium may have led to his becoming a Director of Blackwell Scientific Publishing of Australia; it certainly would have fuelled his interest and skills in heraldry—Peter designed and executed coats of arms for the Royal Children's Hospital and for the Medical Defence Association of Victoria. Such work requires a very particular 'eye', involving a reduction down to fundamental elements of symbols clearly recognisable as appropriate to the particular institution. This same reduction of visual material is the daily concern of the illustrator and printmaker, and is a spare and poetic quality involving itself with just the essentials or the 'essence' of an idea.

Both Thake and Jones received awards and acknowledgment of their success in their own fields throughout their lives. Thake was awarded local and overseas prizes for his work: at the Ex Libris Association of Book Plates in Los Angeles in 1931, and he shared the Contemporary Art Society Prize with James Gleeson, in 1941, for a highly controversial work for that time which was later accepted by the National Gallery trustees for the collection. Retrospective exhibitions were held for him at the National Gallery of Victoria in 1970 and at the Ministry for the Arts Gallery in 1981. As official war artist for the RAAF he recorded war as he experienced it in the Southwest Pacific area, these military landscapes touring all State galleries after the end of hostilities. Books and catalogue articles now record his life and contribution to the cultural life and art history of Melbourne and Australia.

Jones became president of many medical and surgical societies and associations. He was elected to fellowships in

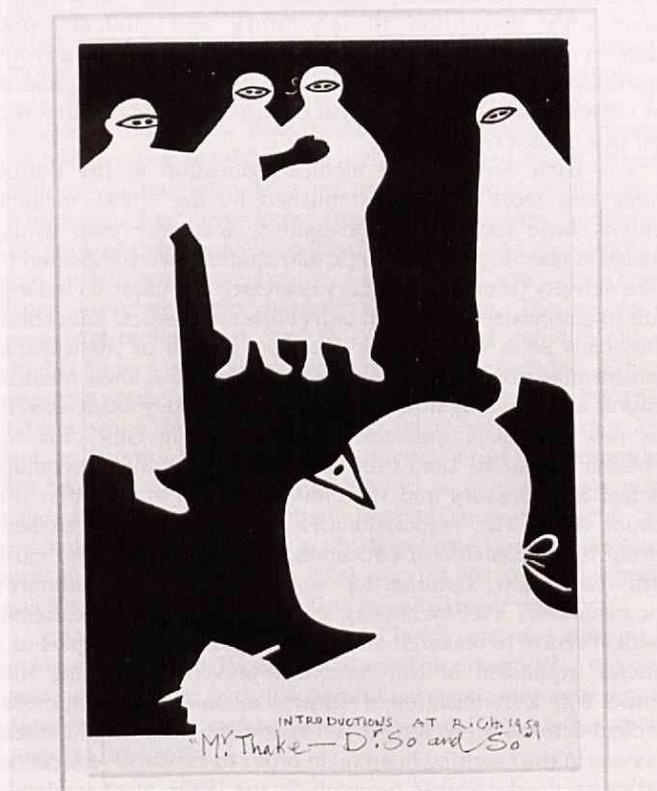
America, Canada and here in Australia, and was invited to give many of the highly revered Orations in the field of surgery, delivered in most of Australia's capital cities. His published texts continue to instruct a new generation of paediatric surgeons, so that his contributions live on in a very practical way.

The eleven drawings the Medical History Museum has been so fortunate to acquire represent a little known aspect of Thake's oeuvre, and it is hoped that they will be given wider exposure in the near future in an exhibition embracing art and medicine in the Museum. They will also be available for loan to galleries wishing to display a representative selection of this artist's work in all his known media.

These drawings will be a reminder of the intellectual agility of these two men, and are a visible link between their two vibrant and productive lives.

Ann Brothers is Curator of the Medical History Museum at The University of Melbourne

- 1 I am grateful to Nate Myers for providing this information
 - 2 Maggie Mackie, 'Peter Griffith Jones', *Chiron*, 1996/3, p.2
- Nate Myers, 'In Memorium—Peter Griffith Jones', *JPS*, Vol 30, No 9, 1995, pp1253-54
- Nate Myers, *Peter Griffith Jones—A Eulogy and an Epitaph*, 1995. (unpublished)
- Eric Thake—A Retrospective*, NGV 1970. Foreword by Ursula Hoff
- E. Thake—A Personal Retrospective*. Ministry for the Arts, 1981
- Peter Pinson, *Eric Thake. War Artist*, 1991, Institute of Contemporary Art
- Elizabeth Summons, *The Eric Thake Picture Book*, (n.d), Gryphon Books, Toorak



INTRODUCTIONS AT THE ROYAL CHILDREN'S HOSPITAL. 1959. "MR THAKE—DR SO AND SO" LINOCUT, 1959. KINDLY LOANED BY MARK VEITCH

REVIEWS

Time to Heal:

AMERICAN MEDICAL EDUCATION FROM THE TURN OF THE CENTURY TO THE ERA OF MANAGED CARE

BY KENNETH M LUDMERER

*Oxford University Press, 1999**pp 514, index, notes**rrp \$75*

In 1925 Abraham Flexner wrote: 'Though medicine can be learned, it cannot be taught'. For more than a century, a staggering amount of time and effort has gone into working out what should be learnt in medicine, who will learn it well, where they should learn it, and how to help them learn it better. Flexner's celebrated report on medical education in 1910 stimulated much of this enterprise in the United States, but it also reflected some earlier, more tentative, re-appraisals of the purposes and procedures of medical education.

In this brilliant and provocative new study, Kenneth M Ludmerer, a physician and historian, describes the development of medical education in the United States from the early 1870s until the late 1990s, focusing on the rise—and fall?—of the 'academic medical center'. He recalls a golden age between the world wars, when educational, research and patient care responsibilities were evenly balanced in American medical schools, and students had enough time, resources and faculty support for self-education. But after the 1950s, it is mostly a melancholy tale of failed promise; of an educational mission displaced first by research enthusiasms and then by clinical demands; of curriculum 'reforms' that changed little. Too often, efforts to assist and improve student learning of medicine dwindled into perfunctory exercises in teaching which would cause little disruption to laboratory and clinical work. Ludmerer's emphasis is American, of course, but anyone interested in how we have learnt medicine in Australia, and in the current challenges to medical education in this country, will find this book a revelation.

The basic structure of medical education in the United States was more or less established by the 1920s: medical schools were located in universities, academic staff would engage in teaching and research, and students were expected to learn actively through laboratory exercises and clinical clerking. Late to emphasise the role of universities in medical education, Americans soon went further than the British or Australians, transforming the teaching hospitals into academic sites. Medical schools and teaching hospitals became intimately associated in the new academic medical centre, and clinicians took up research far earlier than they did here in Australia, becoming clinical investigators and therefore academic staff within the school itself. The responsibilities of the American medical school thus consisted of education, research and patient care, with education dominating until the 1940s. Ludmerer documents an ever-increasing commitment of the academic medical centre to research after the Second World War, part of a general expansion of the American universities during this period. With a stabilisation of research income during the 1960s, medical schools were forced to expand the volume of clinical services in the teaching hospital in order to subsidise education and research—especially research. By the 1980s, most academic staff income derived from private practice. The education of medical students had become 'no more than a by-product of

what contemporary academic health centers were doing' (p. xxiii)—the medical school was primarily a research enterprise, supported by clinical services. As the spread of managed care in the 1990s required increased 'clinical throughput', exerting pressure on clinical services, the teaching hospital came to appear an increasingly inefficient business, burdened with expensive and 'unproductive' educational and research functions. Sadly, medical education was a 'non-core activity' that many academic medical centres could no longer afford to do well.

Such a brief outline fails to do justice to Ludmerer's richly textured and extensively documented narrative. But it does suggest some interesting, and revealing, comparisons with Australian developments. Conventionally, historians have lamented the slowness of our universities and hospitals to support research, especially clinical research, but this has also meant that, until recently, research in the medical school was not allowed to detract from educational programs to the extent that it did in the United States. It is also common in Australia to disparage the relative independence of university medical schools and teaching hospitals—the historical tensions between staff at the University of Melbourne medical school and the old Melbourne Hospital have become legendary—but these weak institutional bonds were perhaps disguised blessings. In the Australian era of case-mix funding and hospital networking, it is just as well that the medical school never became as dependent on clinical subsidies as its American counterpart—its educational mission has remained predominant. And yet, even in Australia, the medical school is not entirely immune from the problem of disappearing teachers. Many academic staff members now see themselves as researchers first, and find medical education an unrewarding chore; and clinical teachers, if not the medical school itself, have had to dedicate more time and energy to clinical services. In any case, the commercial mentality that infiltrated American medical schools through their teaching hospitals is just as likely to gain entry to the medical school, in Australia, through our university administrations and government bureaucracies.

Although Ludmerer gives little attention to the actual content of medical curricula, some common concerns do emerge. Medical educators repeatedly warned that students were acquiring a narrow technical knowledge of disease processes. They pointed to insufficient education in preventive medicine, communication skills, and the changing social and economic environment of medical practice; too many lectures and examinations; few connections between clinical problems and molecular sciences; no intellectual rigour in 'ambulatory care' teaching. Medical students spent too much time memorising 'facts', not learning principles or fundamental concepts, and acquiring problem-solving skills. Moreover, as Ludmerer puts it—'the greatest deficiency of medical education was its lack of an efficient excretory system' (p. 67). It is disappointing, then, that he scarcely examines recent efforts at curriculum reform (and excretion), starting with Western Reserve's 'organ-based' emphasis in the 1950s, and later developing into problem-based learning at McMaster and New Mexico. But these curriculum revisions—signs of educational life—would perhaps fit uneasily with the tragic mode that pervades the last third of the book.

Why 'Time to Heal'? Throughout this wonderful work, Ludmerer poignantly returns to his theme that time has been squeezed out of the medical school. 'Sufficient time is required to learn to heal, to teach how to heal, to practice the art of

healing, and to discover new ways of healing' (pxiii). But in the modern medical school, academic staff are preoccupied with research productivity and clinical demands, and they no longer feel they have enough time for these tasks. Students find that the medical course is overloaded with minor scientific facts; patients pass through the hospitals before anyone has time to know them, to learn from them; residents and consultants are often too busy to teach. We should not be surprised that students have little time for self-directed learning when medical education is dependent on increasingly market-oriented, time-consuming, hospital and university systems.

It has been said that if you have seen one medical school, you've seen one medical school. And yet, *Time to Heal* not only provides us with a general account of the development of medical schools in the United States, it has resonances here in Australia too. As I read this book, I found myself thinking: 'So that's why we studied that!' 'So that explains why we did it that way!' For the first time, I imagined myself, a medical student at Melbourne in the 1970s, as a minute figure in the history of medical education. More importantly, I came to understand that the formal curriculum has always had less impact in medical education than the ability to motivate students and provide them with opportunities and time to learn for themselves. The lesson of this history is that if we are to save medical education, we must try to change the institutional structures and financial arrangements of health care and the universities, not just reform the curriculum.

Warwick Anderson
UCSF and the University of Melbourne

Sounds from Silence

GRAEME CLARK AND THE BIONIC EAR STORY

BY GRAEME CLARK

Allen & Unwin, 2000

Sbk, pp 234, illustrated, appendices, glossary, index
rrp \$24.95

The history of cochlear implants is a subject which offers insights on many aspects of modern biomedical science. It demonstrates how a novel medical technology capitalised on advances in electronics, materials science, computers and a growing understanding of the way the brain processes sound to produce an implantable device that offers the profoundly deaf a chance to hear. It reveals the complexities of turning a prototype, built in a laboratory and tested in a few individuals, into a commercial product able to be implanted into thousands of people worldwide. It shows how the need to acquire funding impinges on both the nature and speed of research. It also offers a window into definitions of disability and attitudes about the ways humans communicate.

In this book, Graeme Clark, the noted Australian pioneer in the development of cochlear implants, contributes to our understanding of all these themes. His autobiographical account of his life and his description of the evolution of his research enlarges our appreciation of the many challenges cochlear implant investigators faced and illuminates the special contributions Australians made to research on and commercialisation of the implants.

Graeme Clark traces his mission to develop cochlear implants to a boyhood dream of helping deaf people. His father's

worsening sense of hearing during Graeme's childhood and the consequent difficulties his father had in practicing pharmacy in the small country town of Camden, New South Wales, made Clark aware of deaf people's problems communicating with those in the hearing world. He determined to become an otolaryngologist at a young age.

The first part of this book covers Clark's childhood and training as an ear surgeon both in Australia and Britain; his initial research on electrical stimulation of the inner ear in the 1960s at the University of Sydney; and his early struggles as Founding Professor of Otolaryngology at the University of Melbourne from 1969. In the 1970s, with modest private funding, he began to concentrate his research on the development of a multiple-electrode cochlear implant. This contrasted with early American research which focused on a single-electrode implant. Clark describes well the complications of developing the first prototype implant and engineering the external electrical stimulator, and also the search to find the best surgical technique for installation. What is notable, is how scientists in many fields had to work together to move the project forward and how insufficient funding hampered progress.

Clark then turns to the first trials of the implants in volunteers. These were people who had become deaf as adults and therefore knew what sound was like. The success of implanting the prototype in a few cases in the late 1970s changed the nature of the project. It led not only to refinements of all components of the apparatus and an improved speech processing strategy, but also to substantive government and private funding for research and commercialisation. The Australian Bionic Ear Institute was established in 1983 to manage both research and funding. The commercial development of the cochlear implant in the 1980s is a fascinating story of Australian enterprise that deserves further investigation. Clark explains the interaction between his research group and Nucleus Ltd (later Cochlear Ltd), the bioengineering company that began manufacturing the implant, and describes how this led to approval of the device by the United States Food and Drug Administration in 1986, laying the foundation for a worldwide market for the Nucleus implant.

In his last chapter Clark discusses what he calls the circuitous route to cochlear implantation in children. Research first had to move to adults who had never heard sound, then to children who had been deafened by disease or accident, before children who had never heard sound could become candidates. The implant components underwent change and the effects of skull growth were investigated. Controversy arose over many issues associated with implants in children. The merits of competing technologies had to be evaluated and the age at which children should receive the device examined. Ethical questions were raised over parents making decisions for their children when the long-term consequences were unknown. The deaf community, which had already challenged the perception that hearing impaired adults needed to be fixed, became more vocal with regard to children. Despite these concerns and criticisms, the implantation in children gained ground. As Clark notes in closing, by the year 2000, over 14 000 children in more than fifty countries had benefited from cochlear implants.

Sounds From Silence is Graeme Clark's personal account of his life and research. He depicts himself as a man with a mission, and it is clear that both his determination to pursue scientific research and his strong religious faith contributed to his ability to realise his dream.

Caroline Hannaway, PhD,
Historical Consultant
National Institutes of Health, Bethesda, USA

The Rise of Technology in the Practice of Medicine

THE MEDICAL HISTORY MUSEUM,
BROWNLESS MEDICAL LIBRARY,
THE UNIVERSITY OF MELBOURNE

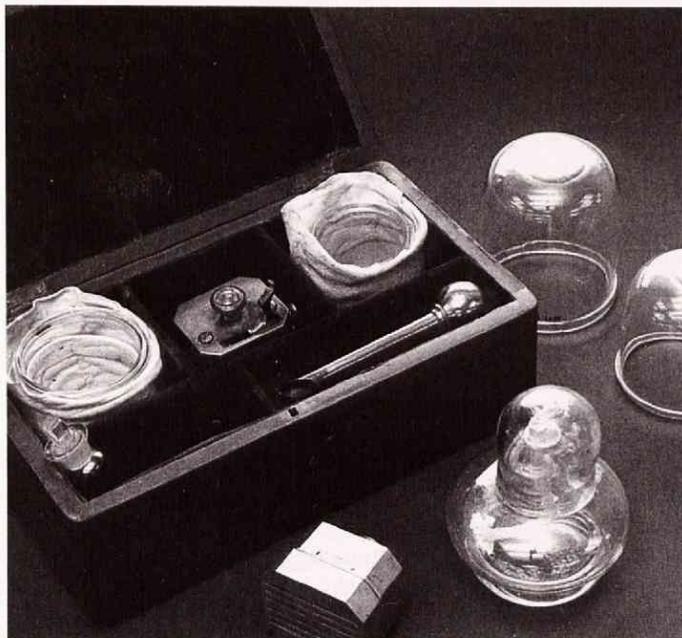
March—May 2001

This exhibition reflected the rapid expansion in the range of medical equipment and instrumentation that is particularly noticeable around the turn of the nineteenth century. In doing so it provoked the viewer to question why this should be, and to consider the changes this development brought about for both patient and practitioner.

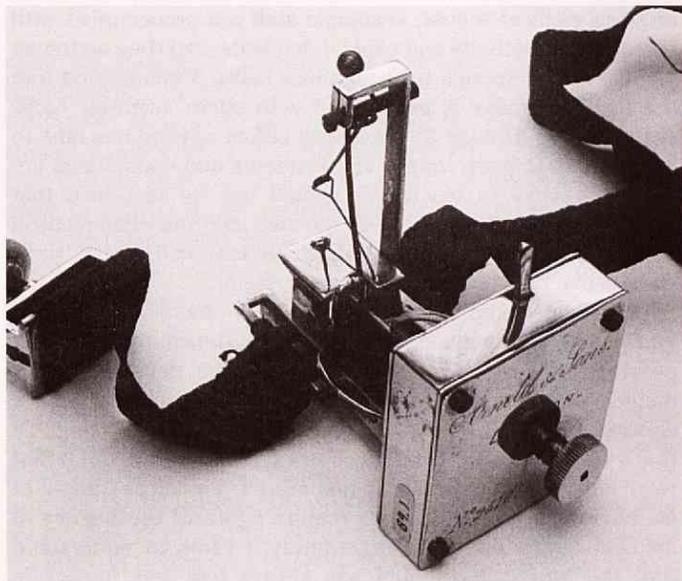
The displays were drawn entirely from the Medical History Museum, indicating the quality and variety of material in this valuable collection. Some of the equipment shown was developed at the University of Melbourne, and much of it was used by early Melbourne physicians and surgeons, who felt the Museum to be a trusted repository for their instruments, documents, books and medical memorabilia.

Amongst the blood transfusion kits, early X-ray tubes, syringes, and cupping and bleeding equipment that were exhibited, the diagnostic instruments had a particularly interesting story to tell.

One could look, for instance, at the changes in materials and design in diagnostic equipment such as the thermometer, stethoscope, sphygmomanometer or the sphygmograph (pulse taking machine), which were all developed early in the nineteenth century but only gradually incorporated into medical practice.



CUPPING SET, BOXED, WITH SCARIFYER AND GRADUATED SET OF GLASS CUPS. MADE BY S MAW, c1830. THE CUPS WERE HEATED (HERE, WITH SPIRIT LAMP) BEFORE BEING PLACED OVER THE SCARIFIED SURFACE OF THE SKIN, TO DRAW THE BLOOD



1889 DUDGEON SPHYGMOGRAPH.
THIS PULSE RECORDING INSTRUMENT ENABLED THE PHYSICIAN TO STUDY THE HEART AND VASCULAR MOTIONS CONTROLLING BLOOD AND DISCOVER THE CHANGES THAT RESULTED IN A DISEASE NEEDING TREATMENT

Their use underwent much discussion on the pages of medical journals, and improvements were made until around the turn of the century, when their combined use contributed to the more accurate and effective diagnosis of disease.

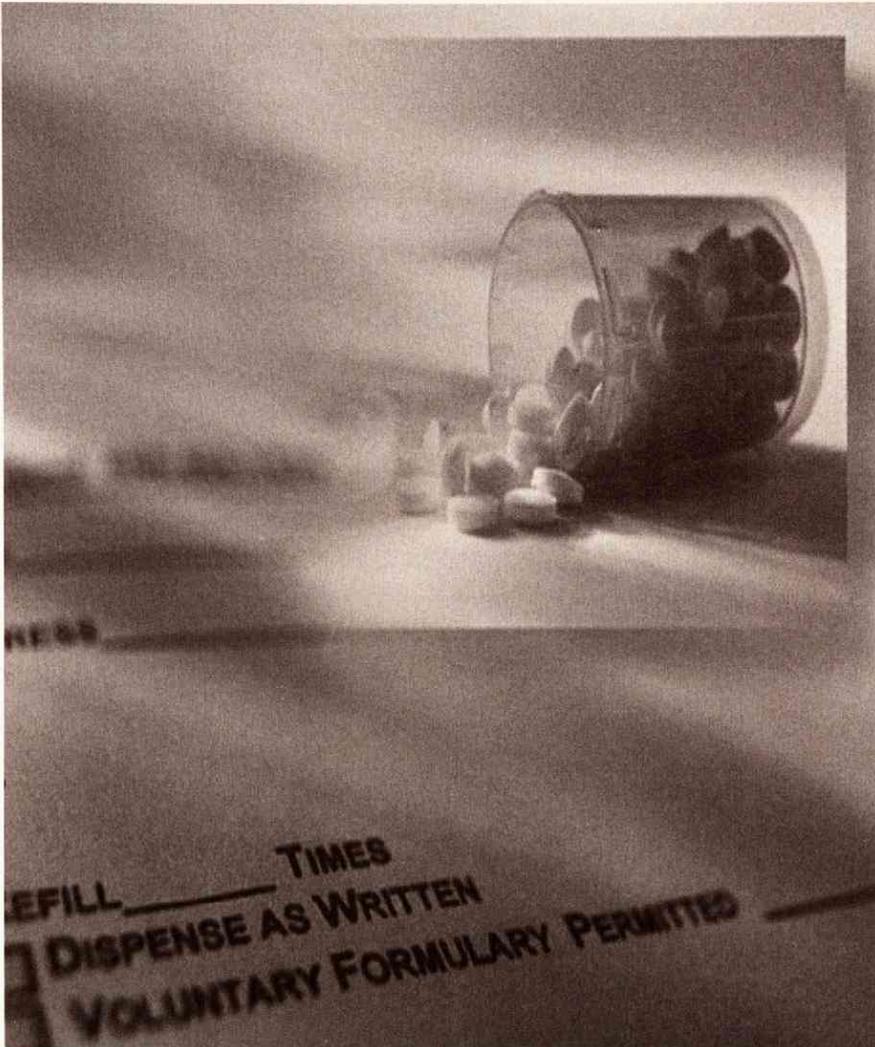
Instruments such as the stethoscope however, were not of immediate benefit to the physician, who had to become familiar with the bewildering variety of sounds it transmitted and take the time to acquire the skills to make qualitative assessments. Sounds then had to be linked with specific structural or organic changes in the body in order for them to be used as diagnostic signs of a particular disease.

The assimilation of diagnostic technology into medical practice was also influenced by a gradual distrust of subjectively derived information (gained partly from the patient and intuitively by the physician through the observation of similar cases) and so the objective measurements these instruments provided were increasingly relied upon towards the end of the nineteenth century. The application of technology seemed the more rational and scientific approach for the times.

While the use of instruments was the means to a more accurate diagnosis, the standardisation of physiological functions measured by them gave rise to definitions of what was 'normal' and 'abnormal'—in organic function and in human behaviour patterns. What then, did the increasing use of instruments and the specialist language associated with them, bring about in the relationship between patient and doctor? What were the implications of the data recorded for the selection of people judged suitable for certain employment, military service, or eligible for insurance cover?

This exhibition demonstrated that the advantages these instruments provided as the means to record symptoms and define disease were accompanied by social and intellectual questions and that far from being passive vessels, museum artefacts are powerful containers of ideas.

MDAV – Effective medicine for your professional anxieties



The Medical Defence Association of Victoria Ltd has for over 100 years provided excellent professional protection to medical practitioners.

As a medical student, you need to ensure that your interests are properly protected.

MDAV membership entitles you to free indemnity during your student years, and in particular for your elective term (excluding USA and Canada).

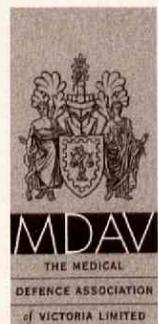
Remember student membership of MDAV is absolutely FREE!

To find out more about MDAV please write or telephone for a membership details booklet –

OR browse our website at www.mdav.org

THE MEDICAL DEFENCE ASSOCIATION of VICTORIA LIMITED
ABN 59 004 046 379

Pelham House, 165 Bouverie Street, Carlton VIC 3053
PO Box 1059, Carlton VIC 3053
Tel (03) 9347 3900
Fax (03) 9347 3439
Website: www.mdav.org





CHIRON

JOURNAL OF THE UNIVERSITY OF MELBOURNE

MEDICAL SOCIETY VOL 4 NO 4 JUNE 2001